

# PROPOSED REVISIONS TO 2D FLOODWAY MODELING STANDARDS FOR FY20 G&S CYCLE

**\*\*Note:** The below identified standards were categorized into three (3) groups based on similar topics for the 2D Floodway IPT to more efficiently review / revise language

A public review period for proposed standard updates will take place during July

A public review period for proposed guidance, templates, and technical reference updates will take place during August

Comments or suggestions concerning mapping standards and guidance may be submitted to FEMA electronically during the public review periods by sending an email message to [FEMA.GS@riskmapcfs.com](mailto:FEMA.GS@riskmapcfs.com). Standards comments must be received by July 31, 2020 for consideration for this cycle's update. Guidance public review period is scheduled for August, 2020.

## ► Group 1: Averaging and Floodway Setup

- SID 69
  - **Existing Language:** Floodway surcharge values must be between zero and 1.0 ft. If the state (or other jurisdiction) has established more stringent regulations, these regulations take precedence over the NFIP regulatory standard. Further reduction of maximum allowable surcharge limits can be used if required or requested and approved by the communities impacted.
  - **Revised Language:** Floodway surcharge values must be **less than or equal to 1.0 ft.** If the state (or other jurisdiction) has established more stringent regulations, these regulations take precedence over the NFIP regulatory standard. Further reduction of maximum allowable surcharge limits can be used if required or requested and approved by the communities impacted.
- SID 70
  - **Existing Language:** If a stream forms the boundary between two or more states and/or tribes, either the 1.0-foot maximum allowable rise criterion or existing floodway agreements between the parties shall be used.
  - **Revised Language:** No Updates
- SID 73
  - **Existing Language:** An equal conveyance reduction method must be used to establish the minimal regulatory floodway, except where an initial equal conveyance floodway is adjusted in coordination with FEMA and the impacted communities.
  - **Revised Language:** A **methodology based on equitable consideration of both overbanks** must be used to establish the minimal regulatory floodway. **Variations to this approach must be made** in coordination with FEMA and the impacted communities.
- SID 77
  - **Existing Language:** Unless the coincident peak situation is assumed, floodway computations for tributaries must be developed without consideration of backwater from confluences.
  - **Revised Language:** Floodway computations for tributaries must be developed without consideration of backwater from confluences **unless a coincident frequency analysis or detailed historical observations prove otherwise. If either of these exceptions is used, it must be done in coordination with FEMA.**

- SID 99
  - **Existing Language:** Areas of shallow flooding shall not have modeled/computed floodways due to the inherent uncertainties associated with their flow patterns. However, communities can choose to have administrative floodways for such areas.
  - **Revised Language:** Rescind (address this issue within floodway guidance).
  
- ▶ **Group 2: Tie-ins and Profiles**
  - SID 65
    - **Existing Language:** BFEs must agree with those of other contiguous studies of the same flooding source within 0.5 foot, unless it is demonstrated that it would not be appropriate. Please see 44 C.F.R. § 65.6(a)(2).
    - **Revised Language:** No Updates
  - SID 66
    - **Existing Language:** Each modeled split or diverted flow path must be plotted with individual Flood Profiles.
    - **Revised Language:** Each significant split or diverted flow path modeled in 1D and mapped as Zone AE or AH must be plotted with individual Flood Profiles.
  - SID 71
    - **Existing Language:** New or revised floodway data must match any effective floodways at the limits of the Flood Risk Project.
    - **Revised Language:** No Updates
  - SID 78
    - **Existing Language:** The water-surface profiles of different flood frequencies must not cross one another.
    - **New Language:** The water-surface profiles of different flood frequencies modeled in 1D must not cross one another, unless technical justification is provided in coordination with FEMA.
  - SID 79
    - **Existing Language:** Water-surface elevations shown on the Flood Profiles shall not rise from an upstream to downstream direction.
    - **New Language:** Water-surface elevations shown on the Flood Profiles for 1D models shall not rise from an upstream to downstream direction, unless technical justification is provided in coordination with FEMA.
  - SID 128
    - **Existing Language:** For floodplains mapped from 2-D models, separate Flood Profiles for significant flow paths must be created.
    - **New Language:** For floodplains mapped from 2D models, printed BFE lines on the FIRM must match modeled water surface elevations and must be plotted at intervals sufficient to interpolate accurate BFEs in between printed BFE lines. If this is not possible, separate Flood Profiles for significant flow paths and/or FIS Report inserts must also be created.

► **Group 3: Outputs**

- SID 75
  - **Existing Language:** For each stream with cross sections where a floodway was determined under the scope of work, a Floodway Data Table compliant with the FIS Report Technical Reference must be prepared as part of the hydraulic analysis. The Floodway Data Table must contain an entry for each lettered, mapped cross section that includes the following information:
    - Cross-section identification shown in a georeferenced spatial file;
    - Stream or profile baseline station of the cross section;
    - Width of the floodway at the cross section;
    - Wetted area of the cross section under encroached conditions;
    - Average velocity of the floodwaters at the cross section under encroached conditions;
    - The greater of BFEs from all flooding sources, including from backwater, affecting the cross section (regulatory elevation);
    - The BFE from the existing conditions model (without-floodway elevation);
    - The BFE from the encroached existing conditions model (with-floodway elevation); and
    - Difference between with- and without-floodway elevations (surcharge).
  - **New Language:** For each stream where a floodway was determined under the scope of work, a Floodway Data Table compliant with the FIS Report Technical Reference must be prepared as part of the hydraulic analysis. The Floodway Data Table must contain an entry for each lettered, mapped cross section **or evaluation line and must** include the information **outlined in the FIS Report Technical Reference**.
- SID 335
  - **Existing Language:** Regulatory floodways shall be shown on the FIRM panel within the SFHA and, at lettered or numbered cross-section locations, floodway widths must agree with the values shown on the FDT in the FIS Report and the FIRM Database tables, within a maximum tolerance of 5 percent of the map scale or 5 percent of the distance, whichever is greater.
  - **New Language:** Regulatory floodways shall be shown on the FIRM panel within the SFHA and, at lettered or numbered cross-section **and evaluation line** locations, floodway widths must agree with the values shown on the FDT in the FIS Report and the FIRM Database tables, within a maximum tolerance of 5 percent of the map scale or 5 percent of the distance, whichever is greater.
- SID 417
  - **Existing Language:** The minimum datasets associated with the Flood Risk Project are defined as follows:

Flood Risk Product/Dataset	New Flood Hazard Analysis <sup>1</sup> Conducted	No New Flood Hazard Analysis <sup>1</sup> Conducted	
Flood Risk Database	Required	Required	
Flood Risk Dataset	Changes Since Last FIRM (CSLF)	Required <sup>2</sup>	N/A
	Water Surface Elevation Grids	Required <sup>3</sup>	Optional <sup>4</sup>
	Flood Depth Grids	Required <sup>3</sup>	Optional <sup>4</sup>
	Percent Annual Chance & Percent 30-year Chance Grids	Required <sup>5</sup>	Optional <sup>4</sup>
	Flood Risk Assessment	Required <sup>6,7</sup>	Required <sup>7,8</sup>
	Areas of Mitigation Interest (AoMI)	Required	Required
Flood Risk Map	Optional	Optional	
Flood Risk Report	Optional	Optional	

<sup>1</sup> "New Flood Hazard Analysis" = flooding sources receiving regulatory-level analyses

<sup>2</sup> CSLF is optional in areas where digital modernized floodplain boundaries are not available for the effective

<sup>3</sup> Riverine studies: 10%, 4%, 2%, 1%, "1%+", and 0.2% annual-chance floods  
Coastal studies: only the 1% annual chance flood  
Levee studies: Riverward/Seaward side - same as Riverine or Coastal  
Landward side - only the scenario(s) used to delineate SFHA boundary

<sup>4</sup> Can be produced for flooding sources not receiving new analyses if based on effective data

<sup>5</sup> Riverine only

<sup>6</sup> Riverine studies: 10%, 4%, 2%, 1%, and 0.2% annual-chance floods, and Annualized  
Coastal studies: only the 1% annual chance flood  
Levee studies: Riverward/Seaward side - same as Riverine or Coastal  
Landward side - only based on the landward depth grid

<sup>7</sup> Assessments are performed for the flood events with available depth grids. See Flood Risk Database Technical Reference for more information.

<sup>8</sup> Analysis can be conducted at census block or user-defined facility level.

- **Revised Language:** No Updates

- ▶ **Guidance Documents Under Review**
  - Combined Coastal and Riverine Floodplains
  - Contiguous Community Matching
  - Data Capture (Workflow Details)
  - Data Capture – General
  - FIRM Database
  - FIRM Graphics
  - Flood Insurance Study (FIS) Report
  - Flood Profiles
  - Floodway Analysis and Mapping
  - General Hydraulic Considerations
  - Hydraulics: Two-Dimensional Analysis
  - Levee
  - LOMR Incorporation
  - Mapping Base Flood Elevations on Flood Insurance Rate Maps
  - MT-1 Technical Guidance
  - Profile Baseline Guidance
  - Riverine Mapping and Floodplain
  
- ▶ **Technical References Under Review**
  - Technical Reference: Flood Insurance Study (FIS) Report