



Federal Emergency Management Agency

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[Original signed]

FROM: Mary Jean Pajak, Acting Chief
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SUBJECT: Procedure Memorandum 32 – Levee Review Protocol

Background: Levees are shown on Flood Insurance Rate Maps (FIRMs) with direct and often complex relationships to mapped flood hazards. Levees shown within or adjacent to identified 1-percent annual chance floodplains must be mapped according to the requirements detailed in FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners* and in conformance with Section 65.10 of the National Flood Insurance Program regulations.

Issue: The FEMA Levee Inventory System (FLIS) now provides the opportunity to categorize all levees on FIRM panels. It is therefore important that a protocol be followed to ensure that each time a FIRM panel is created or revised, all levees that have an impact on the 1-percent annual chance flood be evaluated and documented in the FLIS. Although there is FEMA guidance on the mapping protocol for levees in areas of new or revised study, there are less formal protocols for addressing the evaluation of existing levees that are not part of a specific study or restudy but that exist on the affected FIRM panel(s).

Action Taken: A tiered system of review protocol has been developed to guide the evaluation of levees in or adjacent to identified 1 percent annual chance floodplains on FIRM panels being created or revised.

New Procedure: When Mapping Coordination Contractors (MCCs) are processing map actions each levee that is identified within or adjacent to identified 1-percent annual chance floodplains must be evaluated using the protocol specified in Table 1 on the following page. Inherent to this new review protocol is the requirement that the MCC keep a watchful eye for levees that were not properly identified, classified and/or inventoried in past map actions. In addition to reviewing levees on existing FIRM panels, MCCs are expected to validate information that exists in FEMA's Levee Inventory System (FLIS), much of which was added to the system years ago when it was known as the Credited Structures Inventory System. See FEMA Procedure Memorandum 30 (FEMA Levee Inventory System), dated December 23, 2002, for more details on the FLIS.

Table 1 describes 3 typical scenarios that may be encountered during the FIRM creation or revision process, and the appropriate action or escalation required. In each case described below the identified levees are within or adjacent to the 1-percent annual chance floodplain and have a direct relationship on mapped floodplain boundaries and flood elevations.

Table 1 – Levee Review Protocol	
Description	Action
The levee <u>is</u> part of a new or revised flood hazard analysis.	Full review and certification of compliance (no change in current review protocol)
The levee is <u>not</u> part of new or revised flood hazard analysis but <u>does</u> appear to be mapped properly (as clarified below). However, there is no immediate evidence of certification of compliance with 65.10 and/or USACE certification.	Concurrently pursue documentation of certification while proceeding with the map action. If something is uncovered that shows that the levee is mapped incorrectly, consult with FEMA for a decision on how to proceed.
The levee is not part of new or revised flood hazard analysis but <u>does not</u> appear to be mapped properly, and no evidence is available to validate compliance with 65.10 and/or USACE certification.	Consult with FEMA for a decision on how to proceed.

The term “appears to be mapped properly” (for levees that are outside the scope of a specific map action) is solely based on a quick visual assessment for obvious anomalies in the mapping. Obvious anomalies for levees shown as providing protection from the 1- percent annual chance flood include the following:

- No indication in the Flood Insurance Study (FIS) report that the levee has minimum freeboard;
- No note in the protected area warning of residual flood risks; and/or
- Floodway (when present) is not delineated at the inside toe of the levee.

In addition, if a levee located within the 1-percent annual chance floodplain is not shown as providing protection from the 1-percent annual chance flood, an obvious anomaly would include the FIS not including before- and after-overtopping flood profiles and no apparent impact on flood elevations on the FIRM.

Performing this visual inspection for levees that are not within the scope of a map action enables the revision to proceed while a back check is done to validate the 65.10 criteria. If, during the back check, problems are determined, those problems may be addressed separately. Depending on the gravity of the identified problems, the map action may either be halted (in extreme cases) or the problem can be dealt with in a follow-up action.

cc: See distribution list

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