



FEMA

MITIGATION DIRECTORATE

The NFIP and Levees

AN OVERVIEW

There are thousands of miles of levees in the United States that affect millions of people. Levees are usually earthen embankments that are designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding. However, no levee provides full protection.

The Federal Emergency Management Agency (FEMA) manages the National Flood Insurance Program (NFIP), the cornerstone of the Nation's strategy for preparing communities for flood disasters.

The NFIP was created to reduce flood damages by identifying flood risks, encouraging sound community flood-plain management practices, and providing flood insurance to lessen the financial impact of flooding.

LEVEES: PROTECTION WITH RISK

Levees are designed to provide a *specific level of protection*. They can be overtopped or fail in larger flood events. Levees also decay over time. They require regular maintenance and periodic upgrades to retain their level of protection. When levees do fail, they fail catastrophically. The damage may be more significant than if the levee was not there. For all these reasons, FEMA urges people to understand their flood risk.

FLOOD HAZARD MAPS IDENTIFY FLOOD RISKS

FEMA is updating flood hazard maps with an effort called Flood Map Modernization. These maps (also known as Flood Insurance Rate Maps, or FIRMs) indicate the high-risk zones (called Special Flood Hazard Areas, or SFHAs) with at least a 1-percent-chance of flooding in a given year. They also show the low-to-moderate risk zones with a less than 1-percent-annual-chance of flooding.

Identifying the risks behind levees is an important element of Flood Map Modernization. Levees are present in more than one quarter of the counties being remapped. The maps recognize some levees as providing protection from the 1-percent-annual-chance flood, showing the areas behind them as moderate-risk zones. However, before a levee can be shown as providing that level of protection, it must meet certain criteria to be accredited by FEMA.

The levee owner must provide documentation to indicate that the levee meets the criteria. If it does, the map will show the area behind the levee as a moderate-risk zone. If it does not, the map will show the area as a high-risk area, or SFHA.

A COLLABORATIVE EFFORT

Ensuring the safety of life and property in areas behind levees is a collaborative effort.

FEMA establishes criteria for levee accreditation and identifies risk levels through flood analysis and mapping projects.

The U.S. Army Corps of Engineers (USACE) is responsible for building and maintaining USACE-owned levees and for inspecting those structures in the USACE programs to determine their level of maintenance.

States, communities, and private levee owners maintain and operate the levees they own according to their design criteria.



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Because gathering the necessary documentation can take time, FEMA is allowing owners of eligible levees up to 24 months to provide evidence of the levees' status. During that time, the levee will be shown on the map as provisionally accredited and the area behind it will be shown as having a moderate flood risk.

Maintenance-deficient levees may qualify for a one-time-only 1-year "maintenance deficiency correction period." If the levee owner provides the data to demonstrate that the deficiencies have been corrected within the 1-year period, they could be eligible for the provisionally accredited levee designation. More information is provided in Procedure Memorandum 43, *Guidelines for Identifying Provisionally Accredited Levees (PAL)*, dated March 16, 2007.

Note that accrediting a levee does not guarantee protection. For all levees, the maps will carry a warning that overtopping or failure of levees, dikes, or other structures is possible and that flood insurance protection and adherence to evacuation procedures are strongly recommended.

REDUCING RISK

Communities that join the NFIP are required to adopt floodplain management ordinances to minimize damage to properties located in SFHAs. The NFIP requires all new or substantially improved buildings to be constructed at or above the elevation of the 1-percent-annual-chance flood. In areas behind levees that are mapped as low-to-moderate risk areas, appropriate precautions are encouraged because there is a risk of overtopping or levee failure.

FLOOD INSURANCE

Flooding is the Nation's number one natural disaster. Because homeowners' insurance does not cover damage from floods, FEMA offers federally backed flood insurance through the NFIP. In many low-to-moderate risk areas, single-family homes and businesses are eligible for reduced-cost Preferred Risk Policies (PRPs).

Areas behind levees that are accredited as protecting against the 1-percent-annual-chance flood will be mapped as a moderate-risk area and will not be *required* to have insurance.

However, FEMA recommends flood insurance for *all* properties behind levees. Flood hazard maps carry a warning that overtopping or failure of the levee, dike, or other structure is possible, and that flood insurance and adherence to evacuation procedures are strongly recommended.

FEMA'S LEVEE RESPONSIBILITIES

FEMA is responsible for:

- Establishing appropriate risk zone determinations and reflecting these determinations on flood maps; and
- Establishing mapping standards, including minimum design, operation, and maintenance criteria that must be met to have a levee recognized as providing flood protection. On its flood maps, FEMA will only recognize those levee systems that have met and continue to meet these minimum standards.

FEMA is not responsible for:

- Designing, operating, certifying, or maintaining levee systems;
- Examining levees; and
- Determining how a structure or system will perform in a flood event.

FOR MORE INFORMATION

Requirements for "Mapping of Areas Protected by Levee Systems" are outlined in Title 44 of the Code of Federal Regulations Section 65.10.

Procedures for levee accreditation can be found in:

- FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners* – Appendix H: *Guidance for Mapping of Areas Protected by Levee Systems*.
- FEMA's Procedure Memorandum No. 34, *Interim Guidance for Studies Including Levees*, dated August 22, 2005.
- FEMA's Revised Procedure Memorandum No. 43, *Guidelines for Identifying Provisionally Accredited Levees*, dated March 16, 2007.
- Professional and technical associations, including floodplain and stormwater management groups, also are educating their members about flood risks and appropriate mitigation measures.
- Find these documents and more at: http://www.fema.gov/plan/prevent/fhm/lv_fpm.shtm.