

Floodplain/Dam Safety/Survey



Nebraska Department of Natural Resources
Floodplain Management Section
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Important Information Concerning Levees

FEMA Revises Levee Map Notes for Clarification

As of June 1, 2008, the Federal Emergency Management Agency (FEMA) will require *revised* map notes and Notes to Users for both accredited levee systems and provisionally accredited levee systems on Digital Flood Insurance Rate Maps (DFIRMs).

FEMA hopes these changes will provide greater clarity and consistency of risk messages related to areas impacted by these levee systems. It is FEMA's goal that levee owners, communities and homeowners understand the risks associated with living in levee-impacted areas and the steps they can take to address these risks.

These revised notes and Notes to Users must be included on all studies and mapping projects for which Letters of Final Determination will be issued on or after June 1, 2008. However, the revised notes and Notes to Users may be used for studies and mapping projects in which Letters of Final Determination will be issued prior to the required June 1, 2008, date if:--

- * The revised notes are requested by the community.
- * Production of the DFIRM will not be delayed.

These changes are specified in FEMA Procedure Memorandum No. 45, which can be found at: <http://www.fema.gov/library/viewRecord.do?id=2511>.

What Will Change

For all **accredited levee systems**, the area landward of the levee identified as being protected by the levee from the 1 percent annual chance (base) flood will continue to be mapped as Zone X (shaded). The following note will be applied to the affected DFIRM panel:

Note: This area is shown as being protected from the 1 percent annual chance or greater flood hazard by a levee system. Overtopping or failure of any levee system is possible. For additional information, see the “Accredited Levee Note” in Notes to Users.

For all **accredited levee systems**, the following note will be added to the affected DFIRM panel in the Notes to Users section:

Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1 percent annual chance level) and Emergency Action Plan, on the levee system shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and flood proofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA website at <http://www.fema.gov/business/nfip/index.shtm>.

For **provisionally accredited levee systems**, the area landward of the levee identified as being protected by the levee from the 1 percent annual chance flood will continue to be mapped as Zone X (shaded), with the following note applied to the affected DFIRM panel:

Note: This area is shown as being protected from the 1 percent annual chance or greater flood hazard by a levee system that has been provisionally accredited. Overtopping or failure of any levee system is possible. For additional information, see the “Provisionally Accredited Levee Note” in Notes to Users.

For **provisionally accredited levee system**, the following note will be added to the affected DFIRM panel in the Notes to Users section:

Provisionally Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1 percent annual chance level) and Emergency Action Plan, on the levee system shown as providing protection for areas on this panel. To maintain accreditation, the levee owner or community is required to submit the data and documentation necessary to comply with Section 65.10 of the National Flood Insurance Program regulation by (_____, _____). If the community or owners does not provide the necessary data and documentation or if the data and documentation provided indicate the levee system does not comply with Section 65.10 requirements, FEMA will revise the flood hazard and risk information for this area to reflect de-accreditation of the levee system. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and flood proofing or other

protective measures. For more information on flood insurance, interested parties should visit the FEMA website at <http://www.fema.gov/business/nfip/index.shtm>.

**** For further information about levees and residual risk, read “Aging Levees & Residual Risk,” a flyer produced by the Nebraska Department of Natural Resources, Floodplain Management Section.****

Background

In March 2007, FEMA issued the revised Procedure Memorandum No. 43, Guidelines for Identifying Provisionally Accredited Levees. No. 43 allows the mapping process to continue while levee owners and communities compile the data and documentation necessary to demonstrate compliance with National Flood Insurance Program regulations (specifically Title 44, Chapter 1, Section 65.10 of the Code of Federal Regulations).

No. 43 also provides guidance for the mapping notes associated with provisionally accredited levee systems, and revised mapping notes for accredited levee systems shown on DFIRMs.

Since FEMA has identified thousands of miles of levees nationwide affecting millions of people, FEMA officials believe it is important for levee owners, communities and homeowners to understand the risks associated with living in levee-impacted areas and the steps they can take to address these risks. FEMA also believes it is important to understand that no levee system provides full protection from flooding -- even the best flood protection system or structure cannot completely eliminate the risk of every flood event. When levee systems do fail, the results may be catastrophic and the damage may be more significant than if the levee system had not been built.

With the implementation of Procedure Memorandum No. 43, the areas landward of accredited levee and provisionally accredited levee systems were mapped as Zone X (shaded). DFIRMs for these areas included an informational note that advised users of the flood risk.

FEMA believes it is now necessary to further clarify and minimize confusion over the current levee notes shown on DFIRMs, and has developed these new notes for areas impacted by accredited levee and provisionally accredited levee systems.

Code of Federal Regulations Title 44, Chapter 1, Section 65.10

This section of the Code of Federal Regulations outlines the information required by FEMA for a levee system to be recognized as providing protection from the 1 percent annual chance flood.

Design criteria for the following levee elements are specified:

- * Freeboard
- * Closures
- * Embankment protection
- * Embankment and foundation stability
- * Settlement
- * Interior drainage

Additional criteria include:

- * **Operation Plans:** To be recognized, a levee system must be operated in accordance with an officially adopted operation manual and a copy must be provided to FEMA when recognition is being sought.

- * **Maintenance Plans:** To be recognized, a levee system must be operated in accordance with an officially adopted maintenance plan and a copy must be provided to FEMA when recognition is being sought.

- * **Certification Requirements:** All data submitted must be certified by a Registered Professional Engineer. Also, certified as-built levee plans must be submitted.

Key Terms Pertaining to Levees

Levee: A levee is a human-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control or divert the flow of water thereby providing protection from temporary flooding.

Levee System: Levee systems are flood protection arrangements that consist of a levee or levees and associated structures, such as closure and drainage devices which are constructed and operated in accordance with sound engineering principles.

Tie-back Levees: Tie-back levees extend from the main levee along rivers, lakes or coasts to bluff lines (high ground) and are part of the line of protection.

Berms: Berms are usually earthen embankments constructed to protect land from overflows or regulate water.

Lines of Protection: Lines of protection include levees or walls that prevent floodwaters from entering an area.

Pumping Stations: Pumping stations are located at or near the line of protection to discharge interior flows over or through levees or floodwalls.