



FEMA

FEMA's Programs and Levees

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FEMA

Overview

- **Overview of The National Flood Insurance Program (NFIP)**
- **Where we are: Flood Map Modernization**
- **Where we are going: Risk MAP**
- **The NFIP and Levees**
- **Community Rating System**



FEMA

The National Flood Insurance Program

- Congress created the NFIP in 1968.
- The intent was to reduce future flood damage through community floodplain management ordinances, and provide protection for property owners against potential losses through insurance.
- The NFIP is often thought of as a 3-legged stool



Floodplain Mapping & the NFIP

- FEMA identifies flood hazard areas throughout the U.S. and its territories via Flood Insurance Rate Maps (FIRMs).
- FIRMs identify the highest flood risk areas, known as Special Flood Hazard Areas (SFHA).
- The SFHA is any land that would be inundated by a flood having a 1-percent or greater chance of occurring in any given year
 - 1% is a flood insurance standard, not a public safety standard



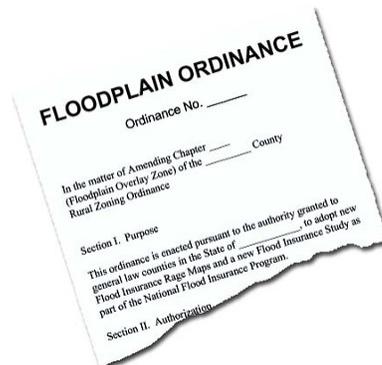
Floodplain Mapping & the NFIP

- FEMA, state and local officials work together to map floodplains
- Maps are used to manage development with the goal of reducing flood risk
- Enable the public to make informed decisions regarding building and insurance purchase
- Maps are used by insurance and lending communities to write policies and enforce laws



Floodplain Management & the NFIP

- In order to participate in the NFIP, a community must adopt a floodplain development ordinance which meets minimum federal standards.
- Higher standards than the federal minimum's are encouraged.
 - One way to increase safety level.
- The local ordinance is enforced and permits required in SFHAs.



Floodplain Insurance & the NFIP

- **The Federal Government will make flood insurance available within a Participating Community as a financial protection against flood losses.**
- **Federally-backed lenders, by law, require flood insurance on structures that are located in the SFHA.**



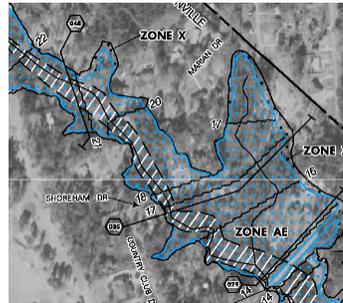
Flood Insurance Coverage Limits — Regular Program Maximums

- **Residential**
 - \$250,000 Structural
 - \$100,000 Contents
- **Nonresidential (Commercial, Industrial)**
 - \$500,000 Structural
 - \$500,000 Contents

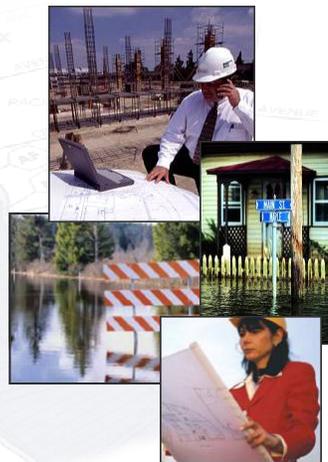


Flood Map Modernization

- Nationwide effort to update the nation's flood hazard and risk information and produce digital versions of NFIP map products
- Estimated cost ~\$1 billion
- Estimated completion 2010



Map Mod Benefits

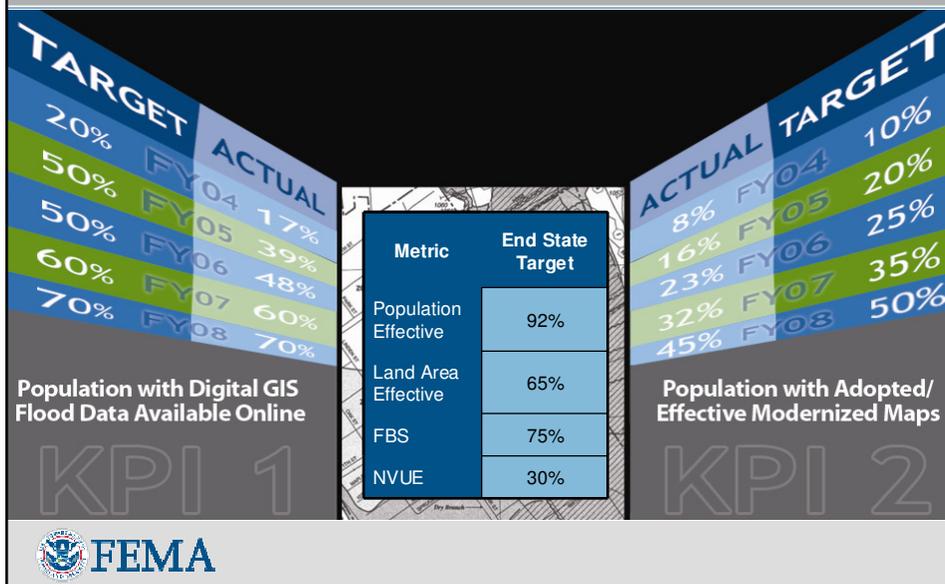


Flood Map Modernization

- 92 percent of Nation’s population provided “modernized” maps - Digital Flood Insurance Rate Maps (DFIRMs) – available on-line
- FEMA focuses Map Mod efforts on areas with greatest flood risk
- FEMA developed “quality” standards for its mapping to help improve the accuracy of the flood elevations and the flood boundaries.

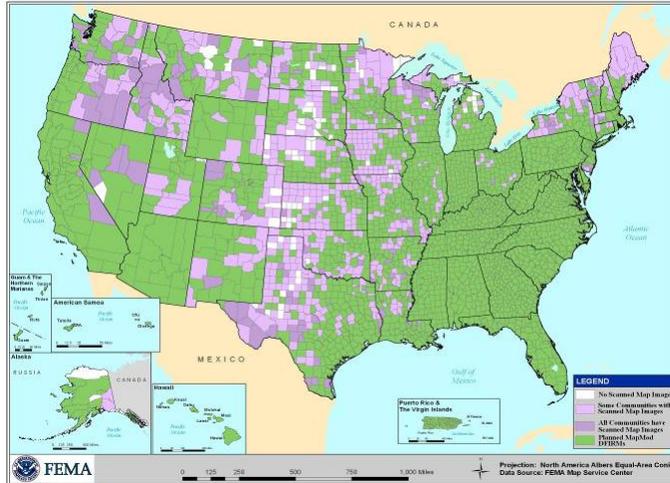


Measuring Performance



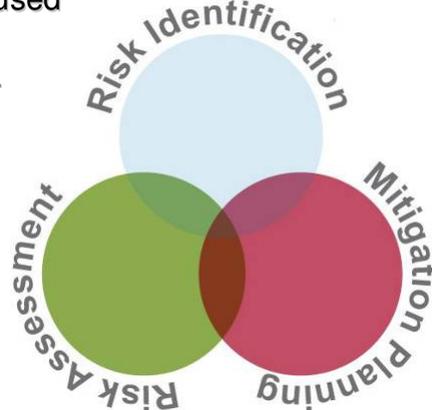
Projected FEMA Map Mod End State (February 2008)

- **Green:** 92 percent of Nation's population provided Digital Flood Insurance Rate Maps (DFIRMs)
- **Purple and Pink:** Areas not mapped with DFIRMs, but have paper FIRM
- **White:** Areas with no FEMA map



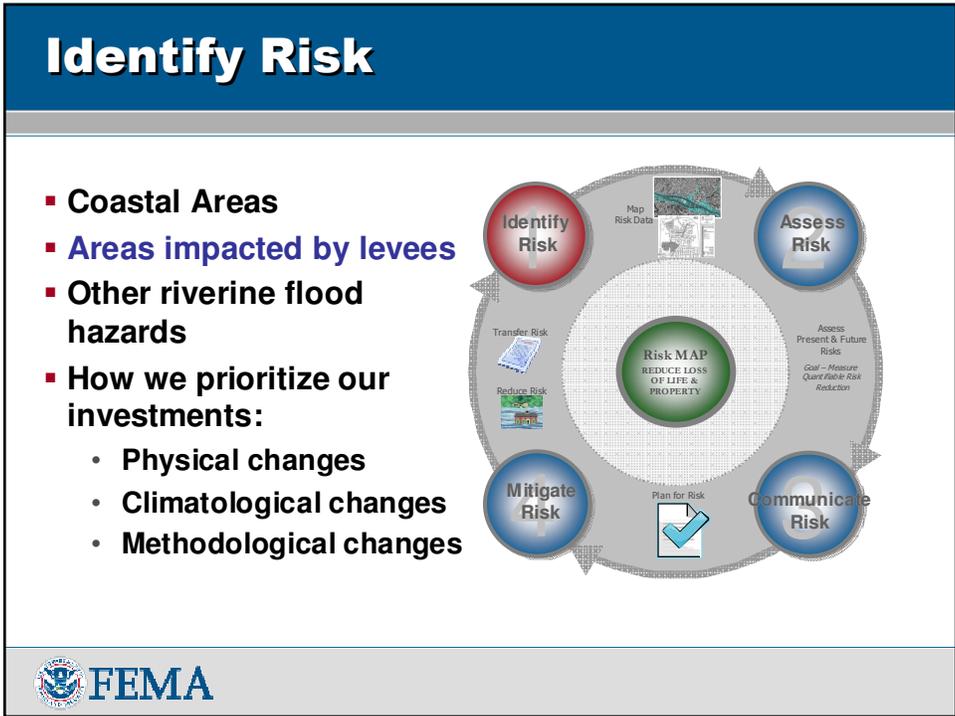
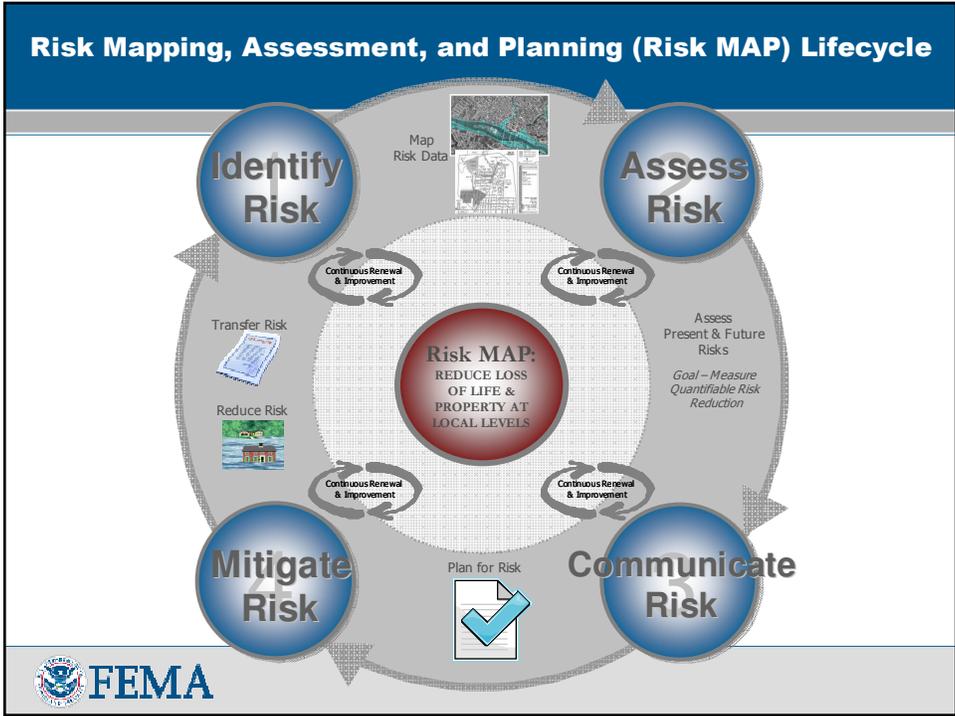
Risk MAP

Map Mod Focused
on Risk
Identification...



...Risk MAP
integrates all
components of
the Risk
Analysis
Division



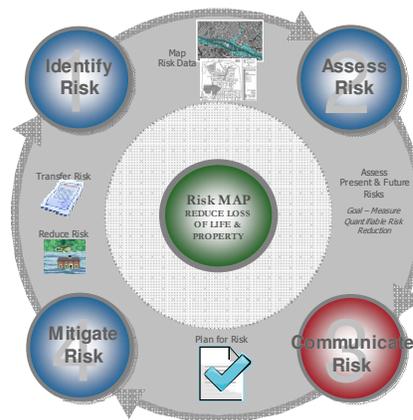


HAZUS and Risk Management



Communicate Risk

- Accessible and usable tools to complement local activities
- Leverage Planning process to better communicate risk
- Enhancements in technology to make risk data available to all

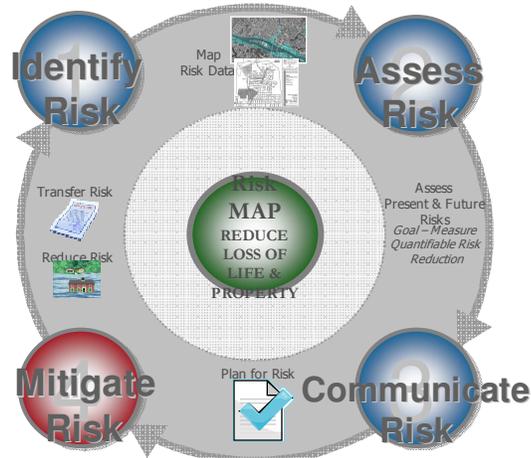


FEMA Flood Risk Communication and Awareness – Key Messaging

- For public safety reasons alone, the identification of flood risks behind levees is very important.
- While levees reduce the chance of flooding from certain events, no levee completely eliminates the risks associated with flooding.
- Levees are **designed to provide a specific level of protection** and can be overtopped or fail during flood events that exceed the design storm.
- Levees decay over time; therefore, levees require regular and proper maintenance and periodically must be upgraded to retain their level of protection.
- When levees overtop or fail, the results of the flooding can be catastrophic, and the damage may be more significant than if the levee did not exist.



Mitigate Risk



Hazard Mitigation Planning Process

organize resources

From the start, communities should focus on the resources needed for a successful mitigation planning process. Essential steps include identifying and organizing interested members of the community as well as the technical expertise required during the planning process.



assess risks

Next, communities need to identify the characteristics and potential consequences of hazards. It is important to understand how much of the community can be affected by specific hazards and what the impacts would be on important community assets.



develop a mitigation plan

Armed with an understanding of the risks posed by hazards, communities need to determine what first priorities should be and then look at possible ways to avoid or minimize the undesired effects. The result is a hazard mitigation plan and strategy for implementation.



implement the plan and monitor progress

Communities can bring the plan to life in a variety of ways, including implementing specific mitigation projects or changes in the day-to-day operation of the local government. To ensure the success of an ongoing program, it is critical that the plan remains relevant. Thus, it is important to conduct periodic evaluations and make revisions as needed.



How Levees Relate



FEMA Levee Roles & Responsibilities

- **Set National FEMA policy & operational procedures relative to levee-impacted areas on NFIP maps**
- **Coordinate with levee owners/operators or others to request and review data & documentation required for section 65.10 compliance**
- **Educate & inform stakeholders**



FEMA Levee Roles & Responsibilities

- Establish/reflect correct flood insurance risk zones behind levees on NFIP maps
- Identify current level of protection provided by levees to determine if levee should be:
 - Accredited;
 - Not accredited or de-accredited; or
 - Provisionally accredited.
- Establish guidelines and specifications for reflecting flood risk in levee-impacted areas on NFIP maps



FEMA Levee Roles & Responsibilities

- **FEMA does not** implement or fund:
 - Design, construction, operation, maintenance, or certification of levee systems;
 - Examination or evaluation of levee systems; or
 - Determination of how levee systems will perform during flood events.



FEMA Levee Roles & Responsibilities

- **FEMA issues guidance & reviews others' findings.**
 - Compliance with Section 65.10 does not rest with FEMA
 - FEMA relies on **levee system owners** or **other parties seeking recognition** of levee system to provide data & documentation needed to present accurate flood risk information in levee-impacted areas.



NFIP Levee Regulations

- **Title 44, Chapter 1, Code of Regulations**
 - **Paragraph 65.2(b)**, "Certification Definitions"
 - **Section 65.10**, "Mapping of Areas Protected by Levee Systems"
 - **Section 61.12**, "Rates Based on a Flood Protection Project Involving Federal Funds"
 - **Section 65.14**, "Remapping of Areas for Which Local Flood Protection Systems No Longer Provide Base Flood Protection"



Certification Defined— 65.2(b)

- **Certification by Registered Professional Engineer (PE) or Other Party**—Does not constitute warranty or guarantee of performance, expressed or implied.
- **Certification of Data**—Statement that data are accurate to best of certifier's knowledge
- **Certification of Analyses**—Statement that analyses performed correctly & in accordance with sound engineering practices
- **Certification by Structural Works**—Statement that works designed in accordance with sound engineering practices to provide base (1-percent-annual-chance) flood protection
- **Certification of "As-Built" Conditions**—Statement that structure(s) built according to plans being certified, in place, & fully functioning



Accreditation — Section 65.10

- **To be accredited by FEMA, a levee must meet, and continue to meet, ALL CFR requirements, including**
 - General Requirements—65.10(a)
 - Design Criteria—65.10(b)
 - Operation Plans and Criteria—65.10(c)
 - Maintenance Plans and Criteria—65.10(d)
 - Certification Requirements—65.10(e)
- **FEMA's review and response is based on the data and documentation that are submitted and available and proper certification of the data.**



Accredited Levee Systems

- When a levee system is accredited, the area behind the levee is designated a moderate risk area - Zone X (shaded).
- However, any residual flooding behind the levee is designated as an SFHA.
- Communities have minimal floodplain management within this moderate risk area.
- Flood insurance is not mandatory in the moderate risk area, but would be mandatory if an area is SFHA due to residual flooding.



De-Accredited Levee Systems

- When a levee system is de-accredited, FEMA delineates SFHAs in the impacted areas that would be inundated by the 1-percent-annual-chance flood.
- The SFHA is designated as a Zone A or Zone AE, depending on the level of study performed.
- Communities must enforce their floodplain management regulations in the SFHA.
- Mandatory flood insurance purchase requirements apply in SFHAs.



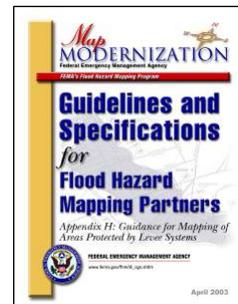
Levee System Construction & Restoration Projects

- **NFIP regulations (criteria) for in-progress & planned levee construction and restoration projects are:**
 - **Zone AR (Section 65.14) - “Remapping of Areas for Which Local Flood Protection Systems No Longer Provide Base Flood Protection”:**
 - For remapping of areas where local flood protection systems no longer provide 1-percent-annual-chance flood protection but will be restored to 1-percent-annual-chance flood protection
 - **Zone A99 (Section 61.12) - “Rates Based on Flood Protection System Involving Federal Funds”:**
 - For areas subject to inundation by 1-percent-annual-chance flood event, but which will ultimately be protected upon completion of under-construction Federal flood protection system.



FEMA Guidance Materials & Resources

- **Mapping Procedures (Appendix H in FEMA Guidelines & Specifications for Flood Hazard Mapping Partners)**
 - Provides procedures to be followed by mapping partners in areas impacted by levee systems.



Guidance Issued To Clarify FEMA Mapping Procedures

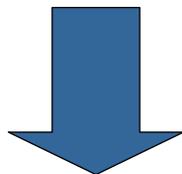
- Procedure Memorandum No. 34 (PM 34) – *Interim Guidance for Studies Including Levees*
- Procedure Memorandum No. 43 (PM 43) - *Guidelines for Identifying Provisionally Accredited Levees* - and Guidelines Document
- Procedure Memorandum No. 45 (PM 45) – *Revisions to Accredited Levee and Provisionally Accredited Levee Notation*

Guidance materials are all accessible through
http://www.fema.gov/plan/prevent/fhm/lv_fpm.shtm.



Drivers for PM 34 Issuance

Additional guidance was needed on procedures
& to clarify responsibilities.



PM 34 was issued as a
clarification to Appendix H.



PM34

- Issued on August 22, 2005, as clarification of Appendix H Procedures
- Helped clarify responsibility for community or other party seeking recognition of levee system for providing information on levee system(s) identified during a study/mapping project



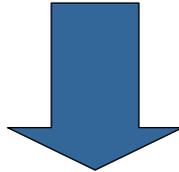
Identifying Certification Issues

- During Map Mod, it was realized that levees were going to be a challenge
- To better understand & begin to manage the problem, FEMA placed levee systems currently shown as accredited into one of three status categories:
 - Category 1—System maintained, required data & documentation available, & can be certified immediately
 - Category 2—System cannot be certified because of design deficiency &/or required repair activities
 - Category 3—System appears to be certifiable but do not have Section 65.10-required data &/or documentation compiled



Drivers for PM 43 Issuance

Levee system owners/communities needed additional time to compile & submit Section 65.10-required data & documentation.



PM 43 & accompanying Guidelines were issued as clarification to Appendix H.



PM 43 & Guidelines

- Established Provisionally Accredited Levee (PAL) system category
- Described 5 major scenarios for determining when levee does or does not qualify for PAL designation
- Established timeframe (24 months) for community/levee system owner to compile & submit Section 65.10
- Established PAL Notation (Map Note & Note to Users)
- Established protocol for issuing flood maps



PM 45

- FEMA issued PM 45 on **May 12, 2008**, to issue new guidance on levee map notes.
- PM 45 provides new map panel note & new Note to Users for accredited levee systems & PAL systems.
- Change in note language provides greater clarity & consistency of risk messages related to areas impacted by accredited levee systems & PAL systems.



Current PAL Data

- As of 10/01/08
 - Number of PALs (offered) 1,725
 - Number of Signed PAL Agreements 865
 - Number of Unsigned PAL Agreements 860*
 - Number of Maintenance Deficient Levees 100
 - Expiring PALs in FY09 360
 - Number of Levee that are Not PAL Eligible 330

• *2% were as a result of PAL scenario change to a non-PAL eligible status



Inventory of Levees

- **Focus on all levee systems accredited on effective NFIP maps**
 - **1-percent-annual-chance level of protection, regardless of ownership**
 - **Need to answer important basic questions**
 - Number of levee systems
 - Miles of levee systems
 - Certification/accreditation status
 - Number of people impacted by levee systems
 - **Need to track Provisionally Accredited Levee (PAL) system status**
- **Previous Efforts by FEMA**
 - **FEMA Levee Inventory System (FLIS)**
 - **Review of individual Digital Flood Insurance Rate Maps (DFIRMs)**



FEMA Mid-Term Levee Inventory (MLI)

- **MLI structure based on USACE National Levee Database (NLD) Model**
 - **Only data of high importance to FEMA collected**
- **Key Attributes of MLI**
 - **Levee centerline locations**
 - **Ownership**
 - **Protection status**
 - **Area protected**
 - **Accreditation status**
- **NLD & MLI Relationships & Fields Identical**



NFIP and Levee Materials

- **Fact Sheets on NFIP and Levees.**
- **Frequently Asked Questions about the NFIP and Levees.**
- **Furthering Levee Stakeholder Education Efforts.**



http://www.fema.gov/plan/prevent/fhm/lv_intro.shtm



CRS Basics

- **A community's participation in the Community Rating System (CRS) is voluntary.**
- **A community receives credit for certain activities defined in the CRS Coordinator's Manual.**
- **Recognizes communities for implementing activities above and beyond the minimum requirements of the NFIP**



CRS Basics

- Provides flood insurance premium discounts in communities with floodplain management programs that exceed the NFIP minimums
- Credit provided for outreach activities, building codes, open space management, technical assistance, protection of open space and natural, beneficial floodplain functions etc.
- 1,055 communities participate in CRS
- Two-thirds of all NFIP policies are located in CRS communities



Benefits of the CRS Program

Credit Points	CRS Class	Premium Discount
4,500+	1	45%
4,000 – 4,499	2	40%
3,500 – 3,999	3	35%
3,000 – 3,499	4	30%
2,500 – 2,999	5	25%
2,000 – 2,499	6	20%
1,500 – 1,999	7	15%
1,000 – 1,499	8	10%
500 – 999	9	5%
0 – 499	10	0



CRS Activity 620: Levee Safety

- **Levees that provide less than 100 year flood protection, but greater than 25 year protection can be credited**
- **Meets 44 CFR 65.10 other than freeboard**
- **Built before January 1, 1991**
- **Community must perform annual outreach to those living in impacted area (prerequisite)**
- **This activity is not to encourage construction of new flood control structures or to duplicate credit given to base flood levees by current mapping procedures.**



Relationship of Levee Certification to CRS

- **FEMA's regulations 44 CFR 65.10 define the requirements for FEMA to accredit a levee of a Flood Insurance Rate Map**
- **44 CFR 65.10 also dictates the engineering and construction requirements for CRS accreditation under Activity 620, with the exception of the freeboard requirement.**
- **Freeboard for CRS is related to flood event being credited, between 25 – 100 year protection**



QUESTIONS???

