

LEVEES



A PART OF A COMMUNITY'S FLOOD RISK MANAGEMENT

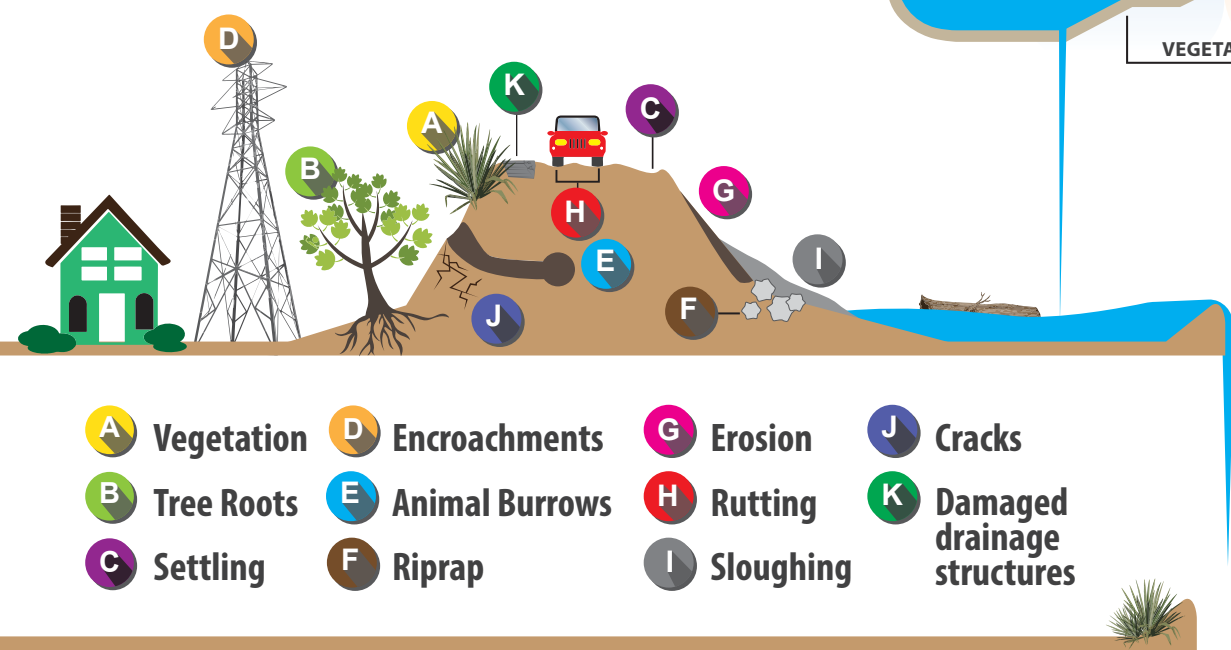
WHAT IS FLOOD RISK

USACE RISK FRAMEWORK FOR LEVEE SYSTEMS

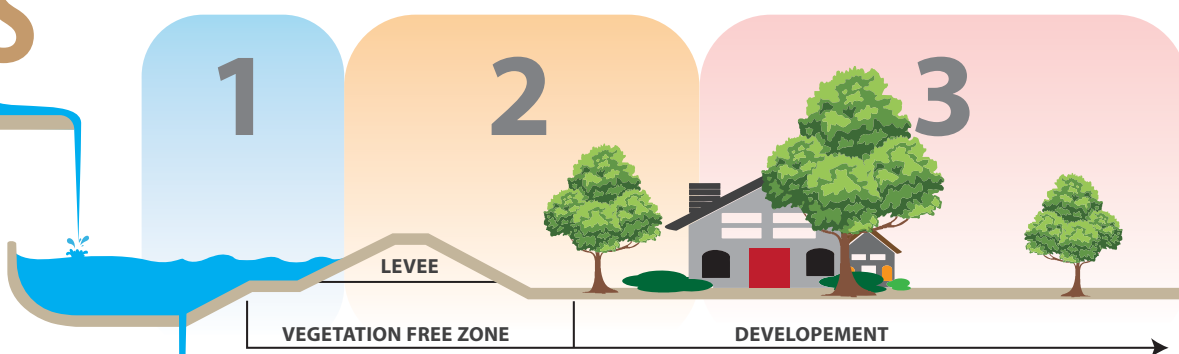
RISK IS A FUNCTION OF:

- Exposure to threats
- Performance of risk mitigation
- Consequences

COMMON LEVEE CONCERNS



- A** Vegetation
- B** Tree Roots
- C** Settling
- D** Encroachments
- E** Animal Burrows
- F** Riprap
- G** Erosion
- H** Rutting
- I** Sloughing
- J** Cracks
- K** Damaged drainage structures



HOW LIKELY IS THE HAZARD (FLOOD, EARTHQUAKE) TO OCCUR?

- PROBABILITY OF FLOOD LOADING

HOW WILL THE LEVEE PERFORM DURING THE HAZARD?

- SEEPAGE
- STABILITY
- EROSION
- CLOSURE SYSTEMS

WHAT ARE THE CONSEQUENCES FOR NON-PERFORMANCE?

- LOSS OF LIFE
- PEOPLE AT RISK
- COMMUNITY AWARENESS AND PREPAREDNESS PLANNING
- ECONOMIC DAMAGES TO STRUCTURES & CONTENTS
- CRITICAL INFRASTRUCTURE AFFECTED

LEVEES IN FEDERAL FLOOD RISK MANAGEMENT PROGRAMS

	PL 84-99 Rehabilitation Program	Levee Certification for NFIP
Administering Agency	USACE	FEMA
Federal Code	33USC 701.n	44CFR65.10
Year of Initiation	1953	1986
Purpose	Prevent Loss of Life Preserve Federal Investments	Insurance Purposes NOT a health and Safety Standard
Primary Evaluation criteria	Continued Eligibility Inspection (CEI) Inspection of O&M activities and that project is being maintained as constructed	Certification - Review of Infrastructures ability to protect against the 100-yr Flood
Entity Conducting Evaluation	USACE and Sponsor	Certification: Professional Engineer (PE) rarely USACE Accreditation: FEMA
Primary Benefit to Community	Assistance with Rehabilitation of Flood Risk Reduction Project in event of Flood Damage	Removal of Floodplain Management requirements associated with SFHA in areas behind levee
Ancillary Benefits	Data from Inspections and Levee Screening Efforts assist in understanding and managing Risk	CRS credits are available for maintaining levees and emergency response plans (CRS activity 620)
Minimum Level of Protection for Eligibility	Agricultural: 5yr+1ft of Freeboard Urban 10yr+2ft of Freeboard	100-yr+3ft of Freeboard
Other Eligibility Criteria	For Non Federal Levees: Side Slopes - 2:1 with 10ft topwidth O&M Plan Public Sponsorship/Ownership	Closure Structures Embankment Protection Settlement Interior Drainage O&M Plan Public Sponsorship/Ownership
Continued Eligibility	Acceptable O&M as identified in annual Continued Eligibility Inspection (CEI)	Recertification with each NFIP map update
Intermediary Status Designations	System Wide Improvement Framework (SWIF) (Temporary eligibility for assistance while deficiencies are corrected)	Provisionally Accredited Levee (PAL) (certification is ongoing) Levee Analysis and Mapping Procedure (LAMP) (how to map uncertified levees)
Alteration Review	408 process (33 USC 408) Guidance: EC1165-2-216	Floodplain Permitting and/or Letters of Map Revision (LOMR) Guidance: IS-9

OVERLAP

2013 Flood Protection Structure Accreditation Task Force

NFIP REQUIREMENTS AND RELATION TO USACE ACTIVITIES

NFIP REQUIREMENTS (44 CFR 65.10)		COMPLIANCE CAN BE DETERMINED THROUGH		
CFR CRITERIA CATEGORY	CFR CRITERIA SUBCATEGORY	USACE INSPECTION	USACE SCREENING	USACE RISK ASSESSMENT
Design Criteria	Freeboard (levee height)	NO	RARELY	YES
	Closure devices for all openings	NO	RARELY	YES
	Embankment protection	NO	RARELY	YES
	Embankment & foundation stability	NO	RARELY	YES
	Settlement	NO	RARELY	YES
	Interior drainage	NO	NO	AS APPROPRIATE*
Operation Plans	Closures	YES	YES	YES
	Interior drainage systems	YES	YES	YES
Maintenance Plans		YES	YES	YES



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