Substantial Damage: The How-To's for Local Floodplain Managers

Outline

• NFIP Overview
• What is Substantial Damage?
• State & Federal Roles & Responsibilities
• Local Floodplain Manager Roles & Responsibilities
• Guidance Documents
• SD Estimator Tool
• Mitigation Opportunities
NFIP Overview

Pre-NFIP

- Historically floodplain management was focused on “Controlling” the flood water
  - Dams
  - Levees/Floodwall
  - Reservoirs
  - Channel Modifications

Source: https://bit.ly/2ZGIF2k
NFIP Creation

• The National Flood Insurance Act of 1968
  • *Creates the National Flood Insurance Program (NFIP) ... to provide flood insurance in communities that voluntarily adopt and enforce floodplain management ordinances ...that meet minimum NFIP requirements.*

The National Flood Insurance Program (NFIP)

• A voluntary program based on a mutual agreement between the federal government and the local community.
• In exchange for adopting & enforcing a Floodplain Management ordinance, federally-backed flood insurance is made available to property owners throughout the community
• Goal: Reduce future flood damages
  • The NFIP aims to accomplish this goal by:
    1) Identifying flood risks (i.e. flood maps)
    2) Regulating floodplain development
    3) Providing insurance in participating communities
    4) Mitigate existing flood risk
The NFIP Cont.

What Is Substantial Damage?
What is Substantial Damage?

- Defined in:
  - Federal Reg. 44 CFR 59.1
  - State Reg. 401 KAR 4:060 Section 2(38)
  - Local Ordinance Article 2

- Substantial Damage (SD):
  - When the cost of the post-damage repair equals or exceeds 50% of the structure’s pre-damage market value
  - Damage cause by ANY origin, not just flood

- Substantial Improvement (SI):
  - When the cost to improve a structure in the floodplain, damaged or not, equals or exceeds 50% of the market value prior to start of work
  - Minimum 1-year cumulative percentage for Kentucky

What is Substantial Damage Cont.

- Anytime the work is substantial, the entire building must comply with state and local floodplain requirements to prevent future damages

- Substantial Damage Determinations are done at the local level
  - DOW & FEMA staff can assist in field assessments and data analysis
  - Substantial Improvement determinations are done at both the state and the local levels
Intent of Substantial Damage

- Structure will require significant amount of money, time, and effort to repair.
- By requiring the whole building comply with flood requirements, the homeowner will protect their structure going forward from any future flood damages.

Factors Leading to SD/SI

- Flooding Above 1st Floor
- Extended Duration
- High Velocities
- Manufactured Home
- Damage of ANY origin
  - Earthquake
  - Fire
  - Tornado
  - High Winds
  - Hail
Federal Role

• Implements aspects of the NFIP
  • 44 CFR 59.1 defines Substantial Damage
    • “…damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.”

• FEMA does not have the authority to declare structures Substantially Damaged.
Federal Role Cont.

- **Training**
  - EMI online learning
    - Using the SD Estimator Tool
    - SD Estimator Tool for FPAs
- **Guidance**
  - Substantial Damage/Substantial Improvement Desk Reference
  - Answers to Questions About SD Buildings
- **Support**
  - Long Term SD Support

State Role

- Kentucky Division of Water is the state coordinating agency for NFIP related activities
  - Encourage NFIP participation
  - Assist communities in developing management regulations
  - Provide technical assistance
  - Host trainings
  - Assist in response/recovery activities
  - Notify FEMA of issues with community programs and seek to correct them
State Role Cont.

- During disaster operations, KY NFIP Coordinator may:
  - Assist in identifying damaged areas
    - Flood insurance claims
    - Prelim. Damage Assessments
    - High water marks
  - Provide training opportunities
    - Remote trainings available
  - Provide technical assistance in SD determinations
  - May provide field assistance by request on as needed basis

Local Roles & Responsibilities
Blue Sky Phase

• Permitting Development
  • SD requires structures to come into compliance. If already compliant, no action needed

• Inspect Development
  • Ensures compliance

• Enforce Your Ordinance
  • Ensures continued compliance
Blue Sky Phase Cont.

• Develop a SD Assessment Kit
  • Blank Assessment Forms;
  • Colored SD assessment door tags;
  • Flood maps (either digital or paper);
  • Digital cameras;
  • GPS unit (some phones will geolocate pictures & can be used for Lat/Long);
  • Safety Equipment (i.e. boots, bug spray, hardhats, etc.);
  • Pens & pencils; and
  • A communications plan

Blue Sky Phase Cont.

• Identify the Assessment Team
  • Potential team members include:
    • Local floodplain manager
    • Local elected officials
    • Local emergency management staff
    • Building inspectors
    • Planning & zoning staff
    • Community administration staff
    • Any other personnel that community can use
  • Ideally consist of 3 team members, but never fewer than 2
    • Each team should also have at least 1 local official included
Any Damage can be SD

- Substantial Damage can be caused by ANY type of damage, NOT just flooding
  - Fire
  - Wind
  - Hail
  - Tornado
  - Severe Storm
  - Winter Storm
  - Earthquake
  - Landslide
  - Sinkholes
  - More

Source: tinyurl.com/y6rpspoy
Source: https://bit.ly/2MSJRy4
Floodplain Administrator During the Disaster

• Support response efforts in the EOC
• Coordination
  • Local EM
  • State NFIP Coordinator
  • Elected Officials
  • Community legal council
  • Other building departments
• Outreach
  • Local elected officials
  • Citizens
  • Media and/or Social Media
• Begin determining likely hotspots of damage

BEFORE | DURING | POST

Post-Disaster SD Assessments

• Determine the Assessment Area
  • Where was the damage?
  • Were the damage areas in a mapped 1% floodplain?
• Evaluate staffing needs. Find other workers as needed.
• Post Notice on each structure in the floodplain that received any level of damage (optional)
  • Lets owner/resident know that permits are needed before repair
  • Should be done immediately

BEFORE | DURING | POST

FLOODVILLE, KY - PERMITTING OFFICE

NOTICE

DAMAGE ASSESSMENT IS REQUIRED

ARRANGEMENTS MUST BE MADE FOR AN ASSESSMENT OF THIS STRUCTURE BEFORE ANY REPAIRS CAN BE ALLOWED.

FOR FURTHER INFORMATION CONTACT: FLOODVILLE’S PERMITTING OFFICE AT (502) 123-4567

NOTE: THIS NOTICE MUST REMAIN VISIBLE ON SITE FOR 30 DAYS OR UNTIL ALL APPLICABLE PERMITS HAVE BEEN OBTAINED.
Post-Disaster SD Assessments

- Contact local officials before assessments such as city police and/or county sheriff's department
- Perform an individual assessment on each damaged structure
  - Take pictures and video of each structure
- Record the data
  - Lat/Long
  - Street address
  - Damage level
  - Structure attributes
- Keep SD Worksheet for Records

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Post-Disaster SD Assessments

- Post an Orange notice on each structure assessed
  - Colored notice allows assessment team to easily see which structures have been assessed from a distance
  - Notifies property owner that:
  - Structure was assessed for SD;
  - Will require permits to repair;
  - Mitigation may be needed;
  - That they should contact their local floodplain manager; and
  - That notice should remain on site until permits are obtained
Making SD Determinations

- Once back in the office, review the recorded data
  - Determine if structure is currently compliant
  - If YES:
    - Ensure they get all necessary permits (State & Local)
    - No further SD action required
  - If NO:
    - Require property owner submit application stating how they will bring their building into compliance with the community’s ordinance
      - Lowest floor (plus utilities & duct work) must be above BFE + community’s Freeboard requirement
      - Typical Mitigation Measures: Elevation, Relocation, Demolition, or (for Non-Residential structures ONLY) Floodproofing
      - Once the proposal satisfies the local ordinance, issue local floodplain permit
  - Keep in mind the community’s cumulative Substantial Improvement in making SD determinations.
    - Typically 1 year but some communities are higher.

Repair Cost & Market Value

**Cost To Repair**
- Cost for full repair back to “pre-damaged” condition, even if the owner elects to do less
- Includes
  - All structural elements, all interior finish elements, all utility & service equipment, labor, & profit
- Excludes
  - Land value, cost of obtaining plans & permits, demolition costs, plug-in appliances, & detached buildings

**Market Value**
- The property value before the damage occurred, minus the cost of land, site improvements, value of use, and occupancy
  - PVA Data is typically used in KY
  - Owner may provide value calculated with Professional appraisal
    - Must come from a certified local appraiser trained in Pre-disaster value determination
Simple SD Calculation

**BEFORE**

**DURING**

**POST**

Notifying the Property Owner

- Notify property owner in writing of the determination
  - Inform property owner of:
    - Their structure’s Substantial Damage status (either SD or not SD)
    - Their next steps
    - Where can they go for help
    - Where to get permits
    - How to appeal the determination
  - Official letters should be sent out to all assessed property owners within 30 days of determination
    - The sooner the better
- Keep a copy of each letter for community records
An Option for Local FPAs

• All SD Assessments are done on structures in the floodplain. This means that ALL of these assessed buildings will require floodplain permits (state & local) for their repairs

• Local floodplain manager can require the property owners submit Cost To Repair estimates for SD determinations
  • All submitted estimates MUST be done in accordance with FEMA’s Substantial Damage Desk Reference

• Local FPAs that require estimates from property owners must state this in their letters to property owners.
  • Give them a deadline to submit their estimates (i.e. 60 days from date of letter)

Appeals to SD Determinations

• Property owner may appeal an SD determination on the basis of:
  • Insufficient information;
  • Errors;
  • Repair/improvement costs that should be included/excluded;
  • Inappropriate valuations of costs for the proposed work; or
  • An inappropriate method to determine the market value of the building

• Appeals can be requested in writing by the property owner to the appropriate appeals board established in your community’s Flood Damage Prevention Ordinance

• Board will make final determination on decisions made by the floodplain coordinator in the enforcement of the community’s ordinance
Variances to Requirements

• A variance is a grant of relief from the terms of a local floodplain management regulation
  • Allows construction in a manner that is otherwise prohibited
• Floodplain variance procedures are established in the community’s Flood Damage Prevention Ordinance
• Variances should be granted based on a showing of good and sufficient cause
  • Granted variances should only be the minimum necessary to afford relief with a minimum of deviation from the requirements with the community’s ordinance.

Variances to Requirements Cont.

• Insufficient justifications for a variance request:
  • Difficult access for those with physical limitations;
  • Too costly to comply;
  • The owner does not plan to get flood insurance;
  • Building will look different; or
  • Building will need a waiver of height limitations
Variances to Requirements Cont.

• Even IF a variance is issued locally, state minimum development requirements still apply
  • Property owners are required to comply with both their state and their local floodplain development permits.

• Typically, Floodplain Management Section at DOW does not issue variances to SD/SI unless the building is listed on the State or National Register of Historic Places

• Best Practice: Do Not Issue Variances unless Historic

Variances to SD Requirements Cont.

• Negative consequences of approved variances
  • Higher annual flood insurance premiums for property owners
  • More difficult to sell structure
  • Increased risk of future flood damages
  • Communities with a pattern of issuing variances will be scrutinized by state NFIP Coordinator and FEMA R4 staff
    • May lead to community probation or suspension from the NFIP
Ensuring Compliance

• Conduct follow-up inspections of damaged properties over time
  • Issue ‘Stop Work Orders’ if repairing without proper permits
  • Issue ‘Notice of Violation’ (NOV) letters to notify property owner what is being done incorrectly

Guidance Documents
Local SD Handbook  (In Development)

Guidance Documents

Substantial Improvement/Substantial Damage Desk Reference
FEMA P-758 / May 2010

Answers to Questions About Substantially Improved/Substantially Damaged Buildings
FEMA 213 / August 2018
Guidance Documents Cont.

- NFIP Technical Bulletins (TBs)
  - TB0 Users Guide
  - TB1 Openings in Foundation Walls and Walls of Enclosures
  - TB2 Flood Damage-Resistant Materials
  - TB3 Non-Residential Floodproofing Requirements and Certification
  - TB4 Elevator Installation for Buildings Located in Special Flood Hazard Areas
  - TB6 Below-Grade Parking Requirements
  - TB7 Wet Floodproofing Requirements
  - TB10 Ensuring That Structures Built on Fill Are Reasonably Safe From Flooding
  - TB11 Crawlspace Construction
SD Estimator Tool

• Free online resource for local FPAs.
• Designed to assist state and local officials in using onsite rapid, visual inspections to estimate repair costs and building values for residential and non-residential structures.
• Helps local officials with limited appraisal or construction backgrounds to develop reasonable and defensible estimates of building values and damages.
SDE Tool – Terms to Know

• Structure Attributes
  The basic information about the building (e.g. crawl space, one story)

• Building Elements
  The basic individual parts of a building (e.g. foundation, superstructure)

• Cost Adjustments
  Add-ons or adjustments to the cost that include additional building features that are not part of the basic building as defined by the unit costs.

SDE Tool - Features

• Residential Structures
  • Building Elements
  • Built-in square-footage calculator based on building shape
  • Photos or files can be attached to a structure record
  • Ability to import structure data from non-SDE address
  • Ability to add up to three custom data fields

• Residential Structure Attributes
  • Foundation type – six options
  • Superstructure – four options
  • Roof covering – four options
  • Exterior finish – four options
  • HVAC system – two options
  • Stories – two options
SDE Tool - Features Cont.

- Non-Residential Structures
  - A wide range of structure types and uses were evaluated and then consolidated into a manageable number of options for users.

- Non-Residential Attributes
  - Structure use – 22 uses
  - Fire safety – sprinklers system (Y/N)
  - Conveyance – elevators/escalators (Y/N)
  - Initial construction quality – five options
  - Cost adjustments – six options plus custom features
  - Element percentages – seven standard construction elements

SDE Tool – Main Menu
SDE Tool – Main Menu Cont.

SDE Tool – Main Menu Cont.
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SDE Tool – Main Menu Cont.

![SDE Tool Main Menu](image)

SDE Tool – Recommended Download

- Substantial Damage Estimator (SDE) User Manual and Field Workbook
  - Appendix E: Guidance for Estimating Percent Damage for Residential Structures
  - Appendix F: Guidance for Estimating Percent Damage for Non-Residential Structures
Example 1

- Community ID 112233
- City of Neckhigh, Texas 99999-9999
- Camp County
- 1983 Pumpkin street
- FIRM Panel 119911991E 1/1/2000
- AE 24.00 No Floodway
- Height of water above ground 12ft
- Height above first floor 7ft
- Duration 2 days
- $90.00/sf Geo Adj. 1.00
- Average Depreciation

Example 2

- Community ID 112233
- City of Neckhigh, Texas 99999-9999
- Camp County
- 25 Chocolate Way
- FIRM Panel 119911991E 1/1/2000
- AE 26.00 No Floodway
- Depth above ground 3 ft
- Depth above first floor 3 ft
- Duration 2 hours
- $120/sf Geo Adj. 1.00
- Average Depreciation
Mitigation

• “Mitigation is the effort to reduce loss of life and property by lessening the impact of disasters”
• Mitigation can occur pre-, during, or post-flood
• Funding sources are available to help communities and its citizens take mitigation actions
Mitigation Ideas

• Guide provides a resource “…to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards…”

• Has mitigation ideas for 17 natural hazard types, including flooding
  • 23 mitigation ideas specifically for flood

Download a copy at: https://bit.ly/31GQgj5

Mitigation Funding

• Hazard Mitigation Grant Program (HMGP)
  • Post-Disaster Grant
  • Help communities implement hazard mitigation measures following a disaster declaration.
  • KY is an Enhanced state: 20% of disaster funds allocated for HMGP

• Typical Project Cost Breakdown:
  • FEMA funds 75%
  • Kentucky funds 12%
  • Locals responsible for 13%**

**Department for Local Government (DLG) may be able to fund up to 75% of local share
Mitigation Funding Cont.

- **Building Resilient Infrastructure and Communities (BRIC)**
  - Pre-Disaster Grant
  - $500m funding available in 2020
  - Application period opens Sept. 30, 2020

- **Flood Mitigation Assistance (FMA)**
  - Pre-Disaster Grant
  - Provides funding to local communities for projects & planning that reduces or eliminates long-term risk of flood damage to structures insured under the NFIP
  - $160m funding available in 2020
  - Application period opens Sept. 30, 2020

- Geni Jo Brawner, KYEM
  - State Hazard Mitigation Officer
  - geneva.j.brawner.nfg@mail.mil

- Esther White
  - Grants Manager at UK
  - eewhit3@uky.edu

Mitigation Funding Cont.

- **Increased Cost of Compliance (ICC)**
  - Can provide up to $30,000 to help cover the cost of mitigation actions that help reduce flood risk
  - ICC is a part of most standard flood insurance policies available under the NFIP
    - Must have the following: 1) Flood insurance policy, 2) Be in the floodplain, and 3) Be declared substantially damaged by the local community

- **DLG’s Flood Control Matching Grant Program**
  - May be able to help meet the local cost-share match requirements associated with mitigation projects.
    - Contact Aaron Jones
      - AaronJ.Jones@ky.gov
      - https://kydlgweb.ky.gov/FederalGrants/16_Flood.cfm
Mitigation Funding Cont.

- **Small Business Association (SBA)**
  - Offers low interest disaster loans to businesses, private non-profits, homeowners, and renters
    - May be up to 30 years
    - Used to replace real estate, personal property, machinery & equipment, inventory, and business assets destroyed in a declared disaster
  - Types of loans
    - Home & Personal Property
    - Business Physical
    - Economic Injury
    - Additional loans available to fund mitigation improvements

  [sba.gov/funding-programs/disaster-assistance](sba.gov/funding-programs/disaster-assistance)

Mitigation Funding Cont.

- **HUD 203(K) Loan Program**
  - Traditional lending requires Loan-to-Value ratios that may prohibit financing of mitigation activities.
    - 203K allows homeowners to finance the purchase plus the cost of its repairs through a single mortgage.
    - Portion of loan pays off existing mortgage, and remaining funds put in escrow & released on project completion.
      - Streamlined process available for repairs up to $35,000
  - Eligible Activities
    - Structural elevation of the home above BFE
    - Relocation of the home to a non-flood prone site
    - Dry floodproofing (e.g., make structure water-tight)
    - Wet floodproofing (e.g., installing flood vents)
    - Relocating utilities and systems out of a basement, or elevating the utilities
    - Overhead sewers and/or backflow prevention
    - Structural alterations and reconstruction
Contact Info

• Alex VanPelt
  • Kentucky NFIP Coordinator
  alex.vanpelt@ky.gov
  (502) 782-7120 (Direct Line)
Division of Water
300 Sower Blvd., 3rd Floor
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• Patricia Smithline
  • FEMA R4 Emergency Management Specialist
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Questions