NFIP Best Practices
Outline

- NFIP Requirements
- Education & Outreach
- Mitigation Planning
- Freeboard
- Protecting Utilities
- Dangerous Materials
- Elevation Certificates
- Substantial Damage
NFIP Requirements

- All building lowest floors, utilities and mechanical equipment (including ductwork) must be elevated or protected to at or above the BFE.
Permitting

- Local & State floodplain permits required for all development in the SFHAs.

Flood Vents

- 1 square in. per square ft. of enclosed space (minimum of 2 vents)
- Within 1 ft. of grade
• Simplest & most straightforward action community can take.

• Types of outreach
  – Mailers
  – Door hangers
  – Community website
  – Social Media
  – Local TV/Radio
  – Brochures available at public locations
  – Having flood maps available for review

• Topics
  – “Turn Around Don’t Drown”
  – Flood Vents
  – Elevating utilities
  – Map changes
  – Insurance availability
  – Community activities (CRS)
Mitigation Planning

• Plans updated on a 5 year cycle.
  – 13/15 plans currently being revised.
• Plans assembled on a regional scale and adopted locally.
• Plans rely entirely on local communities to identify risk and potential mitigation actions.
Hazard Mitigation Plan

- Types of hazards identified in Green River ADD HMP:
  - Earthquakes
  - Drought
  - Flooding/flash flooding
  - Severe storms (thunderstorms/wind/hail)
  - Subsidence
  - Severe winter storm
  - Tornado
  - Dam/levee failure
  - Landslides
  - Wildfires

- Plans also address individual community vulnerability, mitigation strategies, mitigation actions & priorities, and possible funding sources.

- Mitigation funding sources are tied to identified mitigation actions in the Hazard Mitigation Plan
  - HMGP (Hazard Mitigation Grant Program)
  - PDM (Pre-Disaster Mitigation)
  - FMA (Flood Mitigation Assistance)
Hazard Mitigation Planning Cont.
• What is Freeboard?
  – NFIP ‘Freeboard’ Definition - “A factor of safety, usually expressed in feet above the BFE, which is applied for the purposes of floodplain management. It is used to compensate for the many unknown factors that could contribute to flood heights greater than those calculated for the base flood. Freeboard must be applied not just to the elevation of the lowest floor or floodproofing level, but also to the level of protection provided to all components of the structure, such as building utilities, HVAC components, etc.”
  – i.e. Required elevation above the flood elevation.

• Takes into account changing flood conditions
• Lowest floor elevation in relation to BFE is the most significant factor affecting flood insurance rates.
• Saves building owners money and makes community safer & more resilient as a whole.

<table>
<thead>
<tr>
<th>Lowest</th>
<th>Structure $150,000</th>
<th>Contents $50,000</th>
<th>Federal Policy Fee</th>
<th>ICC Fee</th>
<th>Total Annual Premium</th>
<th>30-Yr. Mortgage Total Flood Insurance Cost</th>
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</thead>
<tbody>
<tr>
<td>Floor Elevation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3’ above</td>
<td>$200</td>
<td>$112</td>
<td>$35</td>
<td>$6</td>
<td>$353</td>
<td>$10,590</td>
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<tr>
<td>2’ above</td>
<td>$275</td>
<td>$112</td>
<td>$35</td>
<td>$6</td>
<td>$428</td>
<td>$12,840</td>
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<tr>
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<td>$35</td>
<td>$6</td>
<td>$631</td>
<td>$18,930</td>
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<tr>
<td>At BFE</td>
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<td>$284</td>
<td>$35</td>
<td>$6</td>
<td>$1155</td>
<td>$34,650</td>
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<tr>
<td>1’ below</td>
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<td>$973</td>
<td>$35</td>
<td>$6</td>
<td>$4304</td>
<td>$129,120</td>
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</tbody>
</table>
Freeboard Example

- Freeboard
- Top of Lowest Floor
- BFE
- Flood Vents
Protecting Utilities

Elevation

- Elevation is the only sure way to protect utilities.
- Install or retrofit utilities to local BFE & Freeboard requirements.
- Typical Utilities
  - HVAC + Duct work
  - Electrical Meter & Outlets
  - Furnace
  - Exhaust Fans & Vents
  - Non-Submersible Well Pumps
  - Telephone
  - Cable TV Systems
  - Emergency Power
- Section C2E on the EC “Lowest elevation of machinery or equipment servicing the building.”
Protecting Utilities Cont.

• **Floodproofing** (Non-Residential)
  – Wet: Using flood resistant materials to minimize water contact with utilities.
    • Prevents entry & accumulation of flood waters, buoyancy, corrosion, etc.
  – Dry: Waterproofing around utilities to protect them from floodwaters.
    • Sealed, alternate power, etc.

* Note: Fully sealing all mechanical and electrical utilities is not possible.
• Drainage, Septic, & Potable Water
  – Difficult to elevate
    • Backflow valve
    • Anchor tanks
  – Protect from impact and scour forces
  – Seal water tanks to prevent contamination from floodwaters
Elevation Certificates

- Require ECs on all New or Substantially Improved structures as well as Fill
  - Provides a record for the structure

- An elevation certificate is the only true way to rate flood risk

- ECs stay effective until changes are made to the structure
  - e.g. Adding an addition
Substantial Damage/Substantial Improvement

- Repair or improvement to a structure that equals or exceeds 50% of the structures value prior to the damage or start of improvement.
- SD/SI breaks the cycle of Flood ➔ Repair ➔ Flood
- Factors leading to SD/SI
  - Flooding above first floor
  - Extended duration
  - High velocities
  - Damage of any origin
    - Tornado
    - Fire
    - High Winds
    - Earthquake
SD/SI Best Practices

• Cumulative Years
  – NFIP 50% for 1 event
  – Kentucky 50% over 1 year
  – Local community may exceed the Kentucky minimum
    • e.g. Louisville-Jefferson County Metro has a 10 year period

• Lower Threshold
  – Local community can set lower percent thresholds
    • e.g. 25%-49%

• Square Footage Increase
  – Horizontal Addition or Entire Structure
    • Improvements to existing
  – Vertical Addition

<table>
<thead>
<tr>
<th>Element</th>
<th>% of Overall Structure</th>
</tr>
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<tbody>
<tr>
<td>Foundation</td>
<td>12%</td>
</tr>
<tr>
<td>Superstructure</td>
<td>13%</td>
</tr>
<tr>
<td>Interior Finish</td>
<td>13%</td>
</tr>
<tr>
<td>Doors &amp; Windows</td>
<td>16%</td>
</tr>
<tr>
<td>Plumbing</td>
<td>8%</td>
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Substantial Damage
Substantial damage also means flood related damage sustained by a structure on two (2) separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.
FEMA has a Substantial Damage Estimator tool available to help locals make SD/SI determinations

- Provides guidance on:
  - Cost of Work
  - Fair Market Value
  - Issuing determination letters
  - Compliance enforcement
  - Sample letters
Increased Cost of Compliance (ICC)

• Many flood insurance policy holders unaware that:
  – They have ICC Coverage
  – Up to $30,000 to be used for elevation, demolition, relocation, or floodproofing (non-residential)
  – ICC is a claim; NOT a grant
  – Claims file with insurance company
*Note: Structure must be in SFHA, must be insured, and must be declared substantially damaged.
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