Flood Mitigation Development & Implementation

Regional Training
Floodplain 101

✓ Every NFIP participating community has a flood damage prevention ordinance

- Must meet federal and state minimum requirements
- Provide basis for local flood hazard management and risk reduction
- Enforceable
Mitigation 101

Did you know…?

Since the DR1818 ice storm disaster of 2009, mitigation funds have provided for the installation of 180+ generators for critical facilities across the Commonwealth.
Event-Driven Mitigation

- Disaster Happens (Flood)
- Immediate Emergency Assistance & Recovery
- Gather Information
  - Photos
  - News Stories
  - Anecdotal Information from responders and those impacted
- Mitigation Options to Eliminate or Reduce Risk
- Gain Support of Appropriate Local Officials
- Identify Existing or Upcoming Funding Sources
Disaster Happens

Approximate Rainfall for the Period of:
08/04/2009 12:01 AM - 08/04/2009 11:59 PM

<table>
<thead>
<tr>
<th>Code</th>
<th>Site</th>
<th>Rainfall</th>
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<tbody>
<tr>
<td>T100</td>
<td>West County WWTP</td>
<td>0.74</td>
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<tr>
<td>T102</td>
<td>PEER Fire Station Training Facility</td>
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<td>T103</td>
<td>Cherry Pk</td>
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<td>T104</td>
<td>Macks Farm WWTP</td>
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<td>T105</td>
<td>Bragg Creek PS</td>
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<tr>
<td>T106</td>
<td>Hill Creek WWTP</td>
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<td>T107</td>
<td>Floral Park WWTP</td>
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<td>T108</td>
<td>Pen's Creek Fire Station</td>
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<td>T109</td>
<td>Cedar Creek WWTP</td>
<td>3.13</td>
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<td>T110</td>
<td>Camp Howard (Jefferson Co.)</td>
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<tr>
<td>T111</td>
<td>Rockcastle Reservoir Pk</td>
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<td>T112</td>
<td>Rainier Park Pk</td>
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<td>T113</td>
<td>Dr. Mason Elementary School</td>
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<td>T114</td>
<td>Long Ave Res PS</td>
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<td>T115</td>
<td>Jellico Annex WWTP</td>
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Rainfall Amounts
- High: 7+ inches
- Low: 0.75 inches
Maple Street Area (22nd & Broadway)
Funding Availability & Qualification

✓ Source of Funding
  ➢ Funding Availability - Talk w/ SHMO
  ➢ Timing of Submittal - Talk w/ SHMO

✓ Critical Criteria
  ➢ Upper Management & Political Will?
  ➢ Severe Repetitive Loss in Area?
  ➢ Repetitive Loss?
  ➢ Benefit/Cost - Is 10-Year Flood Elevation inside Most 1st Floors?
  ➢ Age of Homes - Cultural & Archaeological Impacts?
  ➢ Local Match Available - In-Kind or Otherwise?
Why is this happening?

✓ News articles of previous events
✓ Analyze rainfall or circumstances causing past events
✓ Utilize flood risk data to understand extent and severity
✓ Review any existing studies of the area
✓ Talk to neighbors that have lived there for a long time
✓ Talk to emergency responders and disaster recovery specialists that were on scene
Document Prior Mitigation Actions

- Research and document prior actions such as:
  - Property acquisitions
  - Flood protection projects
  - Flood control storage basins channel realignments
- Document completion dates, expected benefits or losses avoided
- Purpose is to document history of completed projects and benefits

Flood Event of 1936
How Risk Can Develop
Large Sewers Enclose Major Streams
Reason for Stream Enclosures

Relationship Between Sewerization and Typhoid Death Rates
(per 100,000 residents)

Death Rate in Blue
Sewer Miles per 100,000 Residents in Green
FLOOD AREA DELINEATION
Enclosed Stream under Maple St
Now a 108-Inch Sewer
Progress Summary

✓ 128 Properties in Total
✓ Approximately $10 Million in Funding
✓ 3-Year Grant Review Period
✓ Over 70% Acquired
✓ 65% of Total Properties Demolished
✓ Lead & Asbestos Testing and Abatement
✓ Non-responsive Property Owner Contacts
✓ Political and Community Communication
✓ Landuse Stakeholder Formation
✓ Site Restoration
Land Use Post-Project

- As end of project nears, long-term land-use and ownership should be determined
- Simple open space is allowable within grant budget
- More elaborate park space is allowable, but requires funding if not in grant budget
- Long term maintenance needs should be considered as well as permanent custodian
- Area stakeholders should be consulted
  - Brown Forman Headquarters
  - Wal-Mart
  - YMCA
  - California Neighborhood
  - Churches
  - Metro Police
Surrounding Stakeholders

California Neighborhood
Hickman, KY

Mitigation Planning
What Mitigation Measure Fits Best?

✓ Flood Detention Basin
  ➢ Not Practical Above Ground, Combined Sewer Area
  ➢ Public Health & Safety Issues
  ➢ Underground Storage Far Too Expensive

✓ Structural Elevation
  ➢ Possible - Foundations Likely Unsafe
  ➢ Emergency Service Access Issues Remain
  ➢ Flood Damages Likely to Reoccur

✓ Acquisition & Demolition
  ➢ Removes Risk Permanently
  ➢ Fairly Expensive, but Viable if Funding Available
  ➢ Project Boundary Must Be Supported by a Logical Approach
Recommendations

- Develop brief recommendation to Executive Staff or appropriate officials
  - Brief Description
  - Map of Project Area and Drainage Area
  - Pertinent News Articles and Photos
  - Planning Level Cost
  - Local Match Needs
  - Approximate Timeline for Funding
  - If authorized, request permission to contact area councilman, state and federal political representatives for letters of support and coordination
Grant Development

- Confirm Funding Availability
- Confirm Approval by Application Signatory
- Communicate to local government and police of the intent to submit, including FAQs
- Make Congressional Representatives Aware
- Identify grant development needs
  - Primary Author
  - Technical and Benefit/Cost Analyst
  - GIS Analyst
  - Hydraulic Modeler (not always needed)
  - Quality Control
- Field Data (FFE, LAG, HWMs, Property Values)
- Cultural and Archaeological Study

Likely Externally Obtained
Mitigation Grant Writing

✔ Flooding History including Dates/Damages
✔ Photos and News Stories to Reinforce the Need for Mitigation
✔ Mitigation Project Description
✔ Project Cost Estimate incl. grant development costs & administrative costs
✔ Mitigation Alternative Analysis
✔ Schedule by Task (use durations rather than dates)
✔ Benefit/Cost* - individual and aggregate
✔ Individual Property Worksheets
✔ Letters of Voluntary Interest

* Severe Repetitive Loss, Repetitive Loss and properties under $176,000 may not require benefit/cost
Grant Project Development

✓ Once selected by the Kentucky Mitigation Council Committee, begin grant development in CHAMPS:

- Benefit/Cost Analyses, if necessary
- Cultural and Archaeological Survey, if necessary
- Coordination with Kentucky Heritage Council
- Detailed project description and full cost estimate (include administrative and grant development costs)
- If acquisition, project boundary determination and reasoning
- If acquisition, when and how do you contact property owners?
- If detention, confirm availability of land with current owner
Contacting Property Owners

When do you contact them?
- Voluntary letters of interest mailing are a requirement in acquisition/elevations
- For detention, more flexible. Likely upon receiving funding

Advantages
- Learn level of interest within project area
- No response addresses indicate owners that may be difficult to find

Disadvantages
- Sets property owner expectations of funding
- Renters may become hesitant to move in or renew lease
- Properties may be neglected in anticipation of acquisition
- Owners just outside the project boundary may be upset
- All will want a schedule for acquisition and frequent updates
Connecting with Property Owners...
the good, the bad and the ugly.

Advantages:
- Know what’s happening in the neighborhood
  - Robberies, break-ins, stealing copper
- Spread of knowledge by neighbors
- You get to hear the success stories
  - Tragic stories turned around
  - Getting people out of dangerous situations

Disadvantages:
- Spread of “knowledge” by neighbors - rumors begin, spread of financial information
- The caller “run-around”
- Unrealistic expectations
  - Distrust of the federal government
  - Owner Perspective
  - Renter Perspective
Expect the Unexpected...

Special circumstances:

✓ Hostile & enthusiastic property owners
  ➢ Different kind of disadvantage

✓ Property Owners who live out of state

✓ No contact owners
  ➢ Deceased, no heir
  ➢ No working phone numbers
  ➢ Non-responsive to messages and mailings

✓ Media Contacts
Trouble-shooting

- Offering less money than what is owed to the bank.
- Liens
  - Waiving fines
  - Fairness
- Can corporations qualify
  - Church not included
- Renters on government assistance
- Empty Lots
We need to talk…

Communication is really important.

- Figure a way to track conversations
  - Hansen database, service requests
- The ultimate “master spreadsheet”
  - Include details, even if the spreadsheet is enormous
- Hotline
- Grant email address
- Liaison
  - Calm, cool and collected
- Mailings, flyers, FAQ’s, magnets
  - Keep language in mind
What if another action was chosen?

☑ Outreach & Signage
☑ Monitoring & Alerts
☑ Flood Detention
  - Modeling of pre and post detention conditions to determine flood elevation reduction
  - Benefit/cost evaluations on all homes pre and post detention to determine benefit
  - Iterations of modeling and benefit/cost to determine appropriate basin size
  - Identification of available and affordable land for construction
☑ Structural Elevation
  - Evaluation of foundations for stability
  - Emergency service access risks
  - Possibility of future damages since homes remain
☑ Public Infrastructure Upgrades
What if other action was chosen?

✓ Floodproofing
  ➢ Dry or wet?
  ➢ Determine concept and preliminary cost estimate
  ➢ Run benefit/cost to determine feasibility
  ➢ If dry, model impacts of system and local/downstream effects
  ➢ Are you pushing the problem elsewhere?

✓ Mitigation Combinations
  ➢ Could a combination of several techniques be used in tandem to produce the most effective project?
Actions upon Funding Award

- Setup agreement to allow notice to proceed
- Identify qualified team to cover all major activities within the grant, especially primary public contact and legal
- Set up document filing and retention system
- Meet with appropriate political, permitting and licensing entities
- Send letter to PO’s outlining the grant award, process and conservative schedule
- Conduct kick-off meeting and begin
Proactive Planning for Mitigation

1. Document Prior Mitigation Activities & Plans
2. Risk Inventory & Project Area Definition
3. Risk Evaluation & Prioritization
4. Define Mitigation Options & Combinations
5. List Funding Sources, Cycles, Triggers & Quals
6. Grant Development based on Priority
7. Develop Countywide Report and Presentation