<table>
<thead>
<tr>
<th>Repetitive Loss Area Analysis Why You Need One</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAFSM Conference</td>
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<td>March 2020</td>
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</table>
Repetitive Loss Area Analysis (RLAA)

• A mitigation plan for areas that have or are expected to experience repeated losses from flooding.
• The purpose is to generate mitigation solutions for individual buildings or areas.

RL Property - 2 claims greater than $1,000 in any 10-year period since 1978
RLAA – Maximum Credit 140

Communities with 50 or more RL properties **must** complete either a RLAA or a Floodplain Management Plan. (Category C Community)

RLAA can be completed by any community with at least 1 RL property
Repetitive Loss Requirements
Category C

• Everything done for Category B
  AND
• Prepare and adopt a Repetitive Loss Area Analysis (RLAA – Max. 140 pts)
  or
• Prepare and adopt a Floodplain Management Plan (Max. 382 pts) that includes a review of ALL RL AREAS and flood insurance claims.
Repetitive Loss Area Analysis - CRS

- Map the RL Properties and Area/Areas

- 5-Step Planning Process
  
  **Step 1**  Contact Property Owners
  
  **Step 2**  Contact Other Agencies – MWRD, county, IDNR, ACOE, etc.

  **Step 3**  Collect Data

  **Step 4**  Consider Mitigation Alternatives

  **Step 5**  Document the findings

- Plan Approval/ Annual Evaluation
RL Mapping

- Review the RL properties for accuracy
- Review all claims data
- Map the RL properties and all properties with claims
- Overlay topo/storm sewer atlas
- Visit the area
Mapping the RL Area

Why does each RL structure flood?

• Look at topography; overflow route, floodplain, or depressional area?
• Look at claim data – basement/ minor flooding or major first floor
• Is it unique or are there other buildings equally at risk?
  ❖ Below grade garage/patio?
  ❖ Window well in side yard?
  ❖ In higher frequency floodplain, i.e. 10-yr?
  ❖ In depression with no outlet?
Map the Area – Similarly Situated

Zone A
Storm sewer in street
Depressional areas north and south of street with no storm sewer
Interviewed owners
• Overflow between homes
• Homes flooded through window wells elevation 768

5 homes have similar risk
Map the Area – Similarly Situated

BFE - 698.5 to 697.5
10-yr – 695
RLAA defined as area by elevation 695 or lower
Repetitive Loss Area Analysis - CRS

✓ Map the RL Properties and Area/Areas

• 5-Step Planning Process
  Step 1  Contact Property Owners
  Step 2  Contact Other Agencies
  Step 3  Collect Data
  Step 4  Consider Mitigation Alternatives
  Step 5  Document the findings

• Plan Approval/Annual Evaluation
Critical step to truly get at the repetitive nature of the flooding

- Use **post cards**, weekly e-newsletters, and social media
- Online Survey and Paper Survey – older residents/ no computer access
- Public Meeting
RLAA Planning Step 3 Data Collection

Visit each property, take photos and collect data

Use Data Collector Apps

• Collector Classic – ArcGIS - map based
• Survey 123 – ArcGIS – form based
• Fulcrum – map based
• Open Source options
• Simple spreadsheet
Survey Collection

Example -

- Collector Classic ArcGIS
- Red/Green dots show incomplete/complete
- Used I-pad with wi-fi connection
Survey Collection

- Lowest adjacent grade
- BFE
- Foundation type
- Depth/height of lowest floor and first floor to outside grade
- Location of furnace, A/C, water heater
- Recommended mitigation
- Photos
<table>
<thead>
<tr>
<th>Street No</th>
<th>Address</th>
<th>BFE</th>
<th>Foundation Comments</th>
<th>Approx 1st Floor Elev.</th>
<th>Est 1st Floor Elev.</th>
<th>Furnace Location</th>
<th>AC Location</th>
<th>Water Heater</th>
<th>Mitigation</th>
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<tbody>
<tr>
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<td>663 basement</td>
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<td>DEMOLISHED</td>
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</table>
RLAA Planning Step 4 Consider Mitigation Alternatives – Consider Unique Solutions

- Enclose lower level garage and grant a variance to front yard setback for new attached garage
- Road closures to stop wake from cars pushing water into over door thresholds and into window wells
- Tree trimming to stop power outages that cause sump pump outages
- Develop guidance for floodproofing homes and hold workshops
- Annual meeting discussing flood insurance
- Storm sewer extensions
- Adopt-a-drain program
- Improve stream maintenance
Homeowners Floodproofing Workshop

- Welcome!
- About Lake County
- Drainage Evaluation
- Structural Floodproofing Measures

KURT WOOLFORD, P.E., CFM
CHIEF ENGINEER

STORMWATER MANAGEMENT COMMISSION
EXCAVATED TRENCH FOR DRAIN TILE AND WINDOW WELL

INSTALLED WINDOW WELL WITH DRAIN PIPE AND COARSE GRAVEL
Depressional areas north and south of street with no storm sewer

Interviewed owners

• Overflow between homes

• Homes flooded through window wells elevation 768

5 homes have similar risk

Mitigation - storm sewer extension and meet with homeowners and discuss window well protection, generators and tile drain/sump pump
RLA - Recommendation

Representative Loss property - Below grade garage at a local depressional area, no designated floodplain

Removed garage door and backfilled depressed driveway
Rep Loss Area Analysis vs Multi-Hazard Plan

Repetitive Loss Area Analysis
• Street level/specific structure detail
• Direct engagement with community’s residents and officials
• Tool for targeting/prioritizing mitigation dollars
• Value goes beyond CRS credit

Multi-Hazard Plan
• Often multi-jurisdictional
• Large scope with no detailed rep loss/ historic flood claim review for each community
• Generic mitigation alternatives for flooding
• Little to no community involvement
Rep Loss Area Analysis vs Multi-Hazard Plan

Repetitive Loss Area Analysis

• CRS Coordinator is in control to ensure all steps are completed to gain the maximum points

Multi-Hazard Plan

• If your community misses a single planning meeting you will lose all credit
• Often misses critical planning steps leading to minimal or no points for CRS community
Conclusion

Repetitive Loss Area Analysis benefits a community beyond the CRS credit

Communities should use this opportunity to really speak to residents about their flooding

Look for why a property is repetitively flooded