Repetitive Loss Area Analysis
Why You Need One
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 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
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

FEMA’s National Flood Mitigation Data Collection Tool (National Tool)
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
## Survey Collection

<table>
<thead>
<tr>
<th>Street No</th>
<th>Address</th>
<th>BFE</th>
<th>Foundation Comments</th>
<th>Approx 1st Floor Elevation</th>
<th>Est 1st Floor Elevation</th>
<th>Furnace Location</th>
<th>AC Location</th>
<th>Water Heater</th>
<th>Mitigation</th>
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</thead>
<tbody>
<tr>
<td>1401 AVE</td>
<td>BURLINGTON</td>
<td>665.75</td>
<td>basement, concrete block</td>
<td>3.3</td>
<td>665.8 basement</td>
<td>basement</td>
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<td></td>
<td>Elevate wh furnace and ac</td>
</tr>
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<td>BURLINGTON</td>
<td>665.75</td>
<td>basement, concrete block</td>
<td>4.1</td>
<td>basement in 0 ceiling</td>
<td>basement</td>
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<td></td>
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<tr>
<td>1404 AVE</td>
<td>BURLINGTON</td>
<td>665.9</td>
<td>elevated, poured concrete</td>
<td>0 2nd level</td>
<td>2nd level</td>
<td>ELEVATED</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1405 AVE</td>
<td>BURLINGTON</td>
<td>665.7</td>
<td>basement, concrete block</td>
<td>2.5/3.5</td>
<td>0 basement</td>
<td>basement</td>
<td></td>
<td></td>
<td>Elevate home/ wh furnace and ac</td>
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<tr>
<td>1407 AVE</td>
<td>BURLINGTON</td>
<td>0</td>
<td>crawlspace</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Scheduled for demolition</td>
</tr>
<tr>
<td>1409 AVE</td>
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<td>0</td>
<td>crawlspace</td>
<td>1.3</td>
<td>665.5 crawlspace</td>
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<td></td>
<td></td>
<td>DEMOLISHED</td>
</tr>
<tr>
<td>1411 AVE</td>
<td>BURLINGTON</td>
<td>665.7</td>
<td>basement, concrete block</td>
<td>2.75</td>
<td>0 basement</td>
<td>basement</td>
<td></td>
<td></td>
<td>Elevation recommended</td>
</tr>
<tr>
<td>1413 AVE</td>
<td>BURLINGTON</td>
<td>665.7</td>
<td>basement</td>
<td>0.5</td>
<td>663 basement</td>
<td></td>
<td></td>
<td></td>
<td>DEMOLISHED</td>
</tr>
</tbody>
</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
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
Map the Area – Similarly Situated

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
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
- 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
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.
Map the Area – Similarly Situated

Depressional areas north and south of street with no storm sewer

Interviewed owners
• Overflow between homes
• Homes flooded through window wells elevation 768

4 homes have similar risk

Mitigation - storm sewer extension, window well protection, generators and tile drain/sump pump