



REINVENTING RESILIENCE

OUTLINE



- Two communities, two heros
- National recognition on urban flooding
- Designing services for reducing it



OVERVIEW

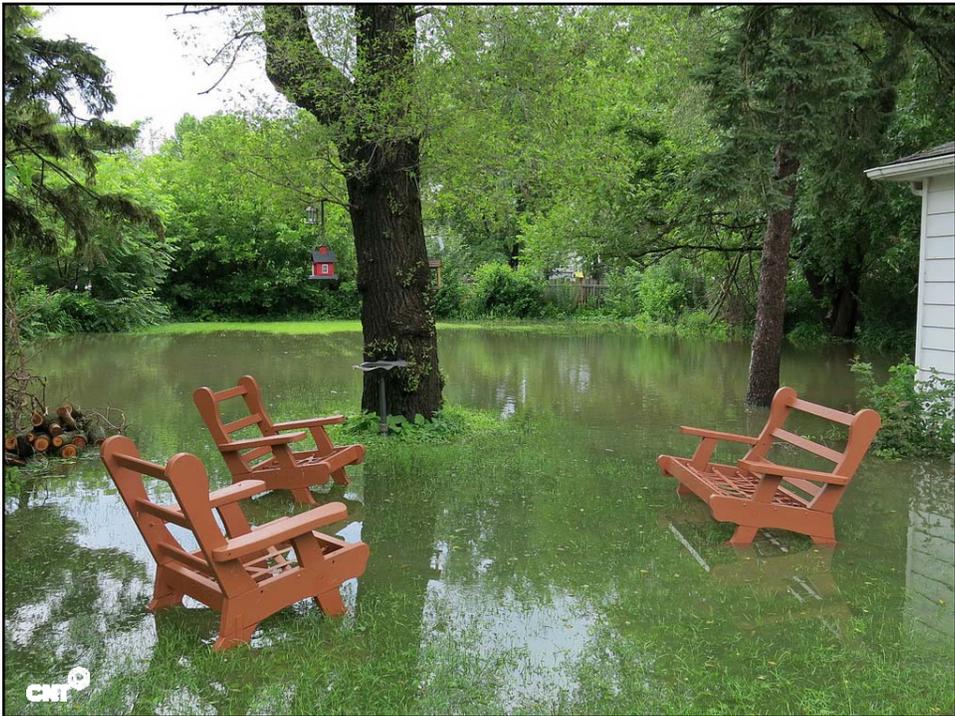
- National non-profit
- Founded in 1978 + headquartered in Chicago
- Urban sustainability

RainReady services

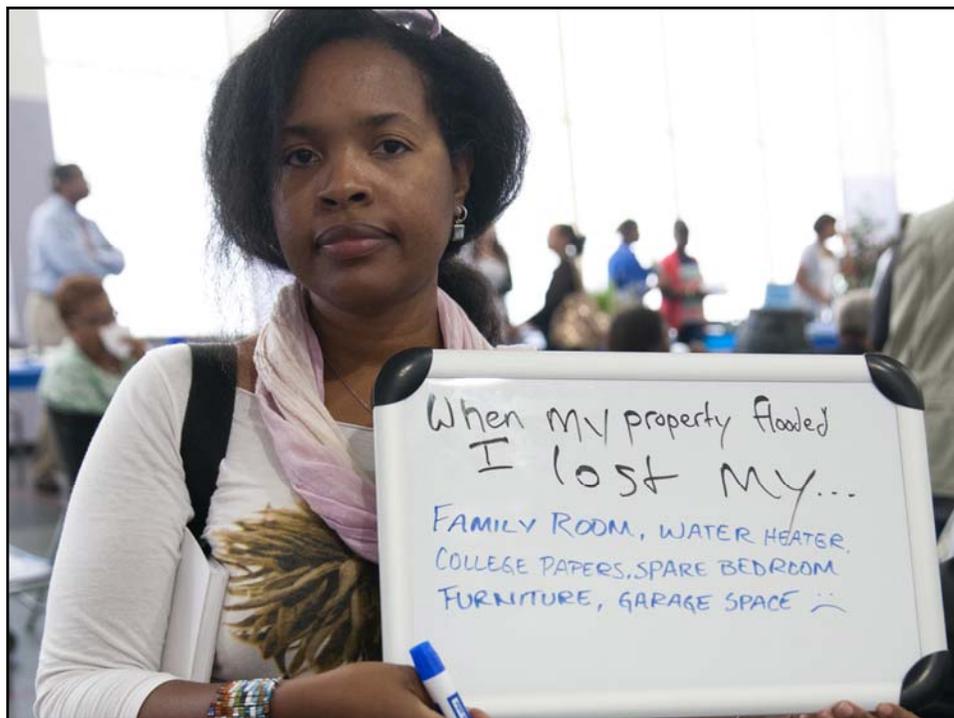
- Launched 2014
- Complete 'end-to-end' service package
- Assessment, information, financing, construction
- Home, neighbor, community, watershed
- Replicable model, national expansion

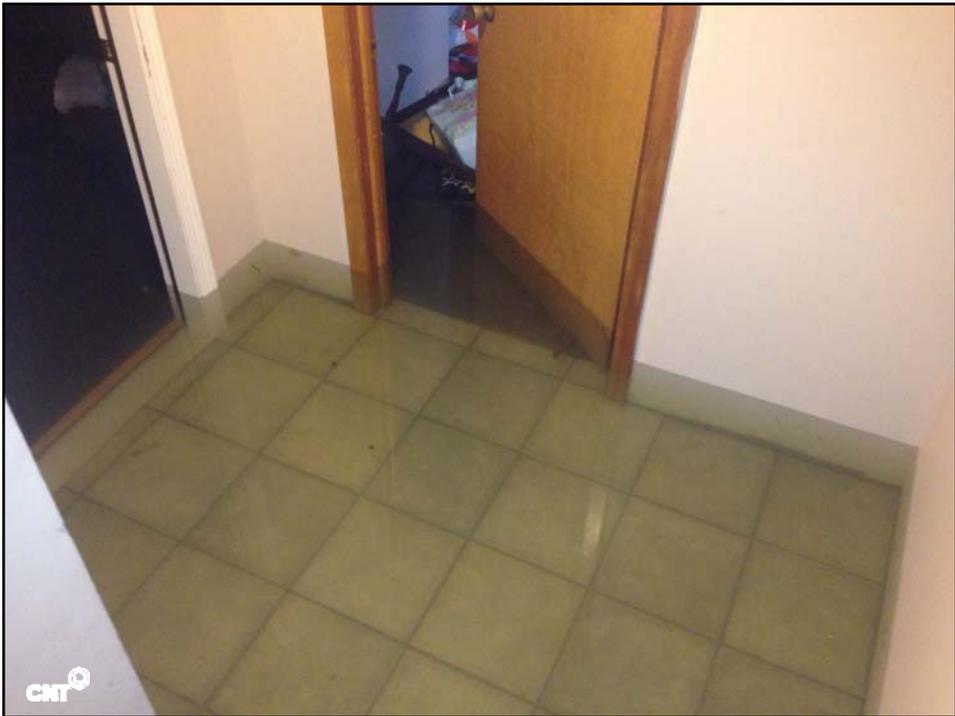
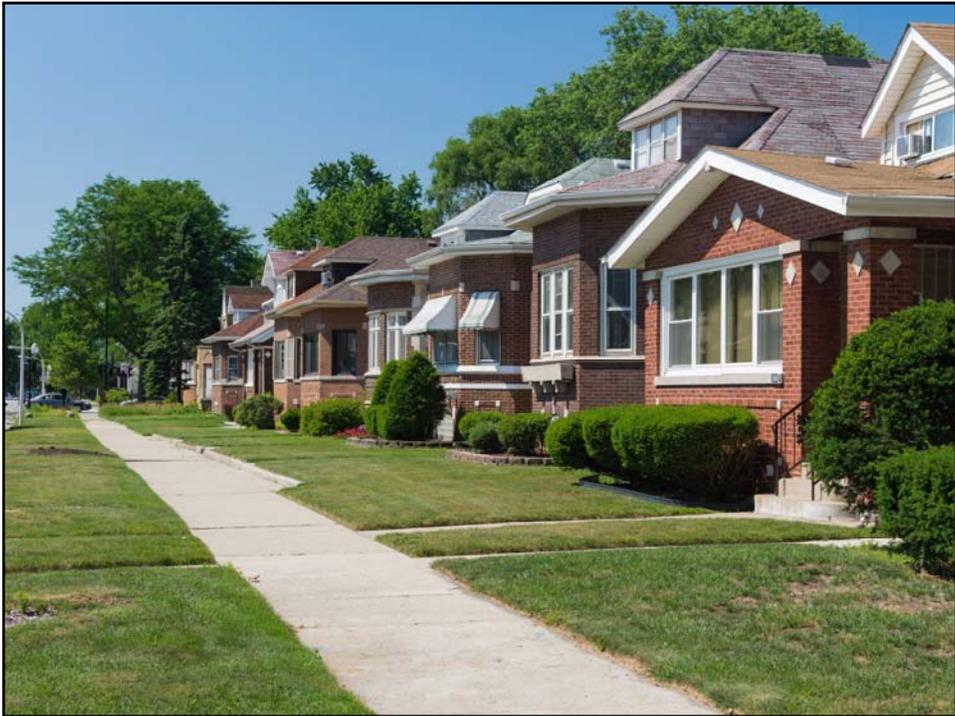
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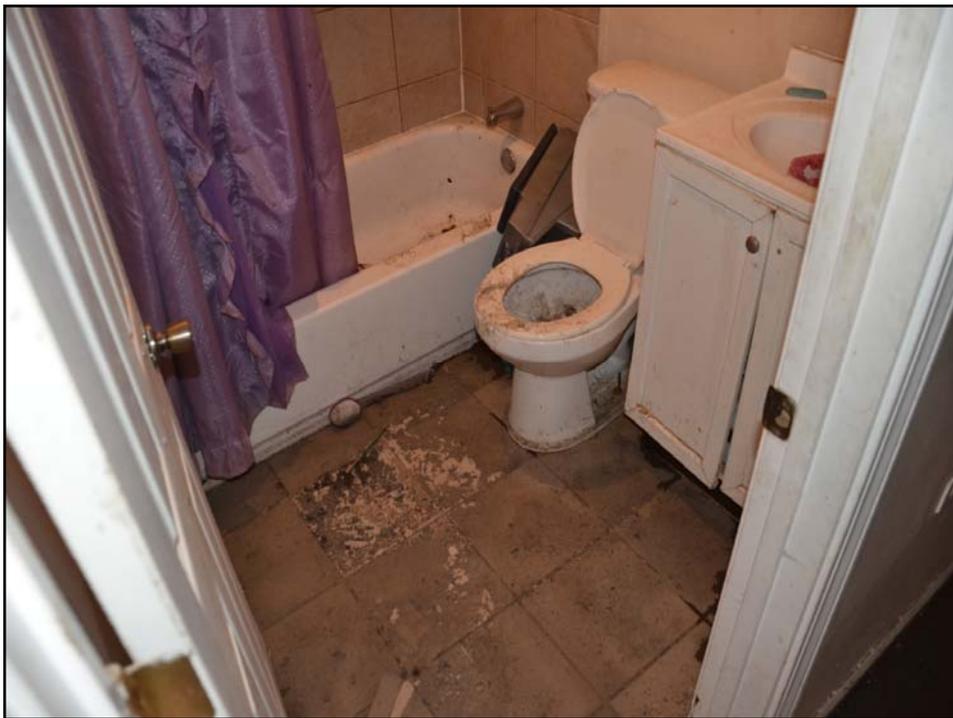


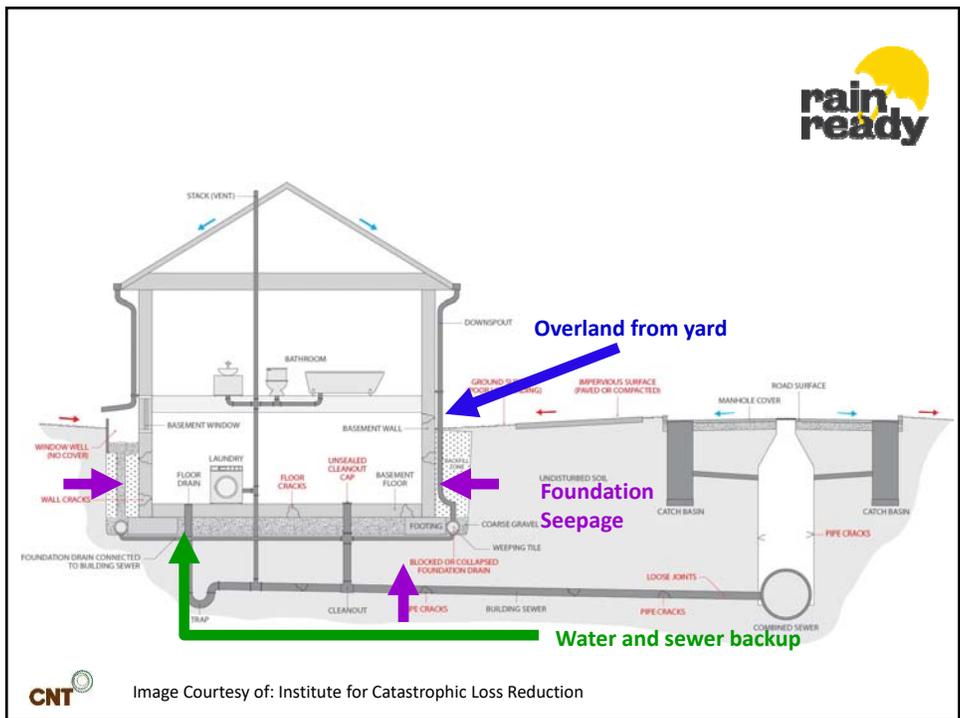




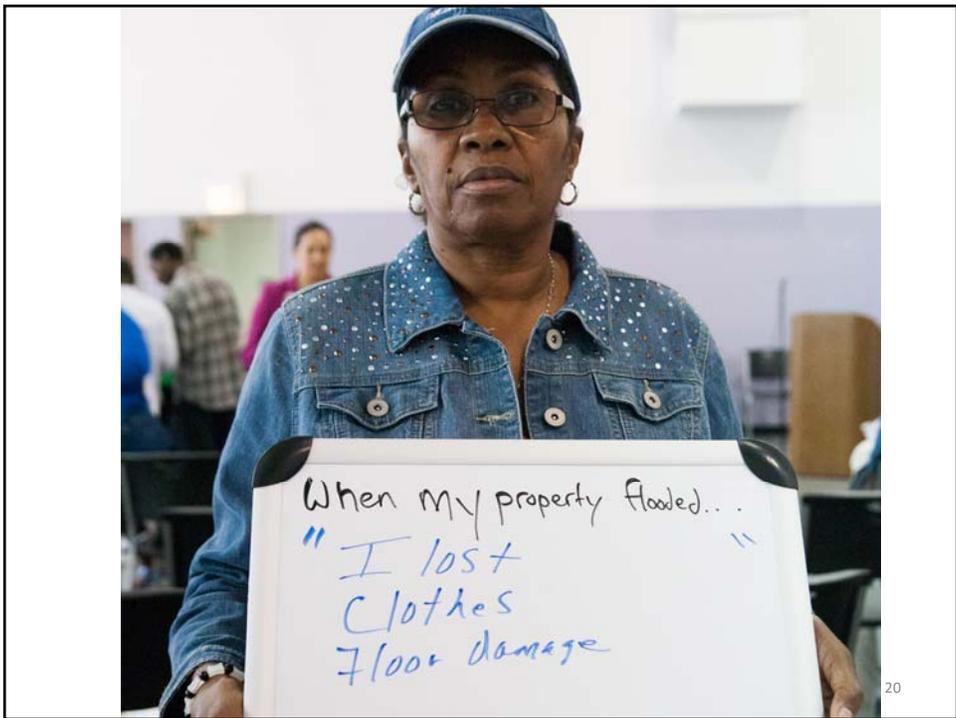
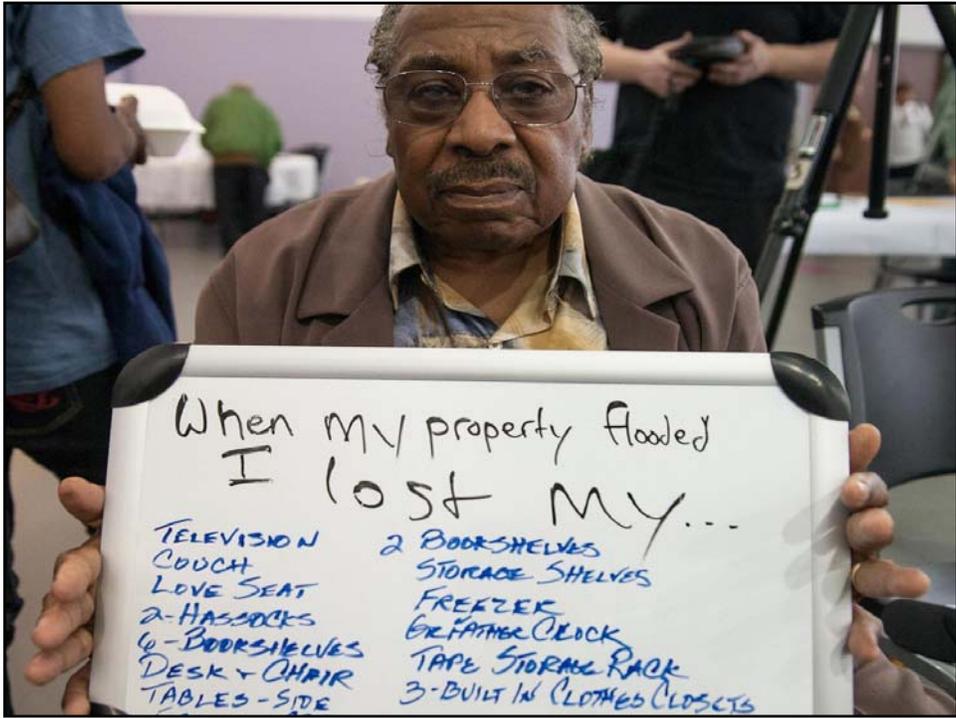














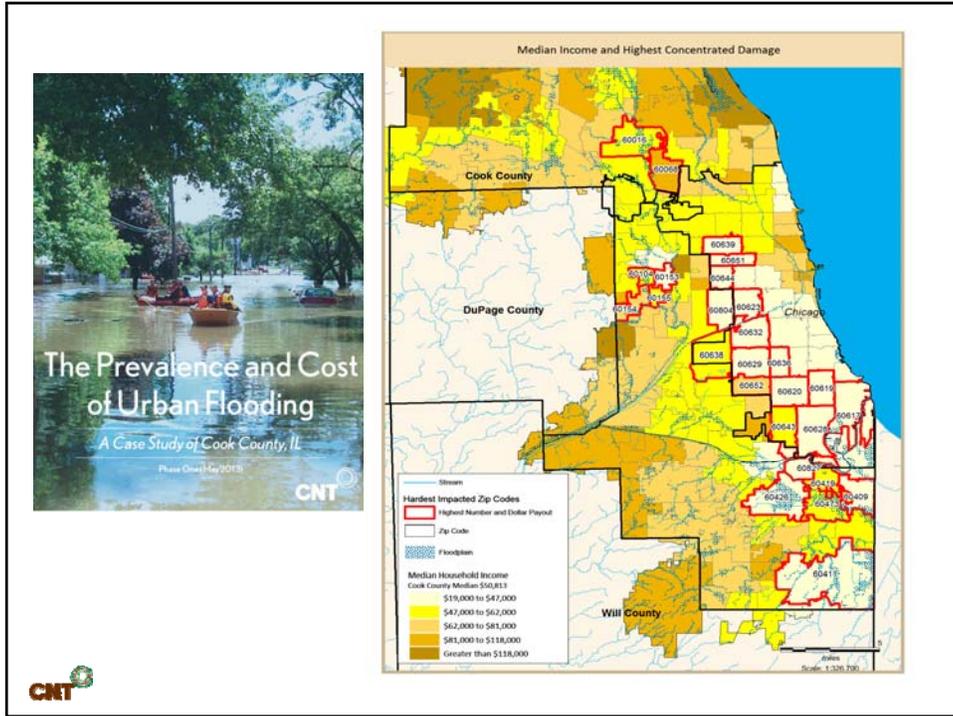








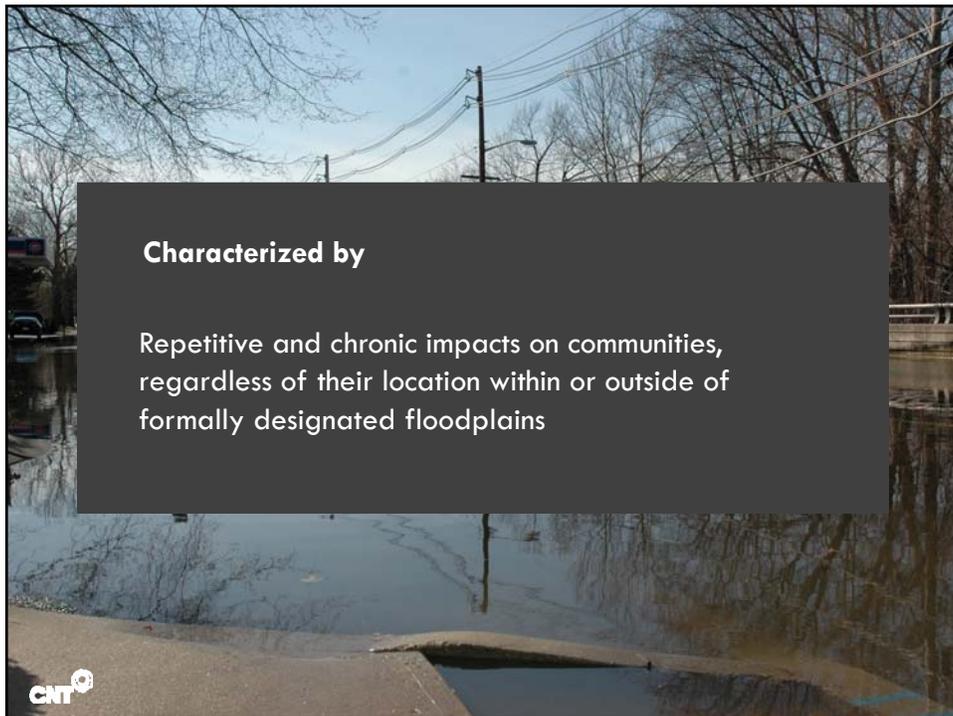
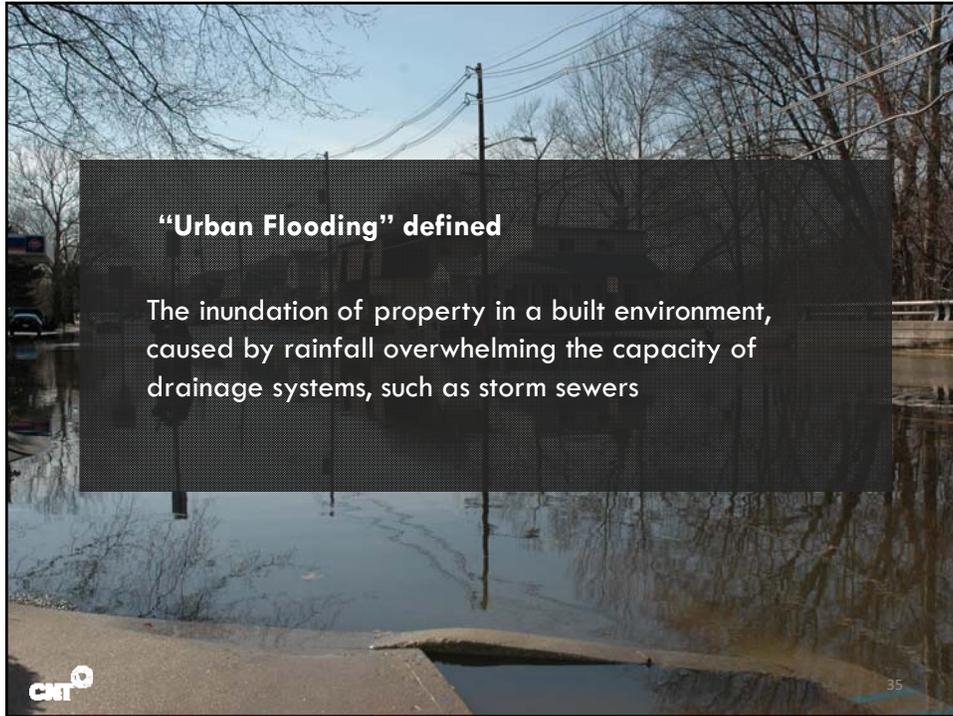




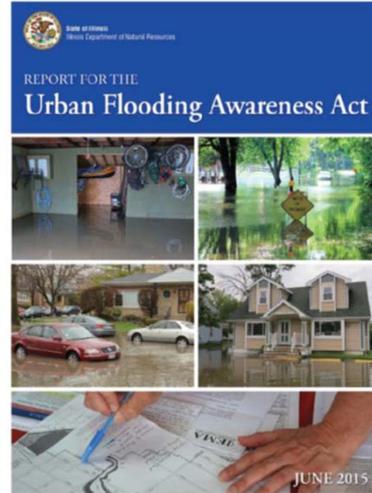
- 115 flood victims surveyed
- 70% flooded 3 or more times in 5 years
- 84% suffered stress
- 41% lost the use of part of their property

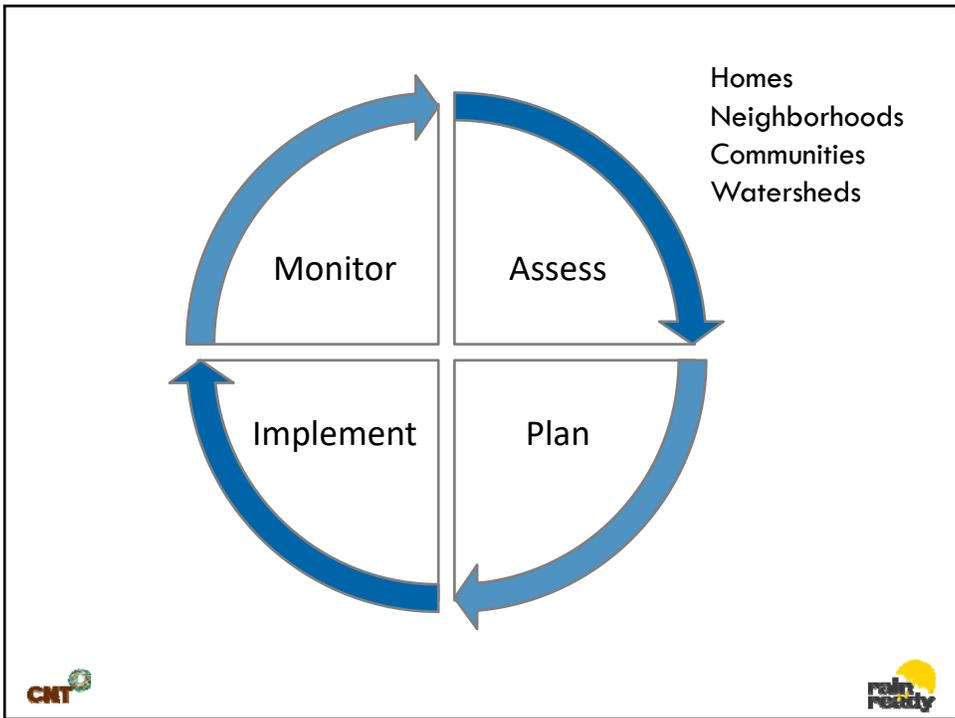
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- Claims filed in 99% of Illinois counties
- Flood damages between 2007-2014, \$2.3 billion
- Half of it private insurance
- Over 90% outside of mapped floodplains
- No correlation with the floodplains









RainReady Home

Cumulative flood damage: \$17,000

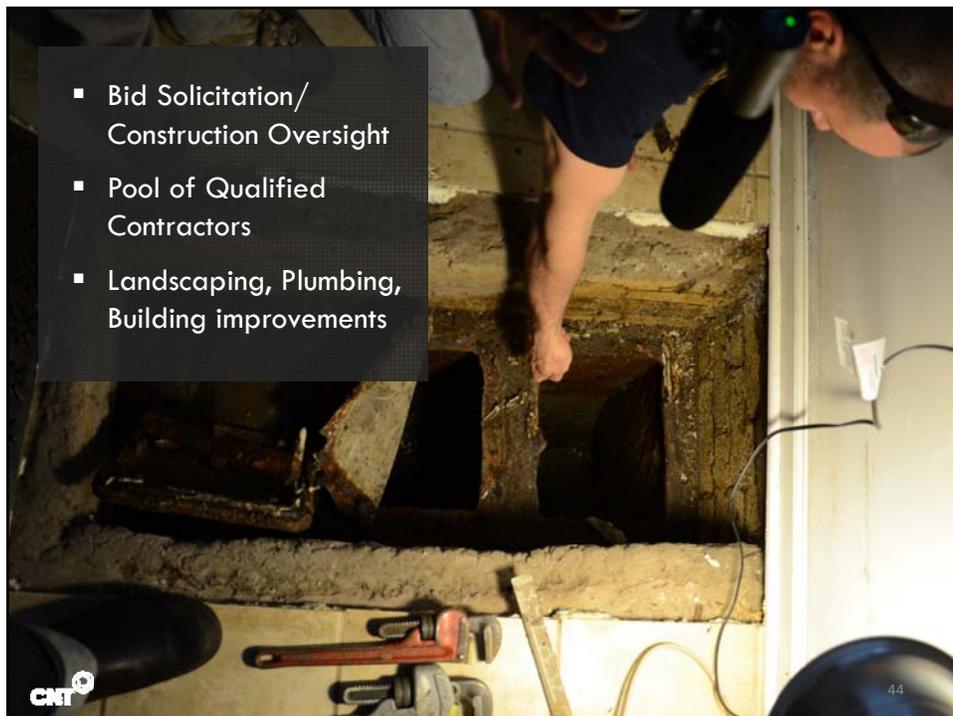
Upgrades:

- Backwater valve
- Disconnected downspout
- Re-routed gutters
- Rain garden

Cost: \$4,850

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- Bid Solicitation/ Construction Oversight
- Pool of Qualified Contractors
- Landscaping, Plumbing, Building improvements

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- Detail of Risk
- Home improvements: landscaping, plumbing, building

Wetrofit® Flood Assessment Report



On April 22 and April 24, 2014, our Wetrofit team—Nick Fursk and Ryan Wilson—conducted a flood assessment of your property. Our assessment included:

- Collection of previous flood experiences
- Observation of the building foundation, basement and landscape
- Camera inspection of the building sewer;
- Observation of the adjacent properties and right-of-ways

Based upon your experience with flooding, the cost of flooding in your neighborhood, and our assessment of your property, we recommend you prioritize the following home improvements:

1. Divert stormwater from entering property at alley
2. Capture rainwater in landscape areas
3. Drain flood water from sidewalk and under porch to catchbasin

Understanding Your Flood Risk

Homes in the Chicago region are commonly affected by three types of flooding:

- Sewage backup that comes up from floor drains, sinks, tubs, and toilets in your basement;
- Water seepage through floors or walls, or flows through cracks in your building foundation;
- Overflowed flooding of water that pools in your yard and against your foundation, or flows into your home through window wells and doors.

While considering the recommended improvements and maintenance, it is important to do so in the

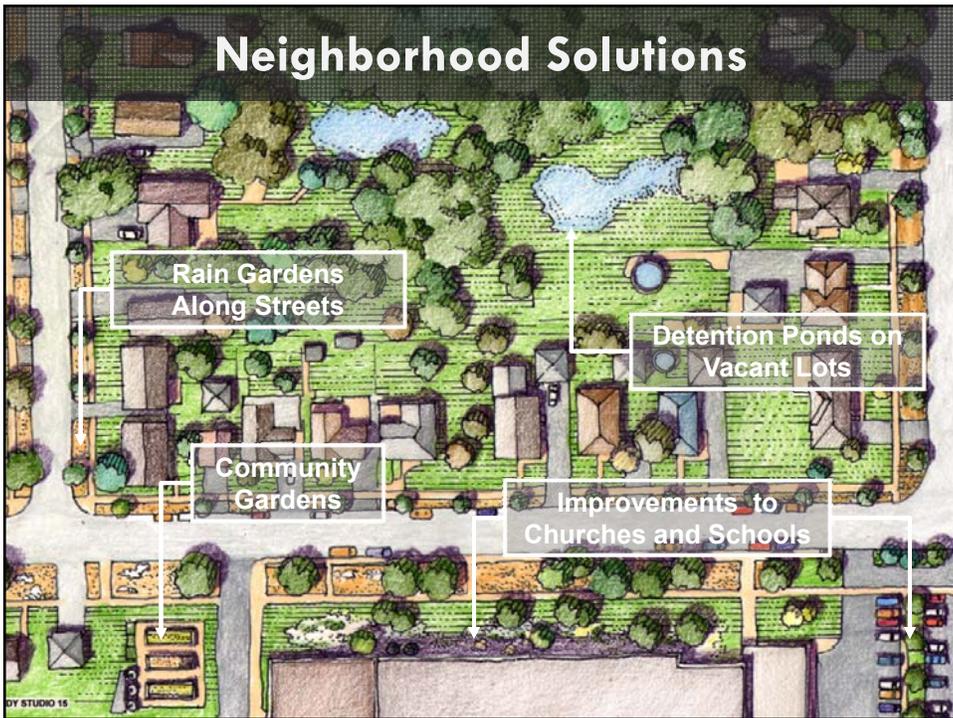
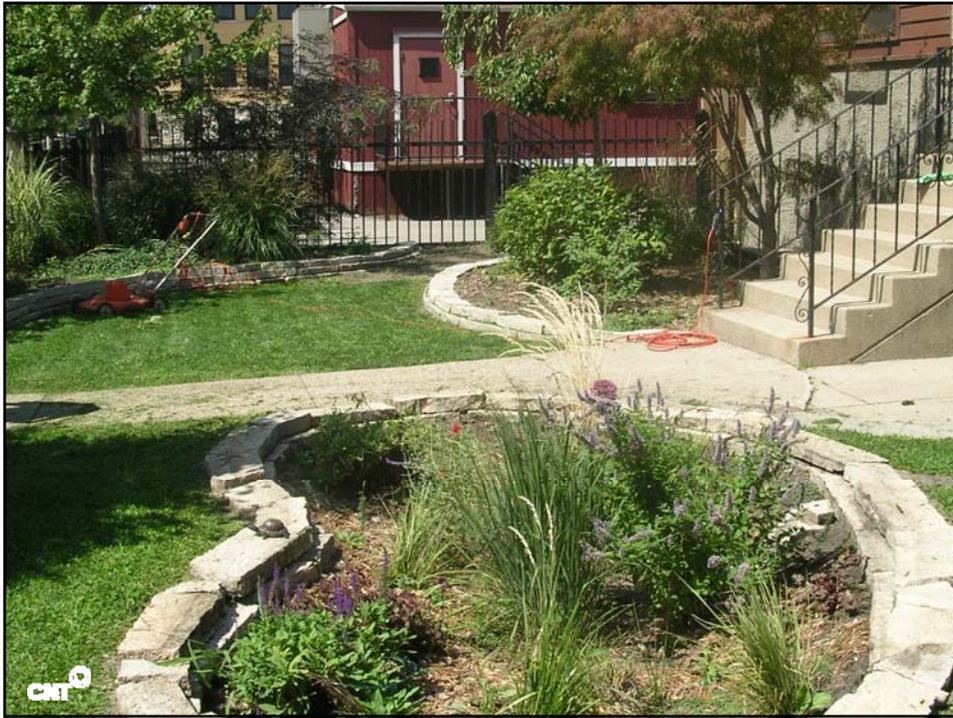


Address: 911 S Claremont Ave
City, ST: Chicago, IL
Building owner: Margaret Orsini

IMPROVEMENTS		Total Estimated Cost: \$5,000-\$7,300
Projects	Measure	Detail
1. Divert stormwater from entering property at alley.	• Install curb (~3-4") along extent of eastern property line at edge of parking pad.	Anticipated Maintenance: N/A Cost Range Estimate: \$600-\$1,300 Optional: Reconstruction of existing stair. Notes: May require coordination with neighbors to ensure proper diversion.
2. Capture rainwater in landscape areas	• Install rain garden with below-grade storage along eastern edge of patio. • Install permeable paving in place of existing patio area to drain to rain garden.	Anticipated Maintenance: Seasonal weeding and care of rain garden. Removal of debris for permeable surface. Cost Range Estimate: \$3,600-\$4,800
3. Drain flood water from sidewalk and under porch to catchbasin	• Clean and repair floor drain • Clean silt and debris from existing catch basin. • Install area drain from sidewalk adjacent to south facade to catchbasin	Anticipated Maintenance: Removal of debris contributing to area and floor drains. Cost Range Estimate: \$300-\$1,200
MAINTENANCE		Total Estimated Cost: \$300-\$700
Projects	Measure	Detail
1. Regular Building Sewer Inspection and Cleaning	• Televising building sewer • Rodding of building Sewer	Anticipated Maintenance: Annual televising and cleaning, as recommended by reviewing contractor. Cost Range Estimate: \$200-\$500/year Optional: Chemical treatment of drain to prevent root growth.
2. Regular Gutter Cleaning	• Removal of leaf and organic debris from gutter.	Anticipated Maintenance: Annual televising and cleaning, as recommended by reviewing contractor. Cost Range Estimate: \$100-\$200/year



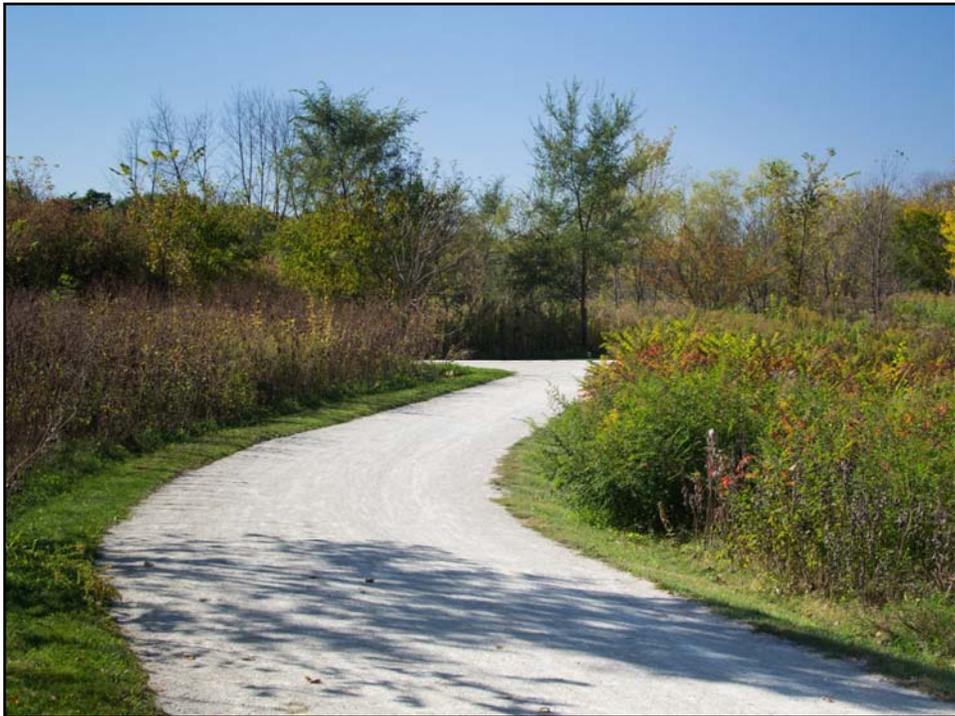


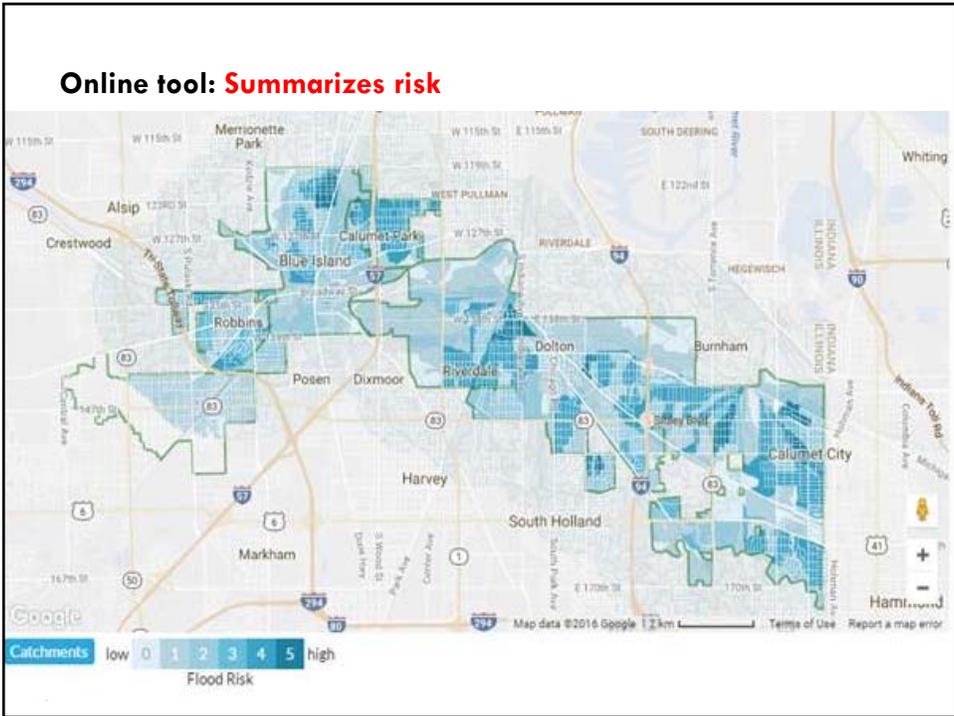
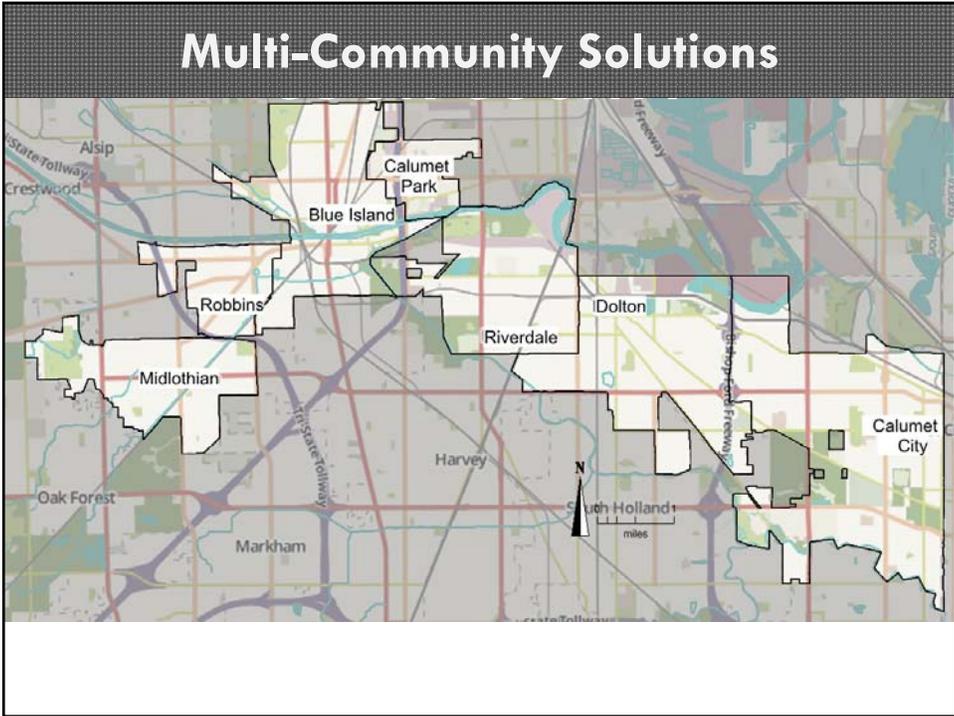












Online tool: Identifies drainage catchment + GI improvements

RainReady Community Risk Tool

Catchment: 420
 Area: 962,156 sqft [view data](#)

Priority Score **7**

FLOOD RISK SCORE: 5 [expand](#)
 OPPORTUNITY SCORE: 2 [expand](#)

AVERAGE ANNUAL RAINFALL
 Annual Rainfall (in): 25.36 [edit](#)
 Storm Rainfall (in): 1.04 [edit](#)

REDUCTION GOAL
 Precipitation Depth Capture (in): **0.5**

75%
 Goal Reached

GREEN IMPROVEMENTS

	Lifecycle Cost	% Towards Goal
<input type="checkbox"/> Green Roof	\$0	00.0%
<input type="checkbox"/> Planter Boxes	\$nn	nn%
<input type="checkbox"/> Rain Garden	\$nn	nn%
<input type="checkbox"/> Cisterns / Rain Barrels	\$nn	nn%
<input type="checkbox"/> Native Vegetation	\$nn	nn%
<input type="checkbox"/> Vegetation Filter Strips	\$nn	nn%
<input type="checkbox"/> Amended Soil		
<input type="checkbox"/> Roadside Swales (elimination of curb and gutter)		
<input type="checkbox"/> Trees		
<input type="checkbox"/> Swales in Parking Lots		
<input type="checkbox"/> Permeable Pavement		

Catchments: low 0 1 2 3 4 5 high
 Flood Risk

Online tool: Scores opportunity areas

Catchment: 188
 Area: 1,948,837 sqft [view data](#)

Priority Score **4**

FLOOD RISK SCORE: 2 [hide](#)

Problem Area (USACE): 49.4%
 Problem Area: 54.5%
 Impervious Area: 44.7%
 Surveyed for Flooding: 0.0%

OPPORTUNITY SCORE: 2 [hide](#)

Land Based Assets

Vacant Land: 2.7%	Streets: 13.5%	Parks: 6.1%
Public Land: 0.0%	Alleys: 2.6%	Trees: 14.9%
Schools: 0.0%	Utilities: 0.0%	Large Residential: 0.0%

Capital Projects
 No Capital Projects

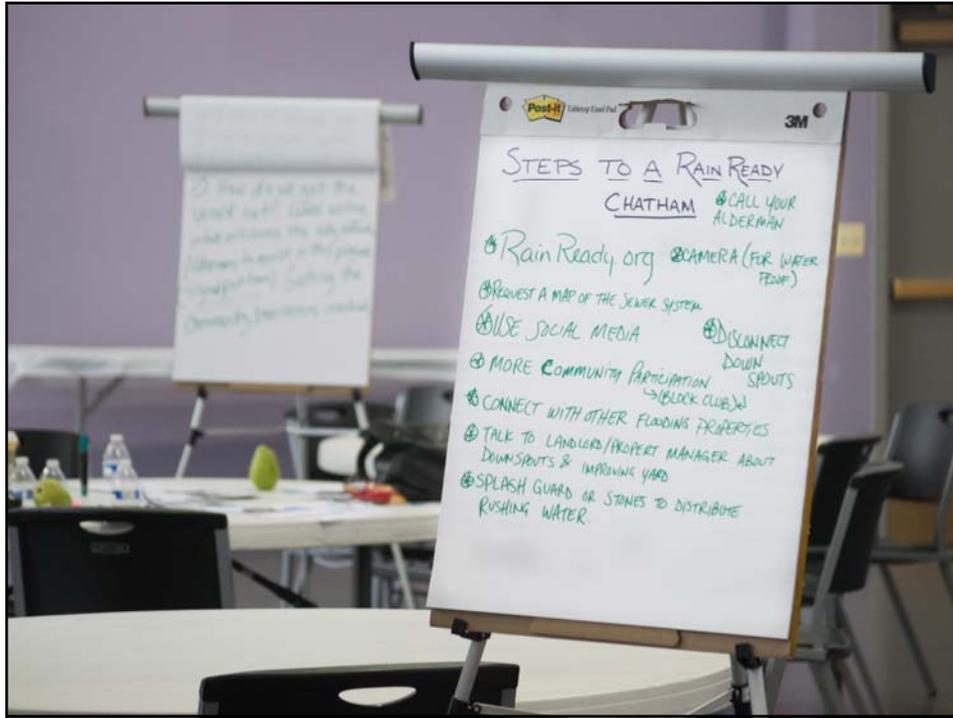
Planned Priorities
 NDRC Project Areas

- NDRC No. 7 (25.6 Acres) intersect this catchment out of the total area of 104.1 acres. | Type: not affected by Phase II project

Catchments: low 0 1 2 3 4 5 high
 Flood Risk









\$10M for Midlothian!

- Active Transportation Alliance Healthy Hot Spots Program
\$39K, Complete Streets Policy
- Morton Arboretum EAB Replacement - **\$18K**
- NPS Rivers, **Trails**, and Conservation Assistance Program,
Natalie Creek **Multi-Use Trail Plan**
- Illinois Green Infrastructure Grant from the IEPA Bureau of
Water - **\$68K, Village Greenway Project** (Permeable Parking
Lot & Rain Garden)
- Illinois Department of Natural Resources Coastal Waters
Program - **\$20K, Village Greenway Project**
- Openlands-ComEd Green Region Program - **\$10K Village
Greenway Project**
- CMAP LTA, **147th Street Corridor Study** - **\$80K**
- South Suburban Mayors and Managers Association Planning
Technical Assistance, **Natalie Creek Multi-Use Trail Plan**
- Metropolitan Water Reclamation District - **Natalie Creek
Improvements - \$8.3m**

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CONCLUSION

Flood risk in cities:

- Prevalent + repetitive
- Under-reported + hidden from public view
- Chronic: property damage, raw sewage, mold,
foundation cracks, stress
- Expensive - \$5,000 +
- Low income communities most vulnerable
- Does not correlate with the mapped floodplain

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Residents are critical to solving the problems:

- Major stakeholders: paying the price for flooding, and for the solutions
- Runoff derives from public + private infrastructure
- Properties often flood themselves
- Well organized, articulate community leaders can have a disproportionate impact
- And because social organization bring resilience



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