City of Roseville
Floodplain Management

FMA Annual Conference
September 2, 2014
Program Overview

• Living with the threat – Roseville’s history with flooding
• Floodplain management practices – Preparing for the next flood
• Community Rating System – Organization and implementation
Roseville Demographics

Lies in the foothills of the Sierra Nevada Mountain Range, approximately 25 miles east of the City of Sacramento. (35.6 sq. miles) (MSL 100’ to 300’)

Primary population center of Placer County.
Current Population is 120,593

Its roots are tied to the Railroad with having the largest rail yard on the west coast.

For more Info:
www.roseville.ca.us
Flood Event History

• Flooding within Roseville is associated with stormwater runoff exceeding creek and storm drainage capacities.

• Has been impacted by 6 major floods since 1973 with the flood of record occurring in 1995.
Flood Event History

- In 1986, 209 structures incurred flooding. In 1995, 358 structures incurred flooding. There was more intense rainfall in 1995.

- Most homes that have incurred flooding were constructed prior to floodplains being mapped. No structures in Roseville built since 1980 have incurred flooding.
Floodplain Management

After dealing with flood events in the early 80’s, the City made a commitment to reduce the impact of flooding on its citizens. It set out to accomplish this via the following means:

• Created a flood component to the safety element of its General Plan.

• Established a “no adverse impact” policy in regulating all new development within the City through regulations and improvement standards.

• Establish/ enhance flood warning capability.

• Structural flood control where feasible.
Beginning with the General Plan, and culminating with the Cirby/Linda/Dry Creek Flood Control Project, The City has reduced its exposure to flooding by both structural and non-structural means by approximately 600%!

<table>
<thead>
<tr>
<th>Year</th>
<th>1990</th>
<th>2005</th>
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</thead>
<tbody>
<tr>
<td>Buildings in SFHA</td>
<td>635</td>
<td>138</td>
</tr>
<tr>
<td>Repetitive Loss Properties</td>
<td>36</td>
<td>4</td>
</tr>
<tr>
<td>Acres of floodplain</td>
<td>1153</td>
<td>1098</td>
</tr>
<tr>
<td>% of Floodplain in Open Space Use</td>
<td>46%</td>
<td>79%</td>
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</table>
A master “Flood Improvement Plan” that looked at reducing flooding impacts to most of the flooded properties in the city. Started in 1989 and approved in 1992.

It is a seven phase plan that recommended many types of improvements to reduce flood damage (bridge replacement, channel widening, flood walls, buyouts, bypass channels). As of today 5 of the 7 phases have been fully implemented.

Total cost: $16 million, FEMA ($8.7 million), General Funds ($3.4 million), and Gas Tax ($3.9 million).

Project benefits:
- 535 structures benefit from the project; This includes:
  - 479 structures no longer within the 100-year floodplain.
  - 56 structures remaining within the 100-year floodplain but less likely to flood.
Cirby/Linda/Dry Creek Flood Control Project

Flood improvement started 1996

Flood improvements completed — 1998

Phase #3 of the Cirby-Lind-Dry Creek Flood Control Project

- Channel overbank widen
- Flood walls installed
- Three home bought out and removed

Note: All picture taken from same location
Cirby/Linda/Dry Creek Flood Control Project

Water Surface Elevation Tina/Elisa
December 31, 2005
Floodplain Management

Elevation Program

- 44 homes approved for the voluntary program, 26 homes were elevated, and 2 were acquired by the City and removed

- FEMA funded 75% of cost to elevate each home, up to a max of $33,934 per home

- City provided $5000 zero interest loans to all 44 homeowners, and zero interest CDBG loans for qualified homeowners
Flood Alert System

CITY OF ROSEVILLE FLOOD ALERT SYSTEM

LEGEND
- Base Station/Repeater
- Stage Gauge
- Precip. Gauge
- Precip./Stage Gauge
- Political
- Streams
- Watersheds
- Roads

City of Roseville, California
Flood Alert System

Stream Depth in ft

1995 Flood

Royer Park

Bankfull

Critical: 16.5
Warning: 12.9
Advisory: 9.9
Normal: 7.9

Past six hours

2.5
2011 Multi-Hazard Mitigation Plan

Hazards Identified within the Risk Assessment:

- Dam Failure ¹
- Drought
- Earthquake
- Flooding
- Human-caused ²

- Human Health ²
- Landslide
- Severe Weather
- Wildfire

1. New Chapter
2. Not Required by DMA 2000
## Hazard Risk Ranking:

<table>
<thead>
<tr>
<th>Hazard Ranking</th>
<th>Hazard Event</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Human Caused</td>
<td>High</td>
</tr>
<tr>
<td>2</td>
<td>Severe Weather</td>
<td>High</td>
</tr>
<tr>
<td>3</td>
<td>Flooding</td>
<td>Medium</td>
</tr>
<tr>
<td>4</td>
<td>Earthquake</td>
<td>Medium</td>
</tr>
<tr>
<td>5</td>
<td>Wildfire</td>
<td>Medium</td>
</tr>
<tr>
<td>6</td>
<td>Dam Failure</td>
<td>Medium</td>
</tr>
<tr>
<td>7</td>
<td>Drought</td>
<td>Low</td>
</tr>
<tr>
<td>8</td>
<td>Human Health</td>
<td>Low</td>
</tr>
<tr>
<td>9</td>
<td>Landslide</td>
<td>Low</td>
</tr>
</tbody>
</table>
2011 Multi-Hazard Mitigation Plan

CRS 10-Step Process

Step 1: Organize
Step 2: Involve the Public
Step 3: Coordinate with Agencies & Organizations
Step 4: Assess the Hazard
Step 5: Evaluate the Problem
Step 6: Set Goals
Step 7: Review Mitigation Strategies
Step 8: Draft Action Plan
Step 9: Adopt the Plan
Step 10: Implement, Evaluate, Revise
Community Rating System

National Flood Insurance Program

Community Rating System

• Pilot Test Community in 1989

• First Joined the CRS in 1991

• Classifications have evolved from its initial Class 8 in 1991 to Class 5 in 2001 and to Class 1 in 2006.
The diversity of the Roseville Floodplain management program is evidenced by the City receiving credit in 16 of the 18 CRS activities.

Provides residents within the SFHA a 45% reduction in their flood insurance premiums.
The CRS planning process works! It provides an excellent framework to follow to assure program compliance with multiple tangible benefits.

The CRS program becomes very prescriptive as you achieve higher classifications. A community must determine if it is in their best interest to expend resources to meet these prescriptions.

As you approach higher CRS classifications, develop a systematic approach to your floodplain management program that will help you to assure program compliance.

Never view the CRS program as a standard. That was never its intent. View the CRS as a tool to help you implement sound floodplain management that meets the needs of your community.