Role of Disaster Insurance in Improving Resilience: An Expert Meeting
The Resilient America Roundtable

National Academy of Science
Washington, DC
July 9, 2015

Roseville Demographics

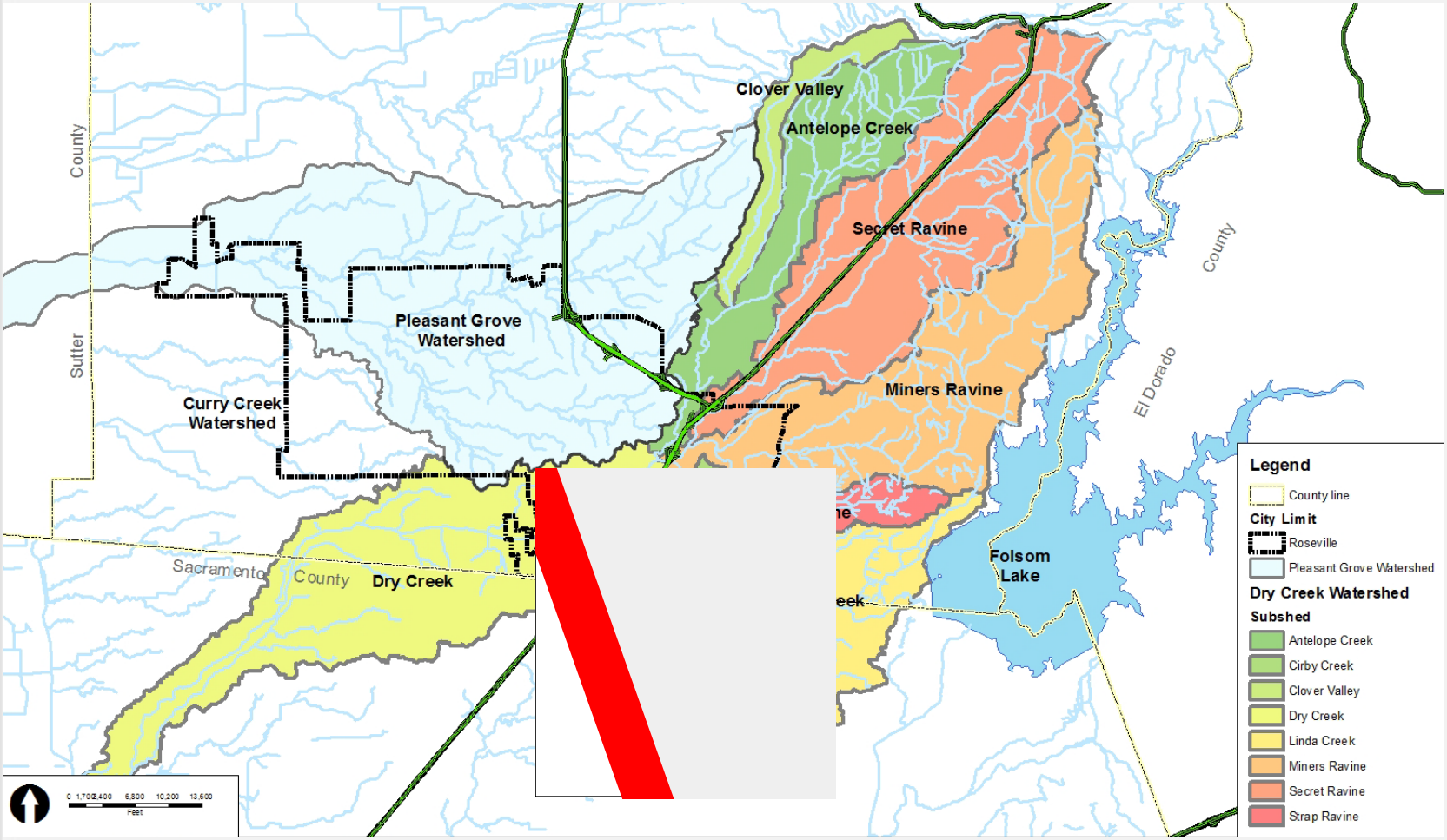
Primary population center of Placer County.

Current Population is 122,060

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

For more Info:
www.roseville.ca.us

Roseville Major Watersheds



Flood Insurance Overview

As of March 31, 2015

	TOTAL	SFHA (1)	Zone X (2)	PRP (3)
Total Number of Policies:	353	103	17	233
Total Premiums:	$225,540	$110,026	$21,901	$93,613
Average Premium:	$639	$1,068	$1,288	$402

(1) SFHA (Zones A, AE, & AO) Eligible for 45% Discount from CRS Program
(2) Zone X - Eligible for 10% Discount (Classes 1-6)
(3) Preferred Risk Policies - Not Eligible for CRS Premium Discount

NFIP & Community Rating System

- Entered the NFIP on December 15, 1983
- CRS Pilot Test Community in 1989
- First Joined the CRS in 1991
- Classifications have evolved from our initial Class 8 in 1991, to Class 5 in 2001, and to Class 1 in 2006.

Community Rating System

- The diversity of the Roseville Floodplain Management Program is evidenced by the City receiving credit in 16 of the 18 CRS activities. (2007 CRS Coordinator's Manual)
- Roseville's Floodplain Management Program evolved due to our long history of responding to flood events.

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.
- Use of structural flood control where feasible.

General Plan – Safety Element

Flood Component

- Adopted floodplain mapping “Future, Fully-Developed, Unmitigated Condition” (FFDUC) in the watershed as best available information.
- Required new development to dedicate the FFDUC floodplain as open space or flood conservation easement to the City.
- Adopted 2-foot freeboard standard for new development, including infill area.
- Recently revised General Plan to adopt State of Urban Level of Flood Protection – 200 year floodplain mapping.

Floodplain Management

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 450%!

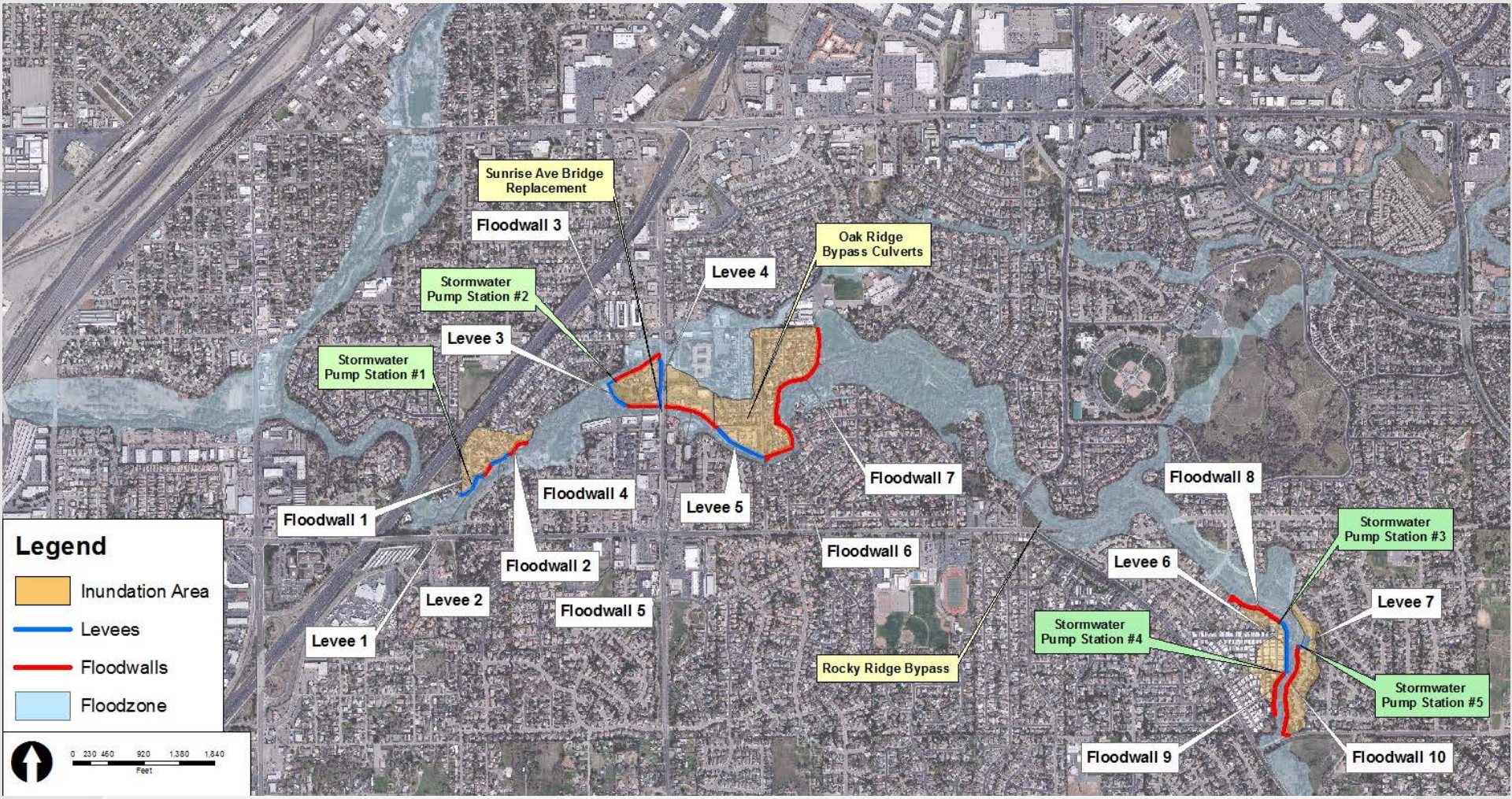
Impacts of Flood Hazard Mitigation in Roseville		
Year	1990	2015
Buildings in SFHA	635	138
Repetitive Loss Properties	36	1
Acres of floodplain	1153	1529
% of Floodplain in Open Space Use	46%	97%

Floodplain Management

Cirby/Linda/Dry Creek Flood Control Project

- A master plan approach that looked at reducing flooding impacts to most of the flooded properties in the city. Started planning in 1989 and approved in 1992
- 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.

Cirby/Linda/Dry Creek Flood Control Project



Flood improvement started 1996

Cirby/Linda/Dry Creek Flood Control Project

Floods of 1995- before Flood Project- 42 home flooded in this area

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

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

Note: All picture taken from same location

Flood improvement started 1996

Flood improvements completed –- 1998

Floodplain Management

Cirby/Linda/Dry Creek Flood Control Project

- Total cost: $19 million

  FEMA MHMP ($8.7 million)
  General Funds ($6.4 million)
  State Gas Tax ($3.9 million)

- Project benefits: 535 structures benefit from the project; This includes:

  479 structures no longer within the 100-year floodplain.

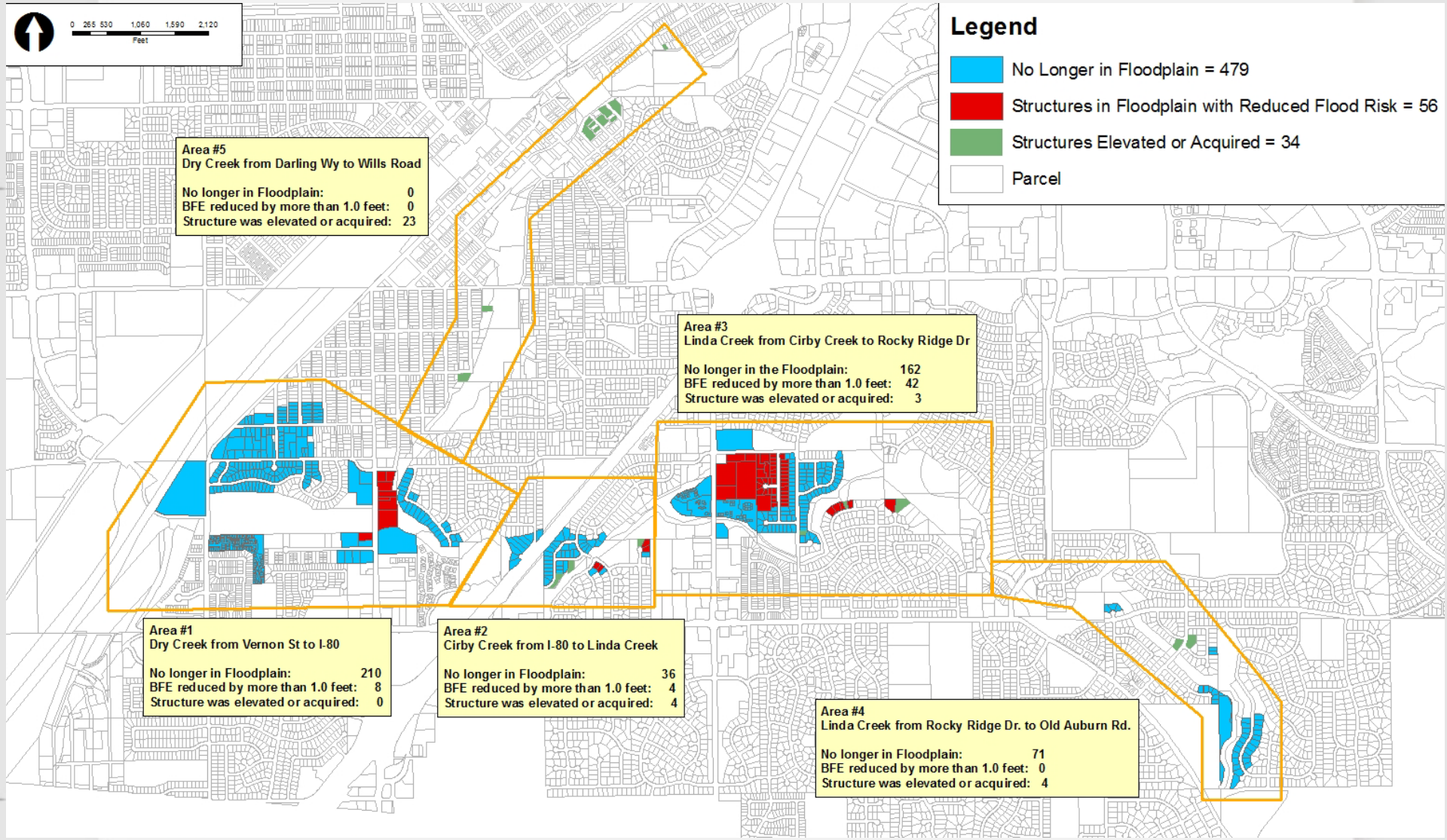
  56 structures remaining within the 100-year floodplain, but less likely to flood.

Floodplain Management

Elevation Program

- 44 homes approved for the voluntary program, 27 homes were elevated, and 3 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 $5,000 zero interest loans to all 44 homeowners, and zero interest CDBG loans for qualified homeowners

Flood Protection Provided Since 1995



2005 Multi-Hazard Mitigation Plan

Hazard Risk Ranking:

Hazard Ranking	Hazard Event	Category
1	Human Caused	High
2	Flooding	High
3	Earthquake	Medium
3	Severe Weather	Medium
4	Drought	Low
4	Wildland Fire	Low
5	Human Health	Low
6	Landslide	Low

2011 Multi-Hazard Mitigation Plan

Hazard Risk Ranking:

Hazard Ranking	Hazard Event	Category
1	Human Caused	High
2	Severe Weather	High
3	Flooding	Medium
4	Earthquake	Medium
5	Wildfire	Medium
6	Dam Failure	Medium
7	Drought	Low
8	Human Health	Low
9	Landslide	Low

Community Rating System

- View the CRS as a tool to help implement sound floodplain management that meets the needs of the community.
- As higher CRS classifications are approached, it's important to develop a systematic approach to floodplain management that will help assure program compliance.
- As higher CRS classifications are achieved, the CRS program becomes very prescriptive. A community must determine if it is in their best interest to expend resources to meet these prescriptions.