

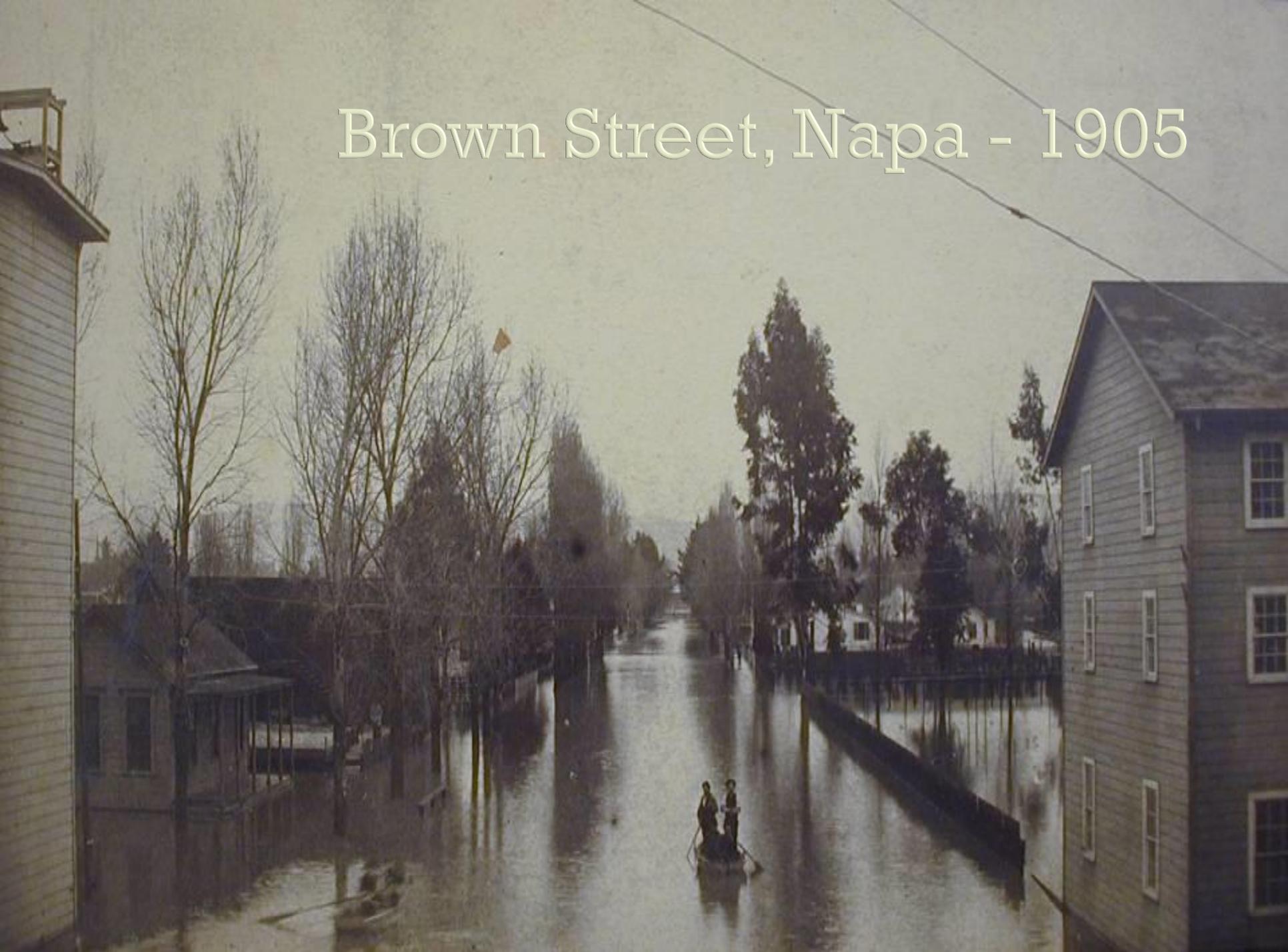


# The Napa River-Napa Creek Flood Protection Project

The need for Flood Control

Napa – a long history of  
flooding

# Brown Street, Napa - 1905





Main Street, Napa - 1940

# Silverado Trail, Napa - 1955



# Flood Control Act of 1965 authorizes Napa River Flood Control Project

Initial Designs are standard Army Corps  
approaches to Flood Control:

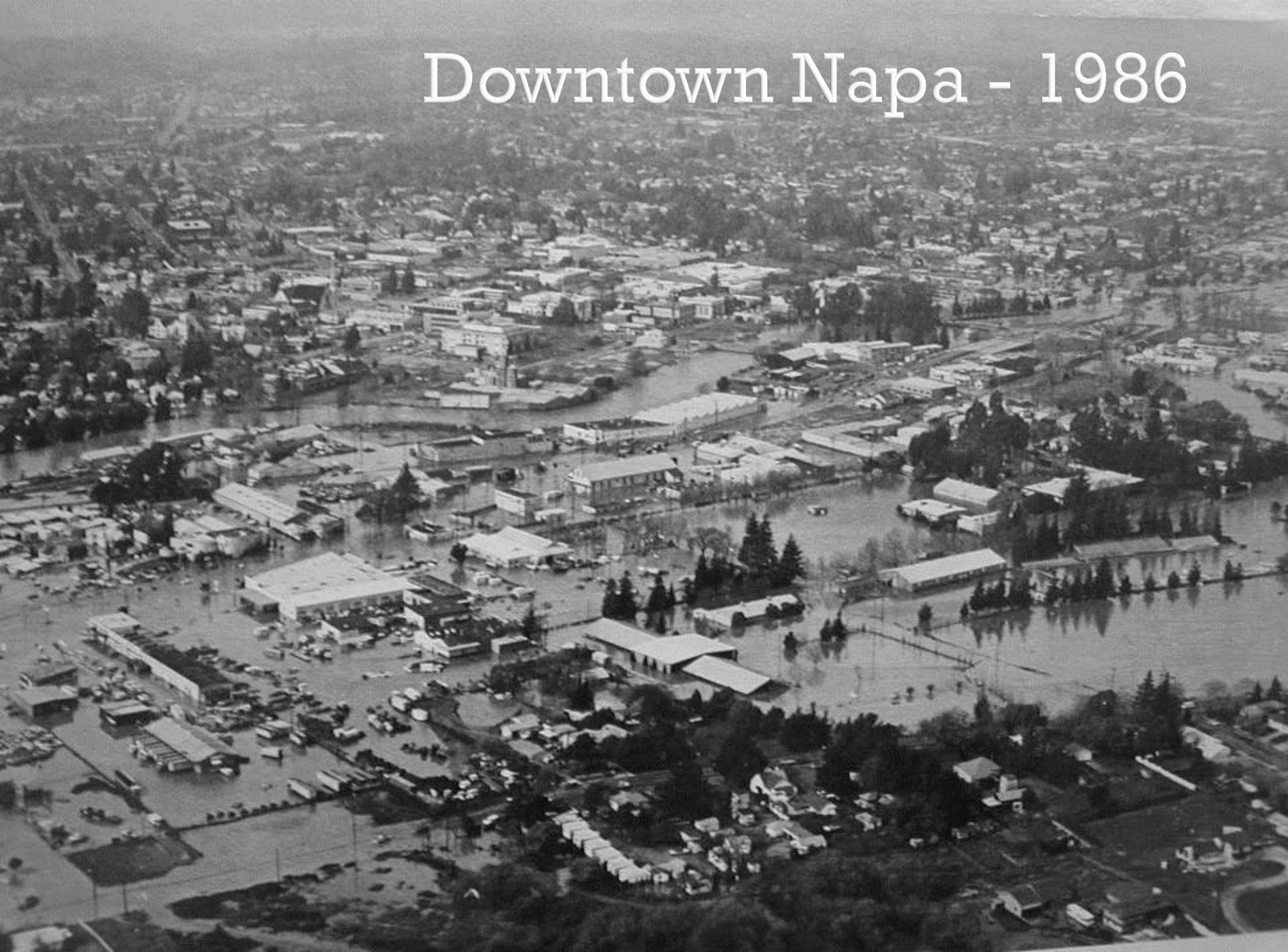
- Deepen channel with dredging
- Straighten channel – eliminate Oxbow
- Rip rap banks of a trapezoidal channel
- Levees and flood walls

Proposals go to the voters in 1976 and 1977  
– both are rejected



**Water Street, Napa - 1986**

# Downtown Napa - 1986



# Third Street Bridge - 1986



# A Community Coalition Comes Together

40 agencies, 400 people: Chamber of Commerce, Sierra Club, Friends of the River, NV Economic Development Corp., Farm Bureau, Land Trust.....

A new “Living River” design is created

A local Project funding strategy is needed.

# Achieving a Living River

- Maintain the natural slope, width, and width/depth ratio of the river
- Maintain or restore the connection of the river to its flood plain
- Allow the river to meander as much as possible
- Maintain channel features such as mudflats, shallows, sandbars, and a naturally uneven bottom
- Maintain a continuous fish and riparian corridor along the river

Flooding continues...  
Third Street - 1997



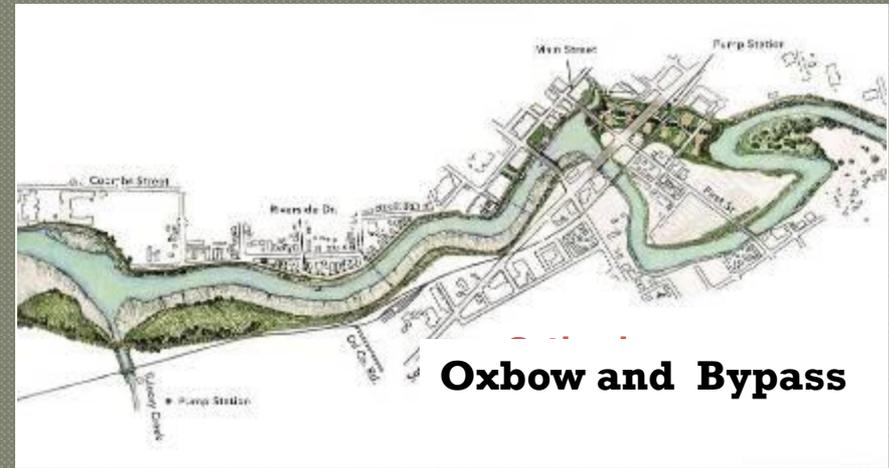
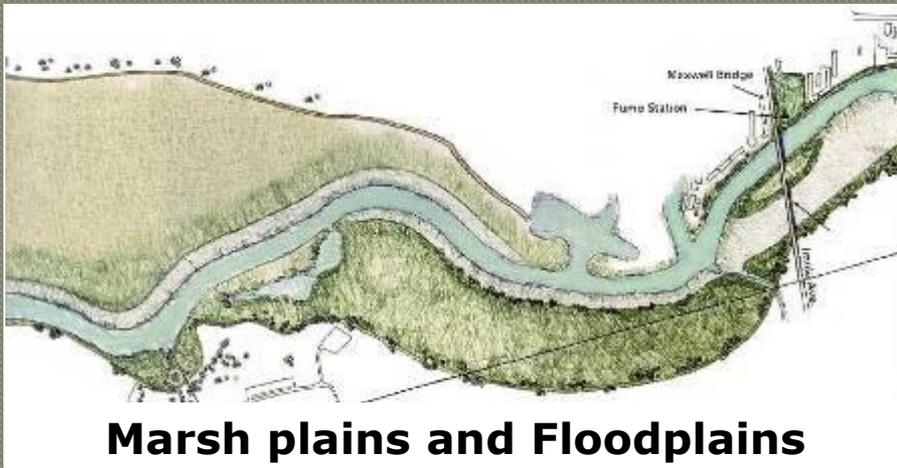
# The Living River

## Geomorphic Channel Design

### Downtown "Urban Reach"

### South Wetlands

### Toxics Cleanup



### Oxbow and Bypass

# Project Components

- Improvements to 7 miles of the Napa River and 1 mile of Napa Creek
- Removal of 53 mobile homes, 16 other residences and 28 commercial buildings
- Creation of 900+ acres of emergent marsh, seasonal wetlands, and restored habitats
- Replacement of 9 bridges
- **Protection of 3,000 properties** from the “100-year flood event”, **\$1 billion** savings over the life of the Project.

# Local Project Funding

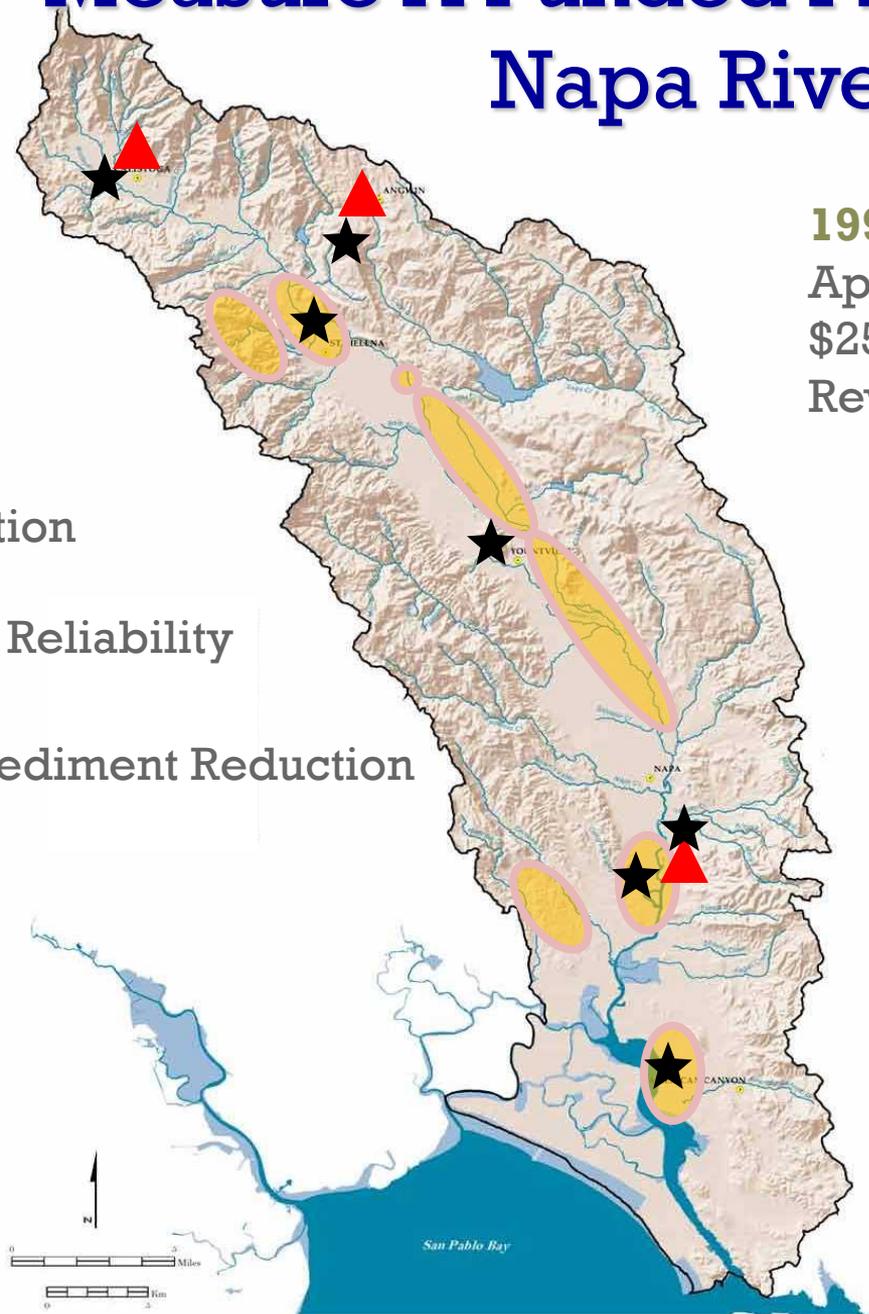
- Minimum 25% Local Cost Share
- County puts  $\frac{1}{2}$  Cent Sales Tax Measure on ballot in 1997
- Measure “A” passes with the required  $\frac{2}{3}$  majority by 308 votes countywide
- Revenues of over \$250M over 20 year tax period 1998-2018.
- Countywide projects for flood protection & watershed improvement

# Measure A Funded Projects in the Napa River Watershed

1998-2018

Approximately  
\$250M in Sales Tax  
Revenues

- ★ Flood Protection
- ▲ Water Supply Reliability
- Restoration/Sediment Reduction



# Project Groundbreaking - July 2000



# Flood Plain Reconnection and Wetlands restoration

Early Project Successes 2000-2003

# South Wetlands Opportunity Area

Before



After

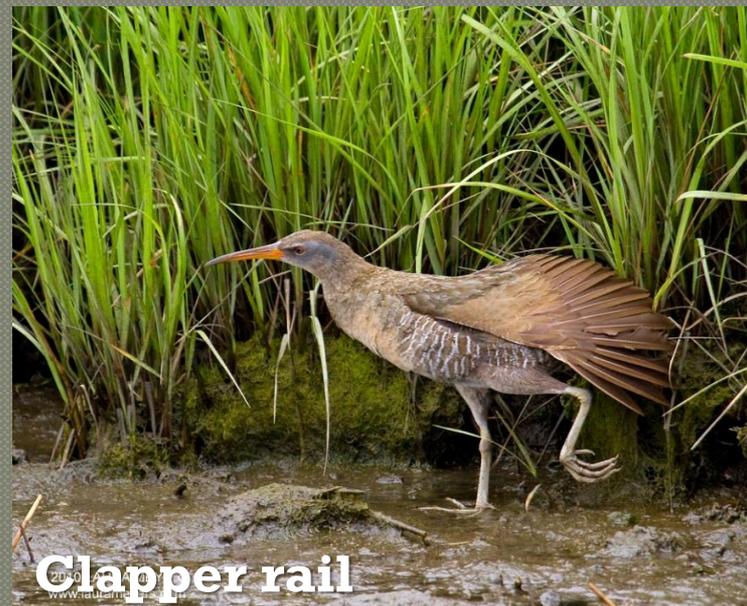
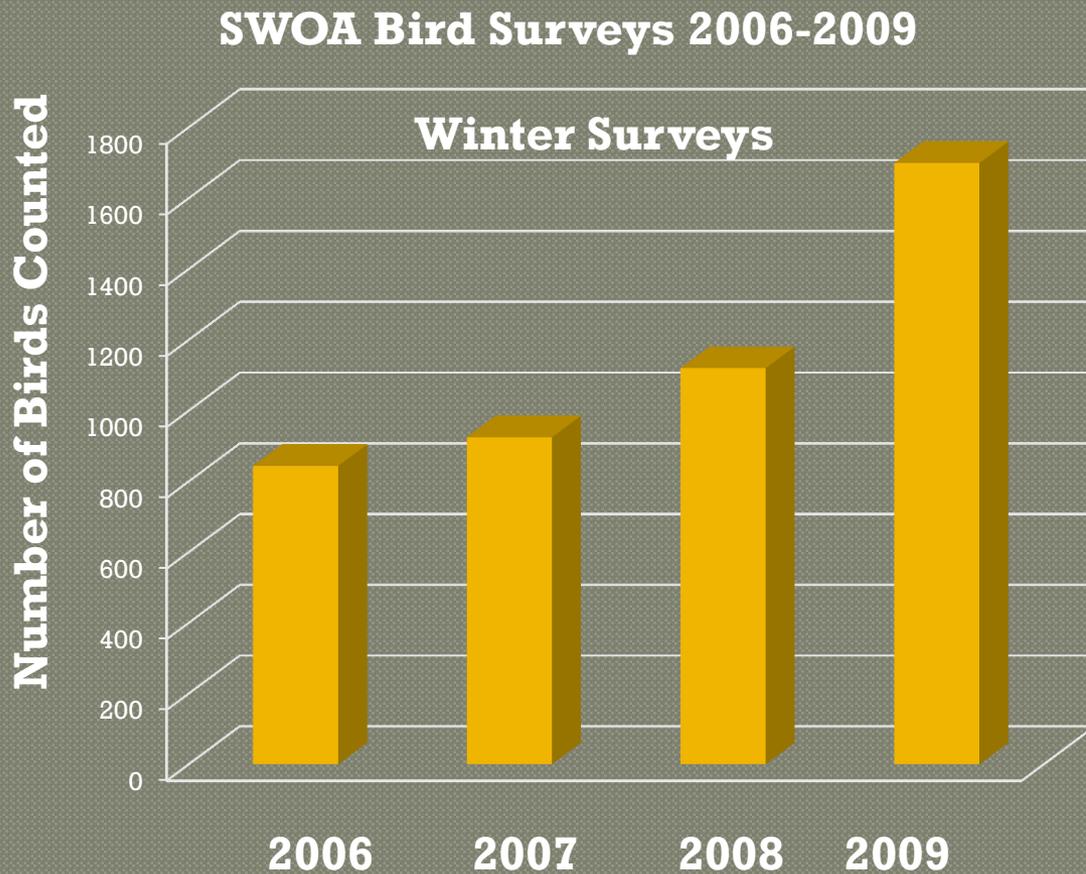


The transformation from pasture land to wetland is gradual...

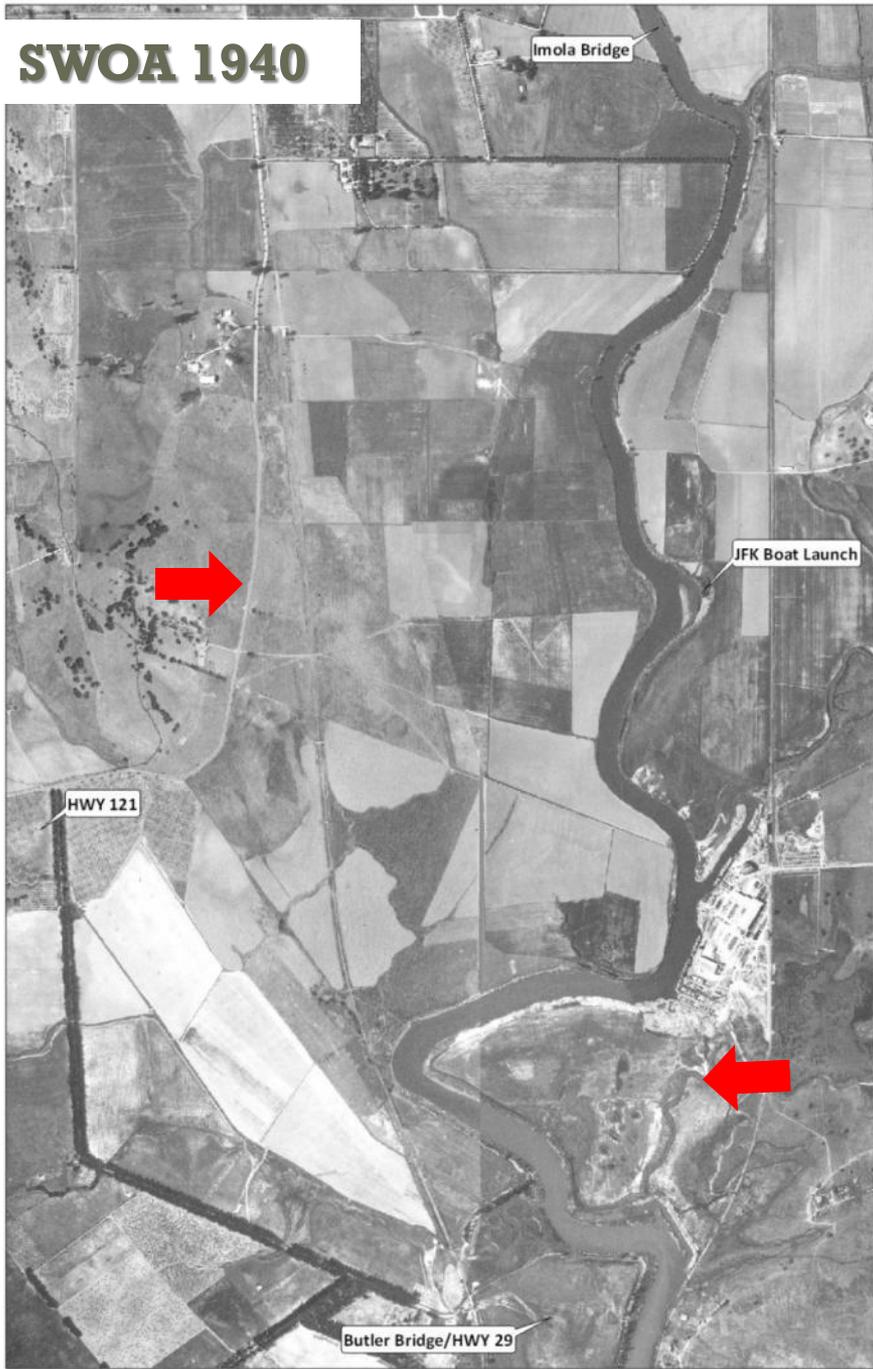




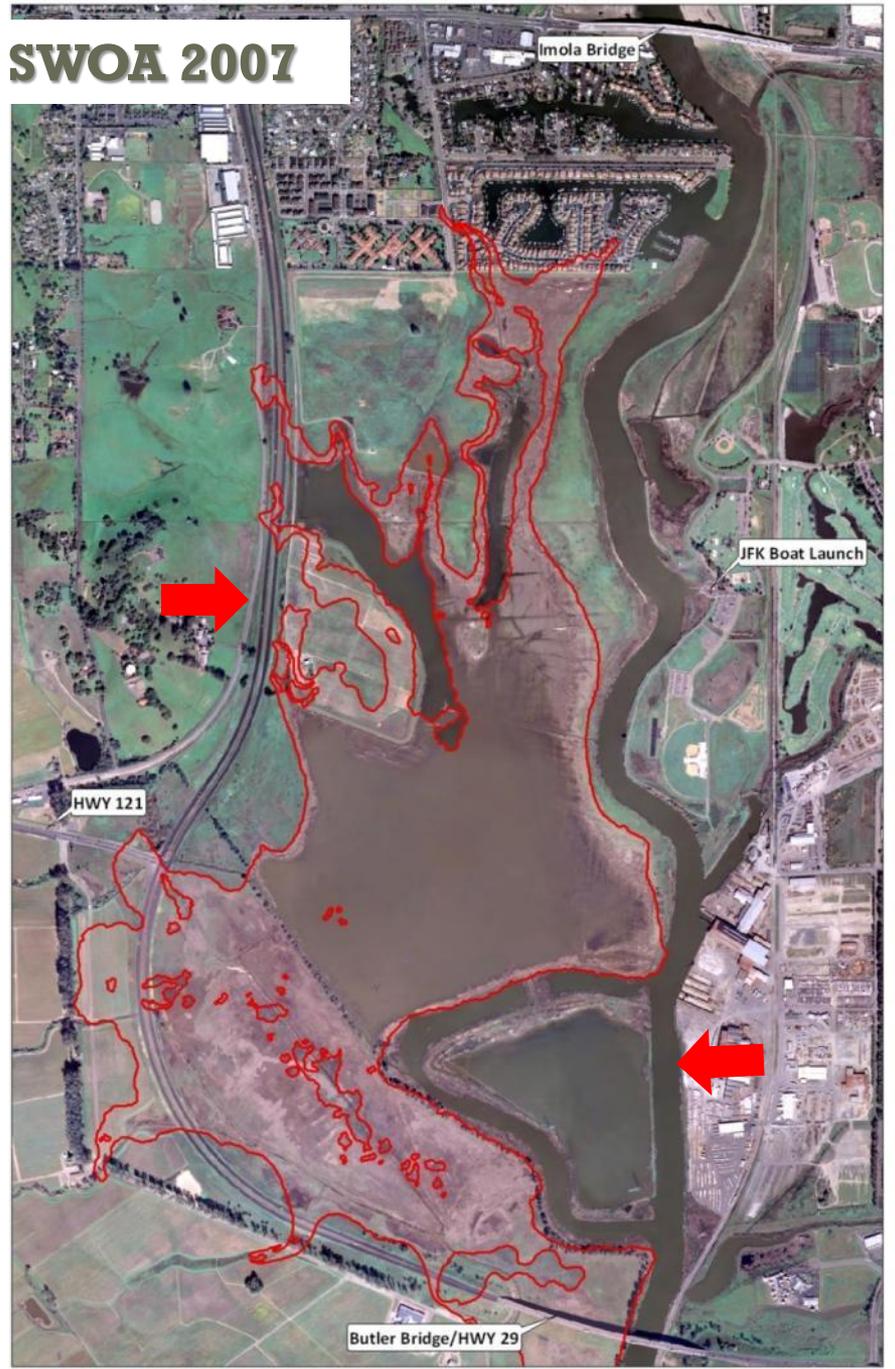
- Over 69 species of migratory and resident birds have been documented in the Project area during point count surveys conducted from 2006 through 2009.



# SWOA 1940



# SWOA 2007



# Downtown Napa renewal

Urban Infrastructure Improvements 2002-2008

# New Third Street Bridge -2002

## Set the tone for aesthetics of public space



# New Maxwell Bridge -2005

Longer and Higher – Lowers Floodwater Elevations





**East Bank Toxic Sites Prior to Project Construction**

# Created Marsh Plain and Floodplain Terraces



06/17/2010 11:35



Terracing 2004  
Floodwalls Hatt to  
First St 2005



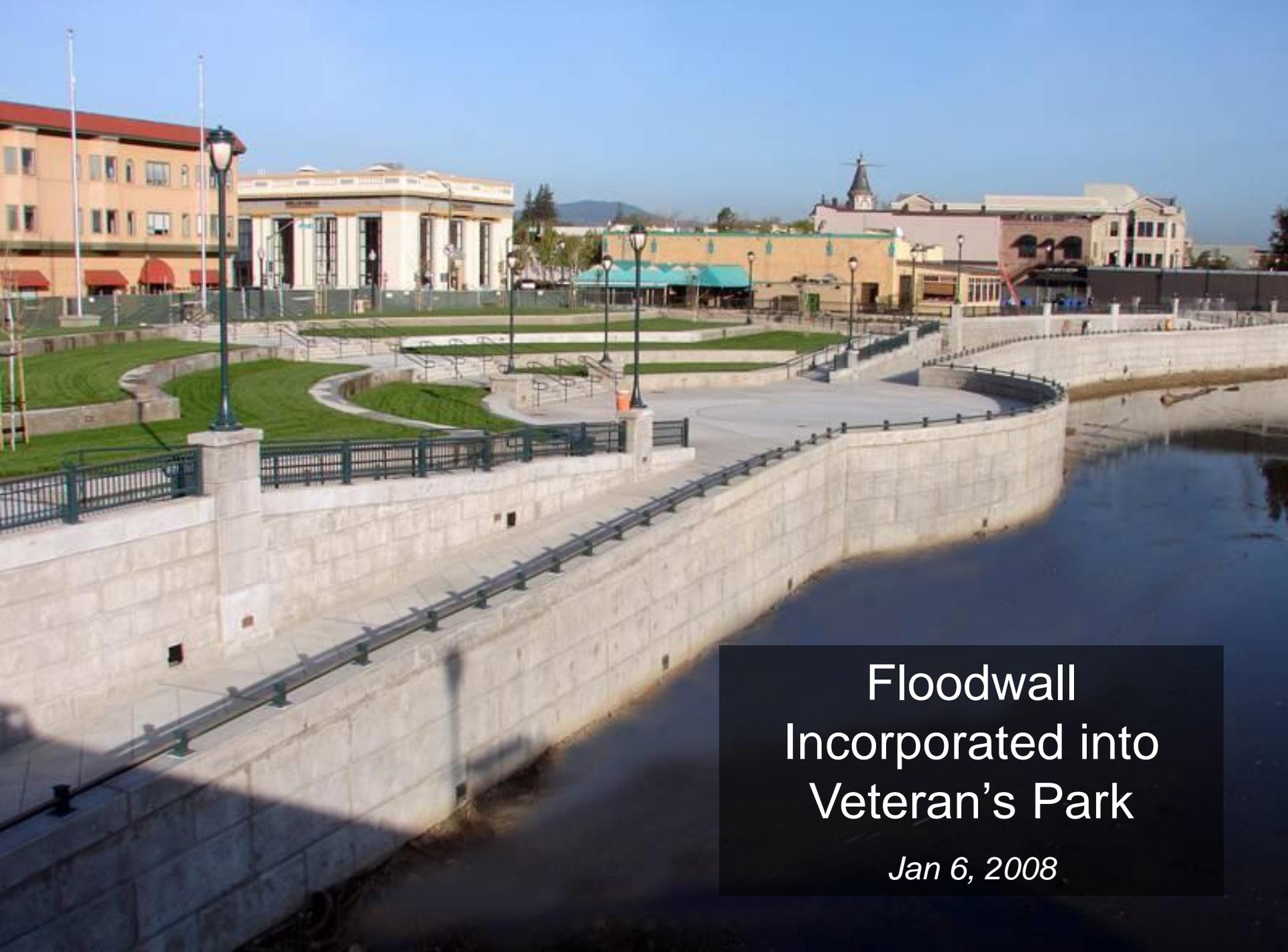
Hatt to First floodwall

*July 20, 2006*



Hatt to First floodwall

*March 31, 2008*



# Floodwall Incorporated into Veteran's Park

*Jan 6, 2008*

# Development Along Napa River



# Oxbow District Development



Oxbow Public Market

Hotel Site

Future Oxbow Commons  
(Bypass Channel)

Westin Verasa Hotel / La Toque

Wine Train

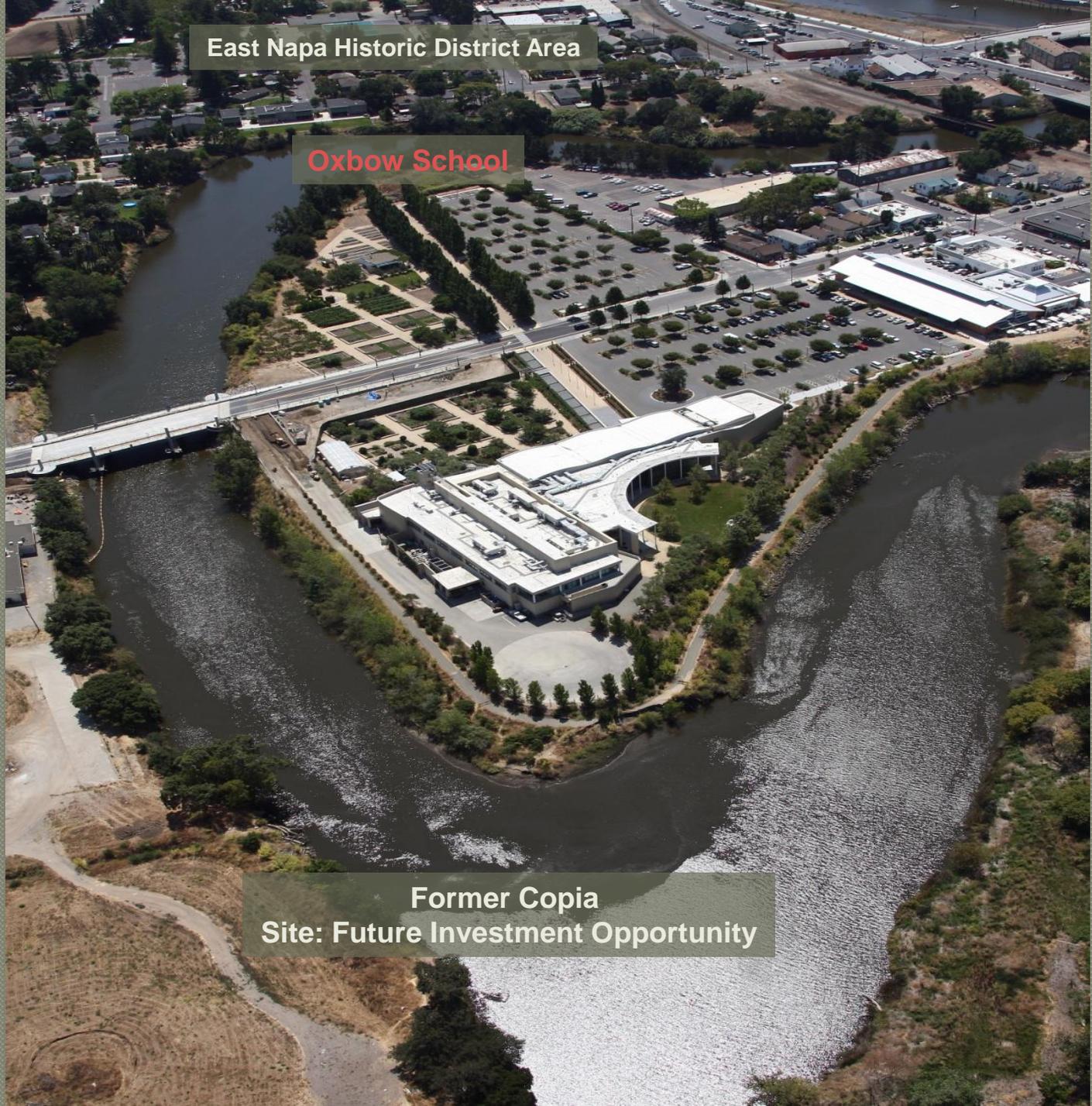
River Terrace Inn/Cuvee



East Napa Historic District Area

Oxbow School

Former Copia  
Site: Future Investment Opportunity



# “Pocket Parks”- Opera House Plaza at Napa Creek



# Napa Creek Bypass Culverts

2009-2012





DANGER  
KEEP OUT

CB&O







# Project Construction Update

Finishing the Project 2014-2018

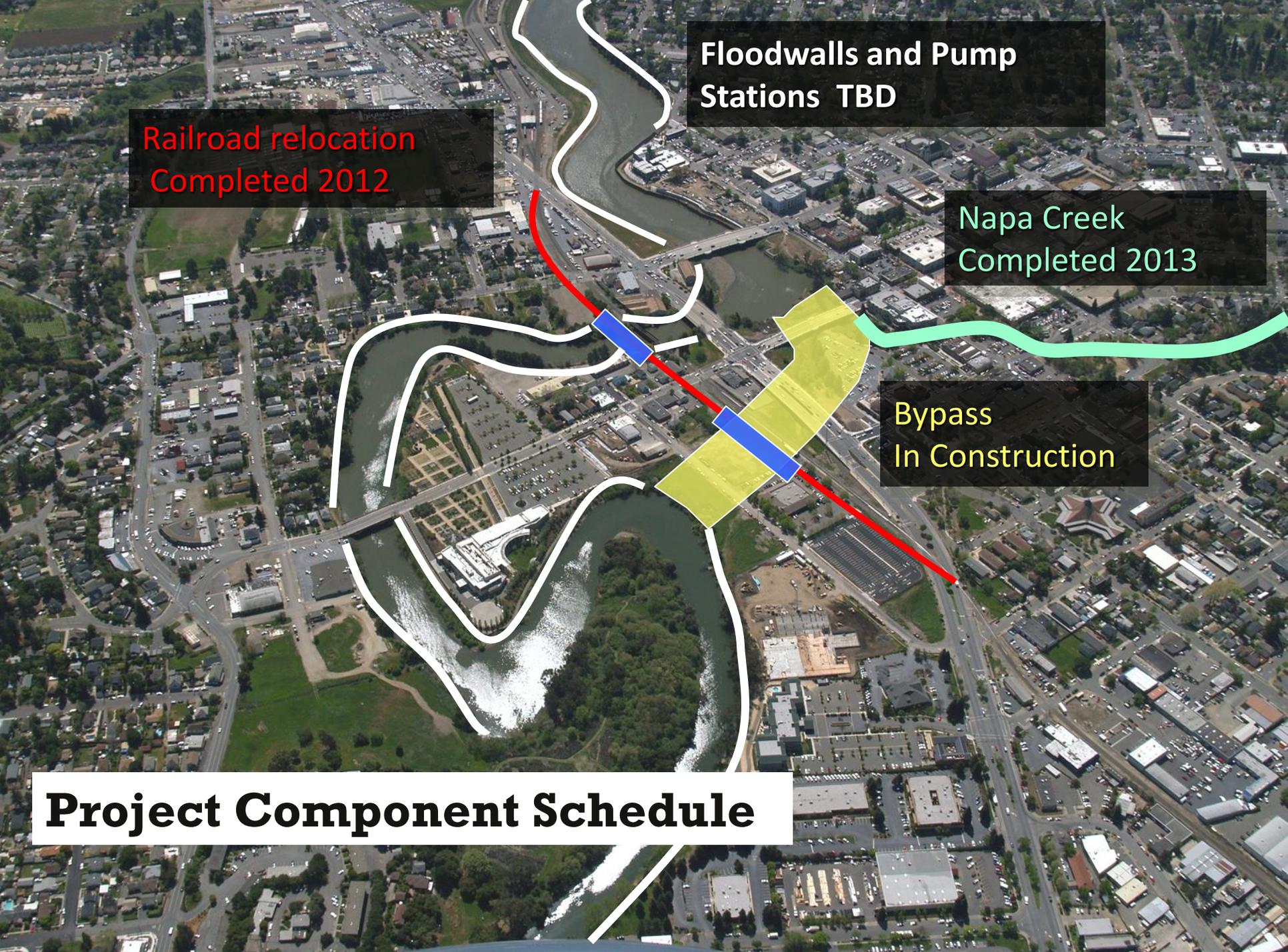
Railroad relocation  
Completed 2012

Floodwalls and Pump  
Stations TBD

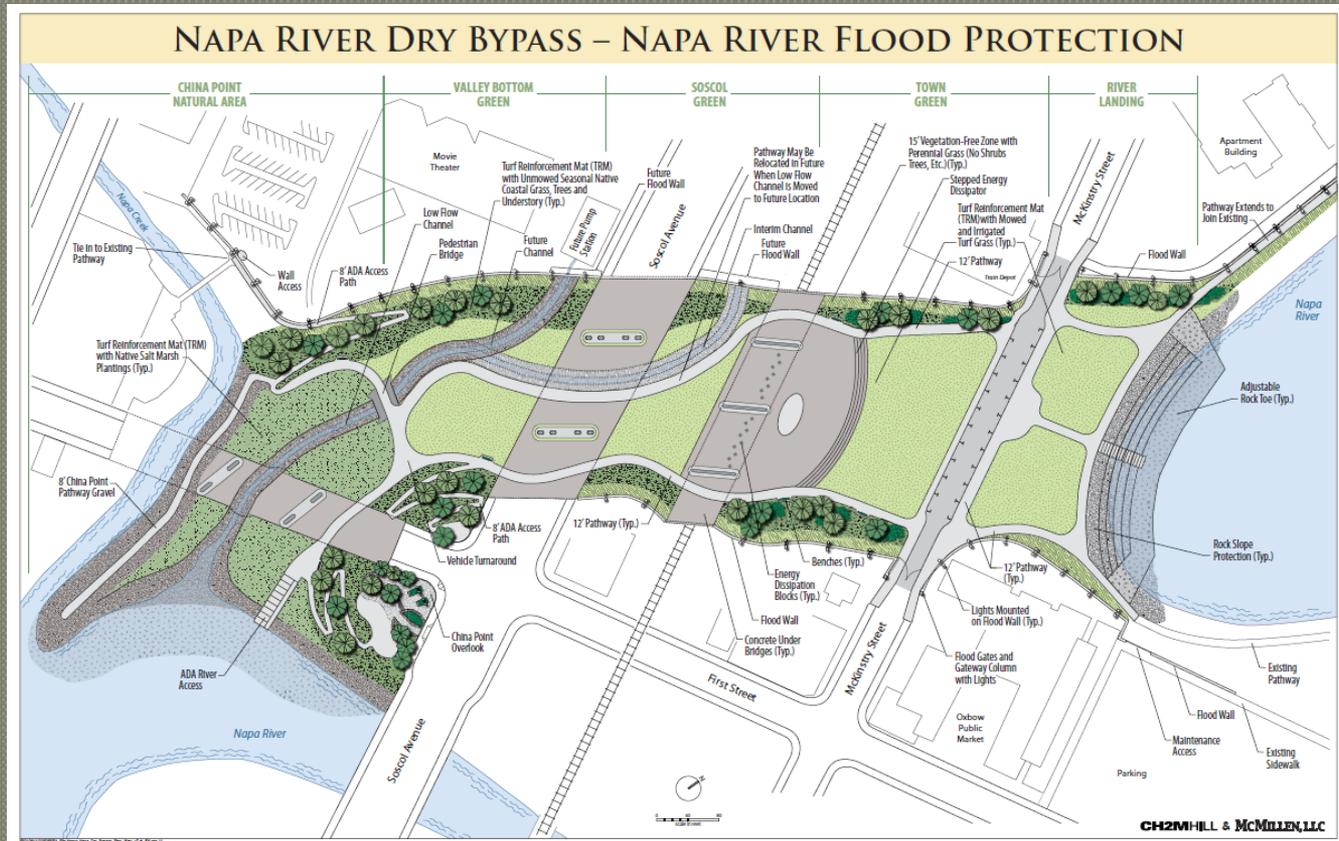
Napa Creek  
Completed 2013

Bypass  
In Construction

# Project Component Schedule



# The Napa River Dry Bypass



# 1998 Rendering





# 2004 City of Napa Proposal



NAPA COMMONS  
TIDAL MARSH

VALLEY BOTTOMS GREEN

SOSCOL GREEN

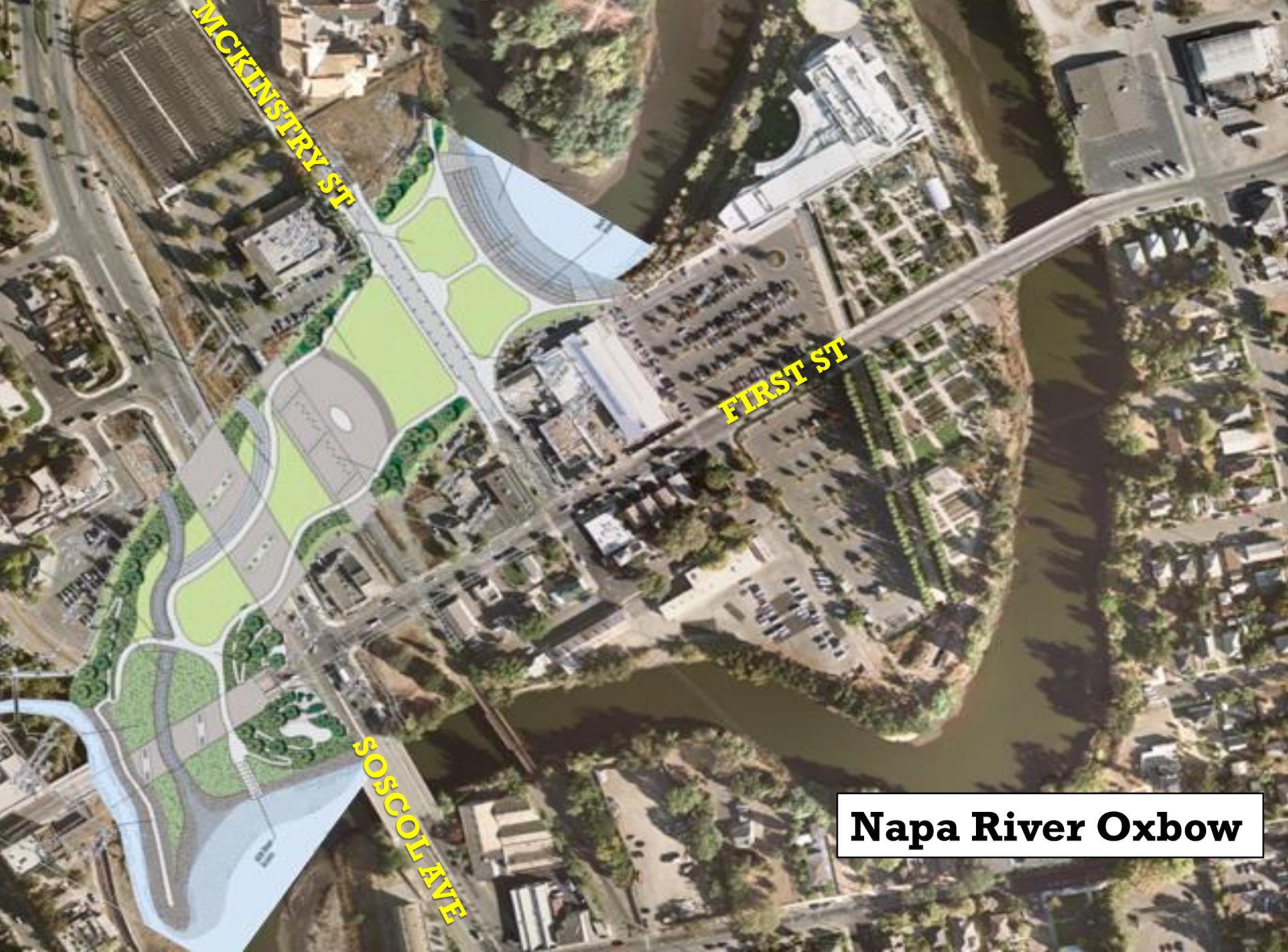
TOWN GREEN

RIVER LANDING

# 2013 Final Design

## NAPA RIVER DRY BYPASS – NAPA RIVER FLOOD PROTECTION





**MCKINSTRY ST**

**FIRST ST**

**SOSCOL AVE**

**Napa River Oxbow**

# Pre-project requirements

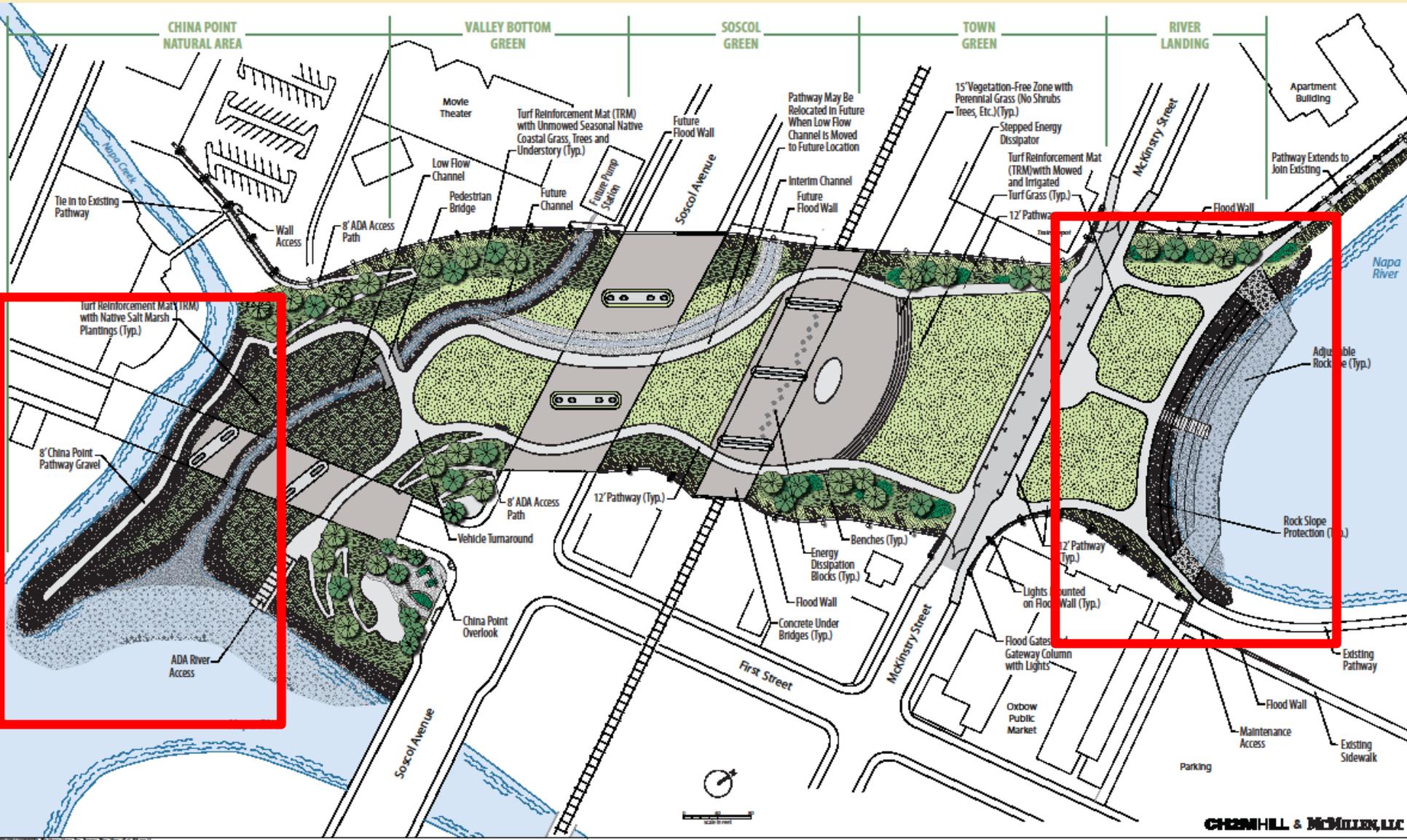


**Build Railroad Bridge**  
**Build Soscol Ave Bridge**  
**Reconstruct First St Bridge**  
**over Napa Creek**

**2003**

# Biotechnical Bank Stabilization

## NAPA RIVER DRY BYPASS – NAPA RIVER FLOOD PROTECTION



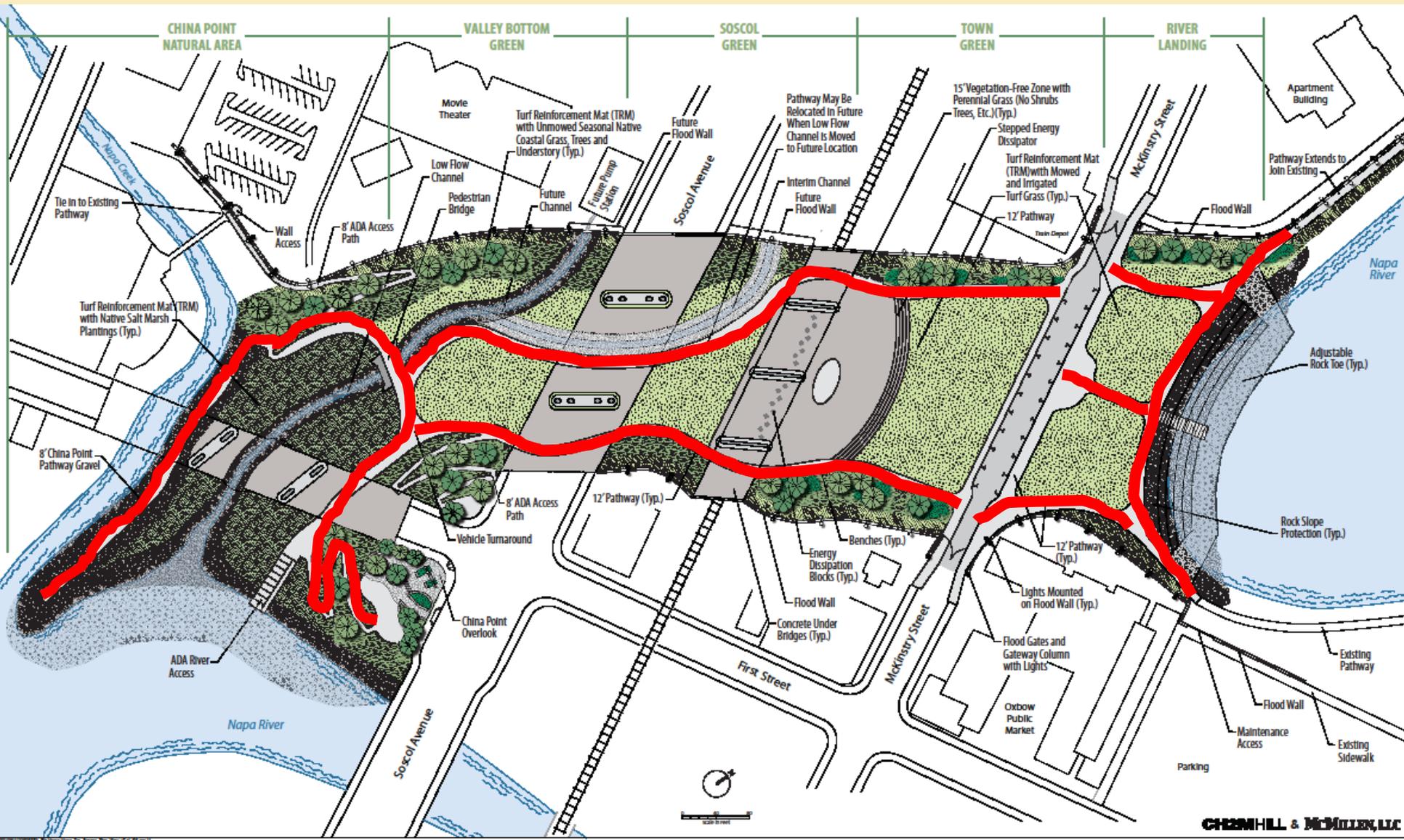


Similar structures in the Napa Creek Project  
with 1 year vegetation growth



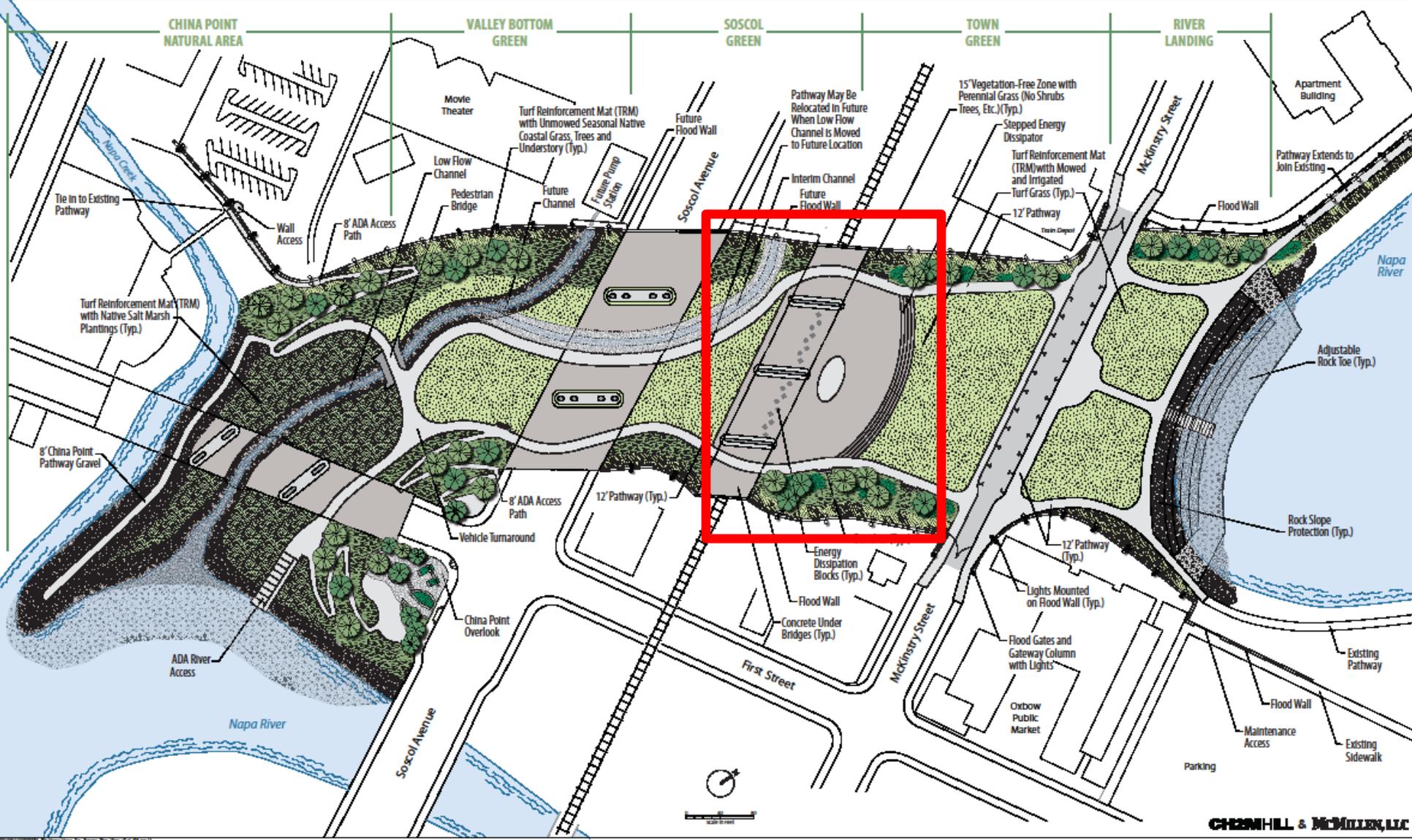
# Trail System

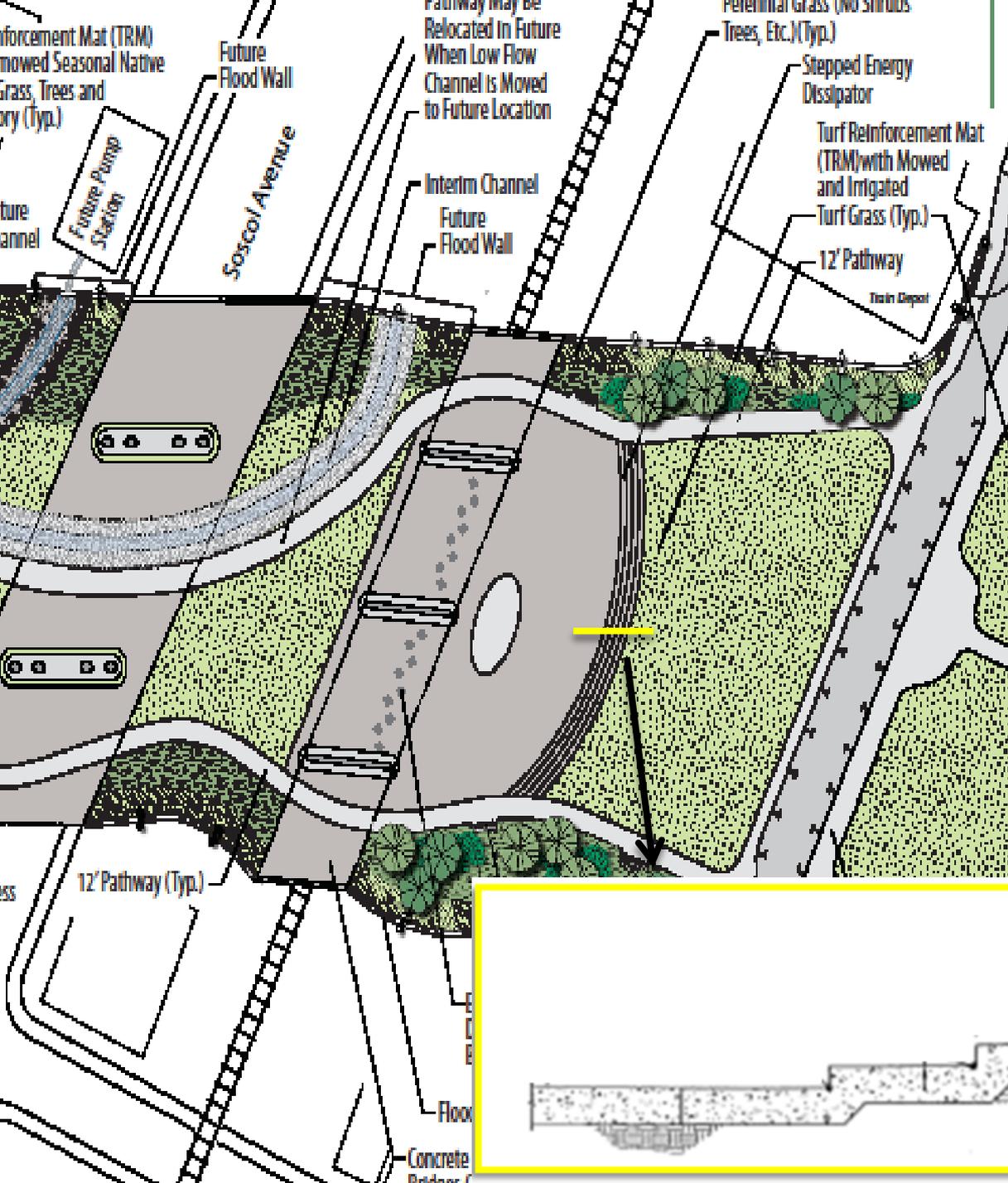
## NAPA RIVER DRY BYPASS – NAPA RIVER FLOOD PROTECTION



# Hydraulic Energy Dissipater

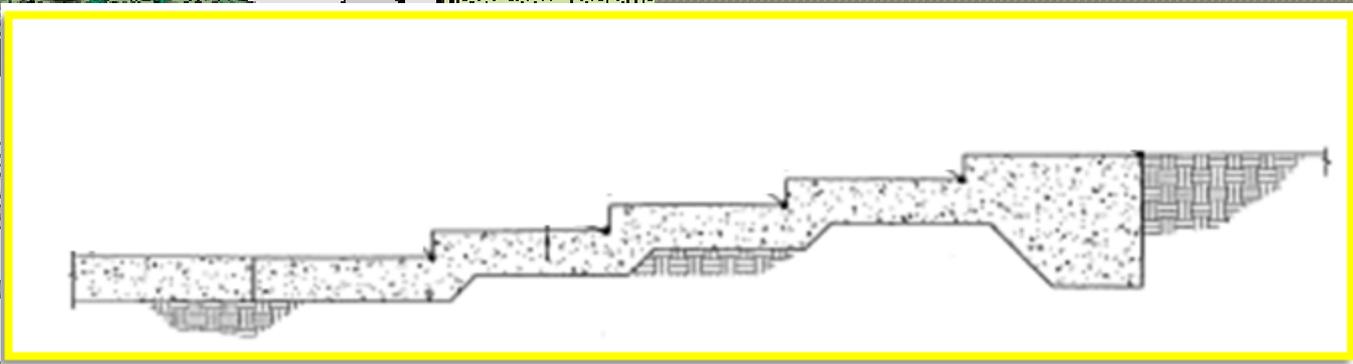
## NAPA RIVER DRY BYPASS – NAPA RIVER FLOOD PROTECTION





# Dissipater Design

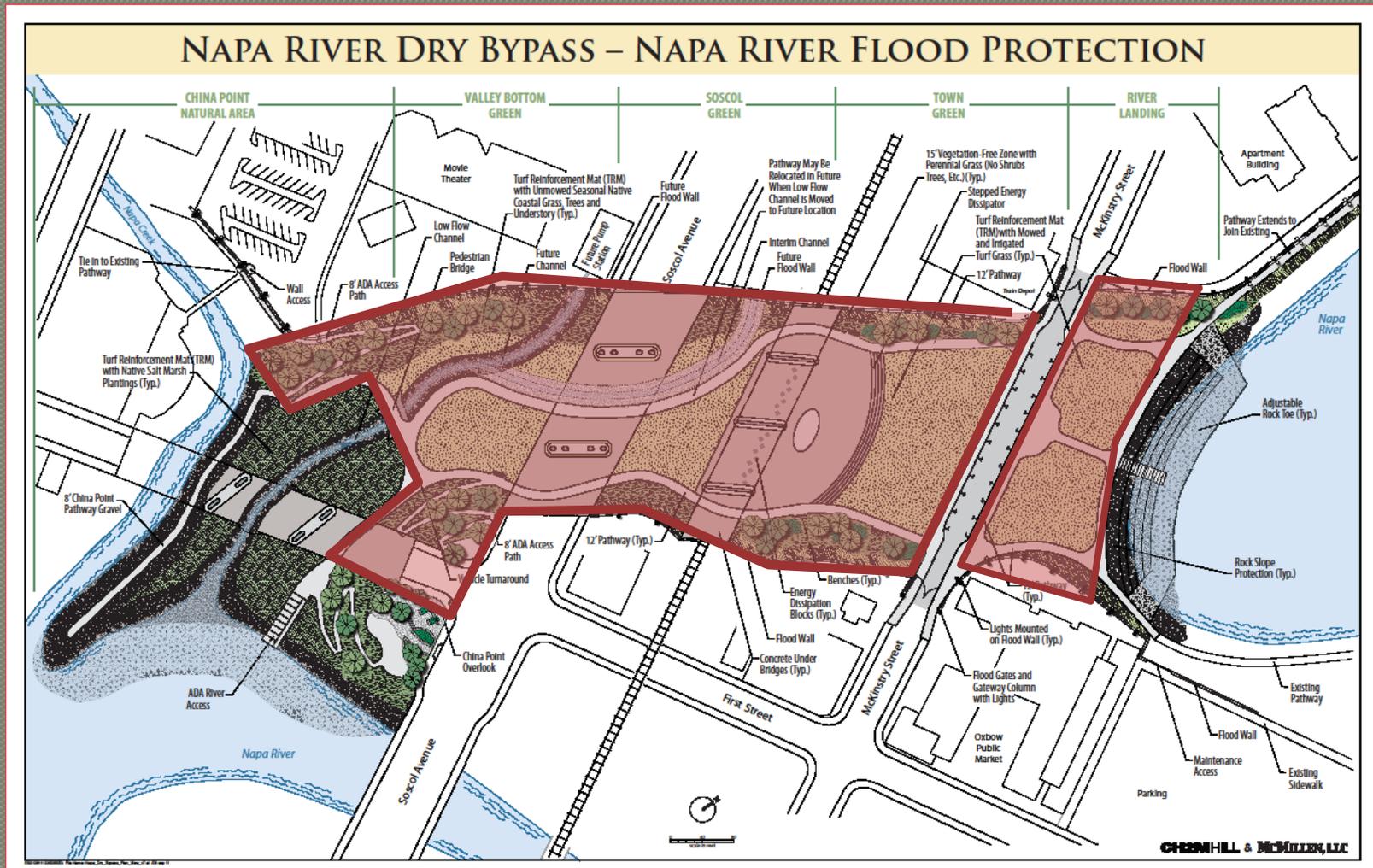
- Curved steps
- Dual use with amphitheater style design
- Dissipater block “seats” under rail bridge





# Tentative Remaining Schedule

## Finish Interior and Inlet – February to March



# Tentative Remaining Schedule

McKinstry Street – April to May  
Project Closeout – June to July

