

Schaaf & Wheeler  
CONSULTING CIVIL ENGINEERS

# Zone 5 Drainage Master Plan

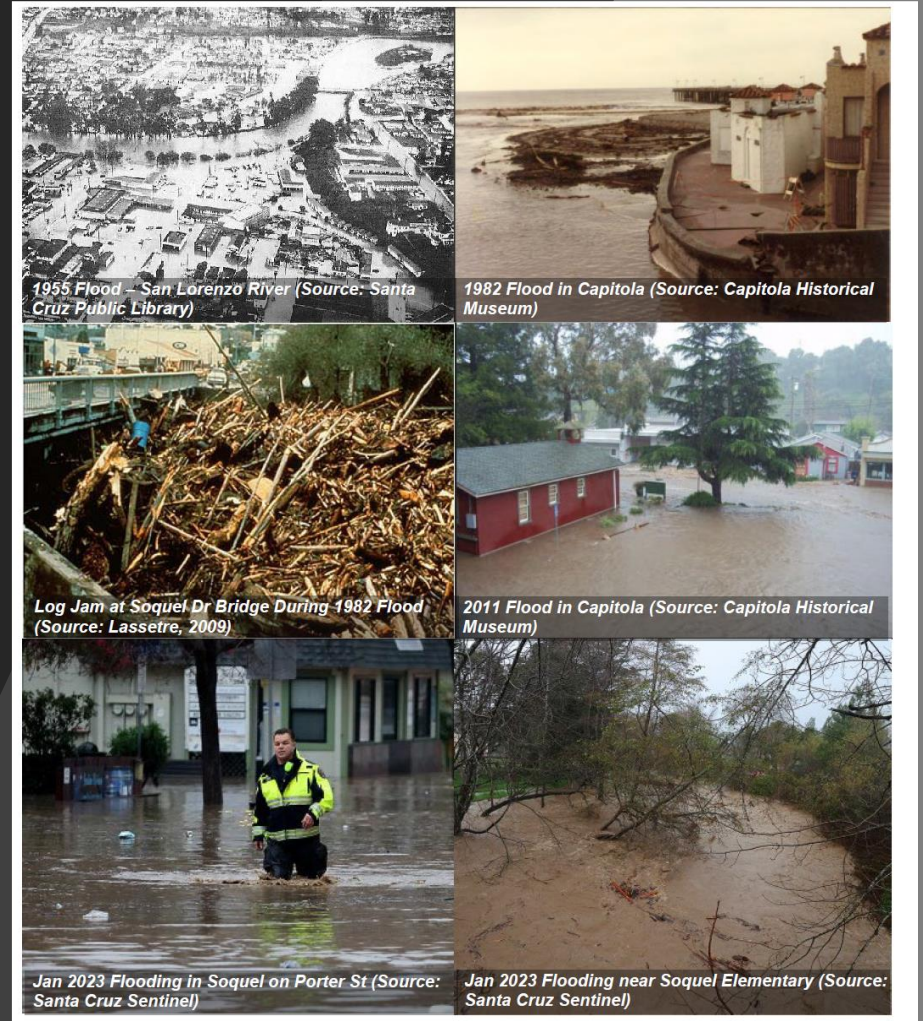
Dan Schaaf, PE





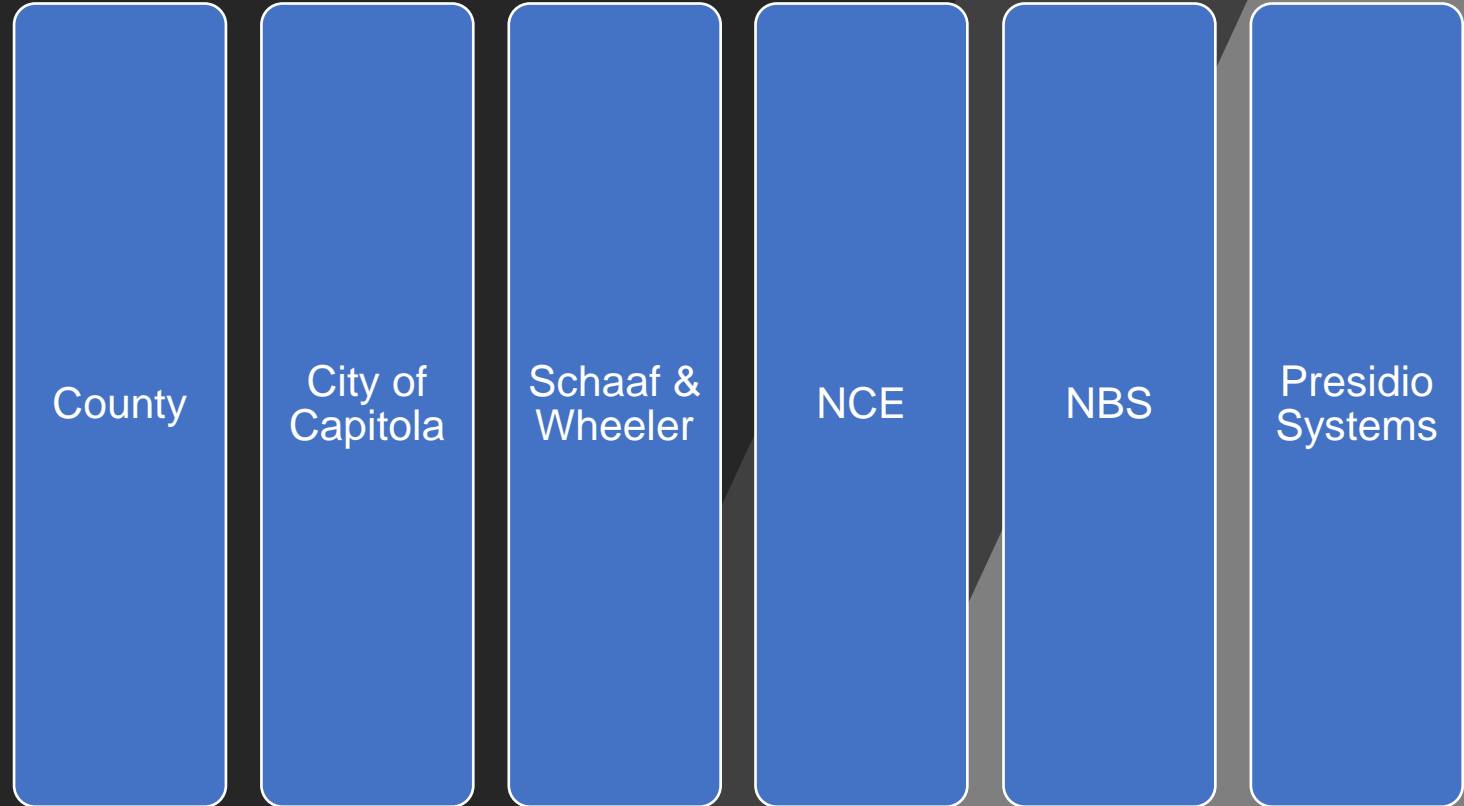
# Overview

- Team
- Project Goals
- Methods
- Results
- Recommendations
- Next Steps



# Team

- County Staff
- Capitola Staff
- Schaaf & Wheeler
  - ✓ Project Management
  - ✓ Hydrology/Hydraulics
  - ✓ Capital Projects
- NCE
  - ✓ O&M Plan
  - ✓ Funding Strategy
- NBS
  - ✓ Financial Plan
- Presidio Systems
  - ✓ Condition Assessment



# Goals

- Create Holistic Study of Zone 5
- Provide Recommendations for:
  - ✓ Improving Capacity of Regional System
  - ✓ Channel and Culverts Projects
  - ✓ Address Condition Concerns
- Improve Operations & Maintenance Program
  - ✓ Develop a Better Procedure
  - ✓ Improve Reporting
  - ✓ Optimize Equipment and Labor
- Funding Strategy
  - ✓ Develop Plan
  - ✓ Implementation





# Methods

## ■ Capacity

- ✓ County and City GIS
- ✓ 25-year & 100-year Rainfall

## ■ Condition

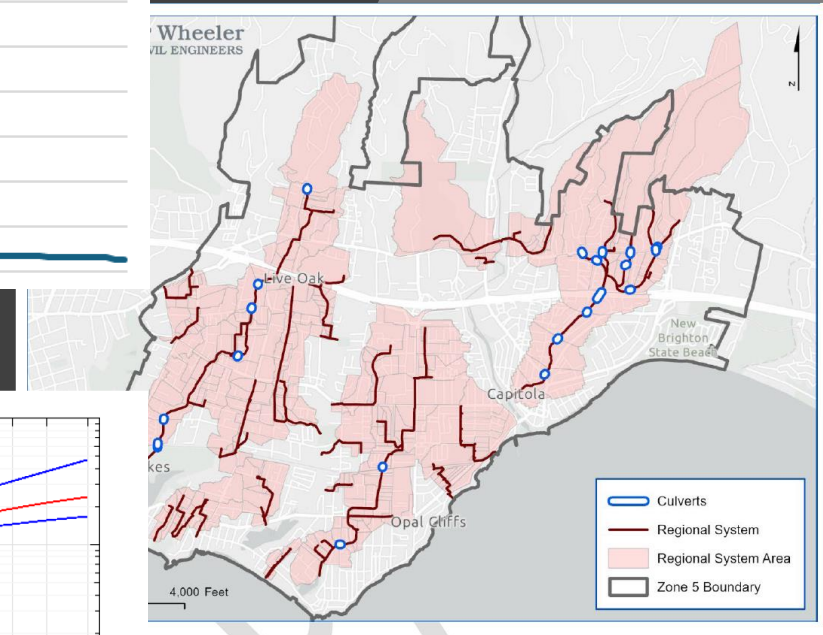
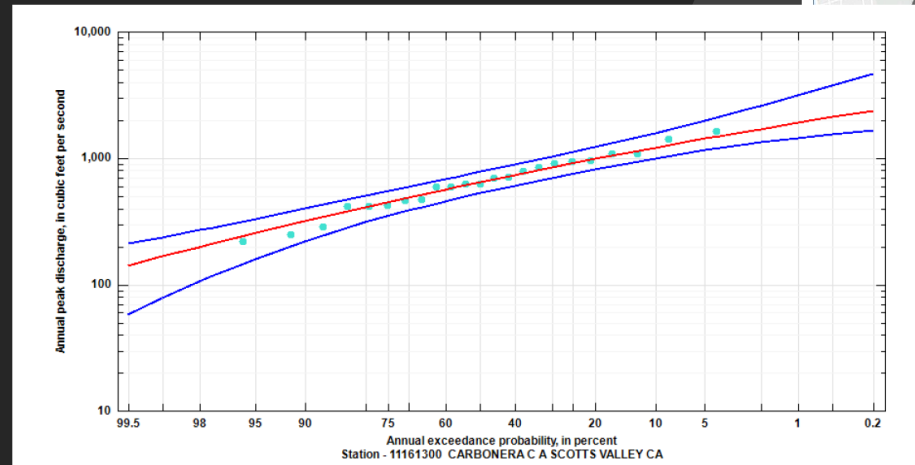
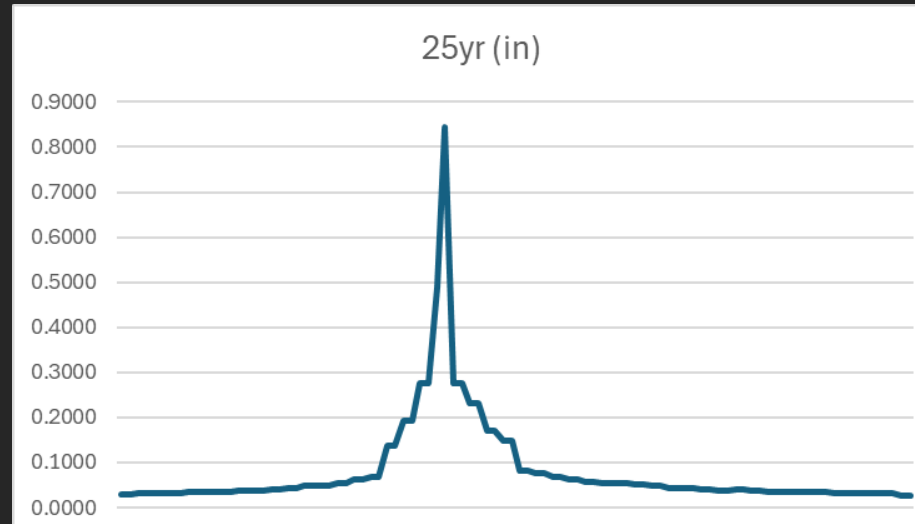
- ✓ Field Observations
- ✓ CCTV
- ✓ NASCO Ranks

## ■ Operations & Maintenance

- ✓ Work with County/City Staff
- ✓ Evaluate Existing Procedures
- ✓ Evaluate Equipment

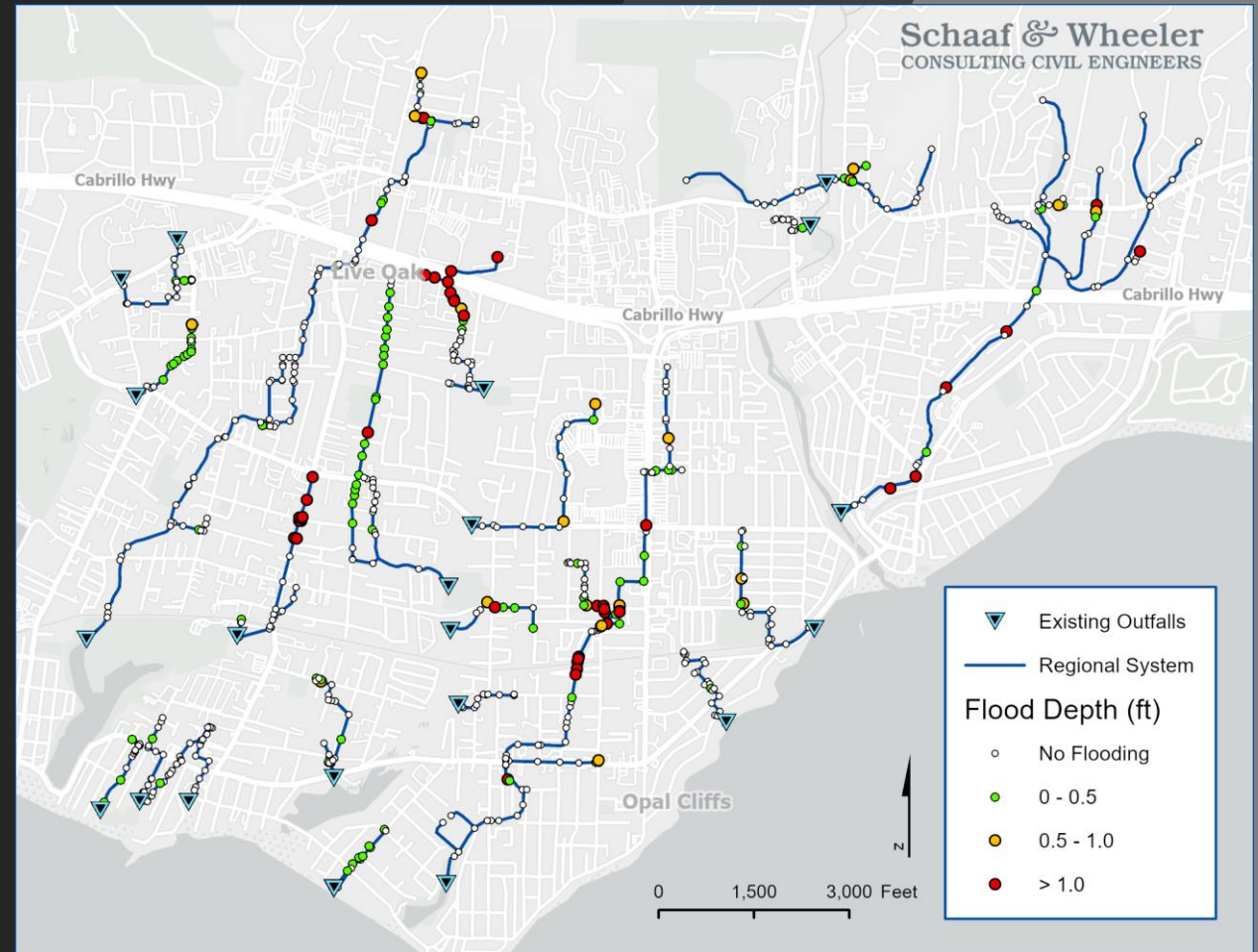
## ■ Funding

- ✓ Evaluate Existing Program
- ✓ Determine Necessary Changes
- ✓ Polling and Outreach
- ✓ Fee Modeling



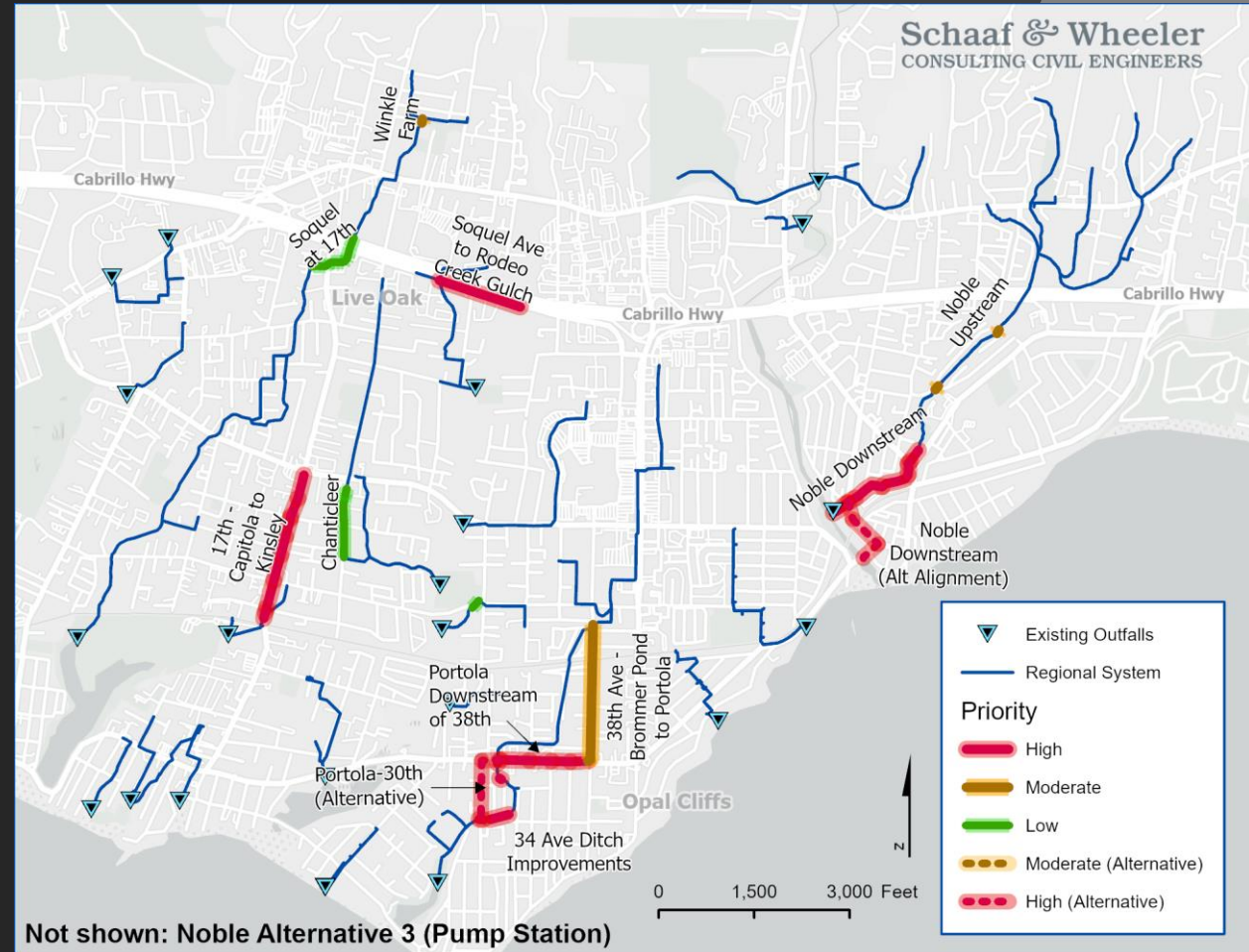
# Capacity Results

- Capacity Maps
  - ✓ 25-year for Pipes
  - ✓ 100-year for Channels
  - ✓ Works with 2013 Study
- Costs
- Priorities
- Climate Impacts
  - ✓ Sea-Level Rise
  - ✓ Precipitation Changes



# Capacity Results

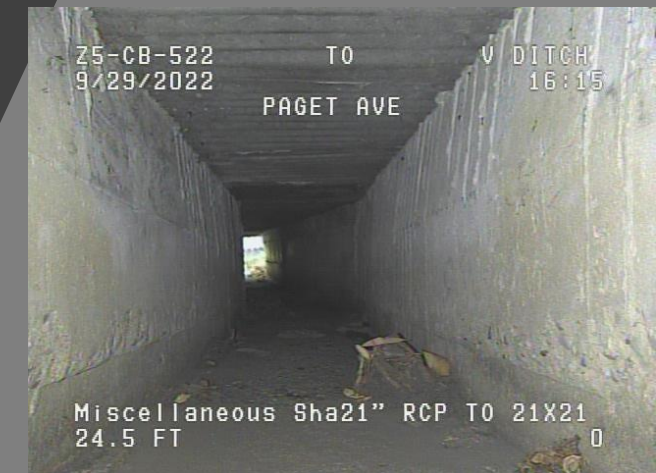
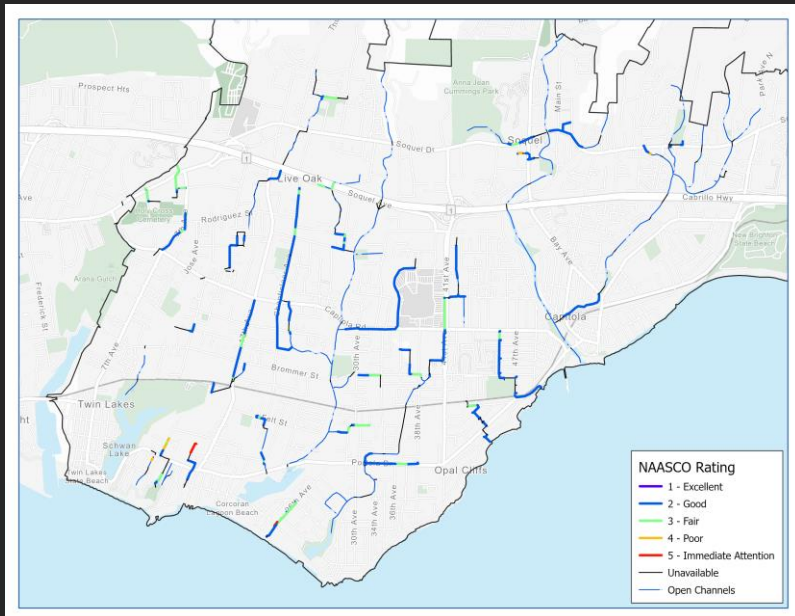
- Capacity Maps
- Costs
  - ✓ \$19M County
  - ✓ \$13.5M Capitola
- Priorities
  - ✓ High
  - ✓ Moderate
  - ✓ Low
- Climate Impacts





# Condition Assessment Results

- CCTV and Topside
- NASCCO Ratings
- Costs
  - ✓ \$4.5M
- Priority



Schaaf & Wheeler  
CONSULTING CIVIL ENGINEERS



# Operations & Maintenance Results

- O&M Procedure Changes
- O&M Cost \$2.1M Annually
- NPDES \$1M Annually
- Equipment Needs
- Personnel Needs

Focus on Proactive  
Data Driven O&M

Resources Focused  
on Areas and Assets  
w/ Greatest Needs  
and ROI

Resource Needs Do  
Increase

New Program  
Efficient  
Repeatable  
Predictive



Figure 2. Vactor Truck at Brommer Yard

# Financial Analysis Results

## ■ Current Spending and Income

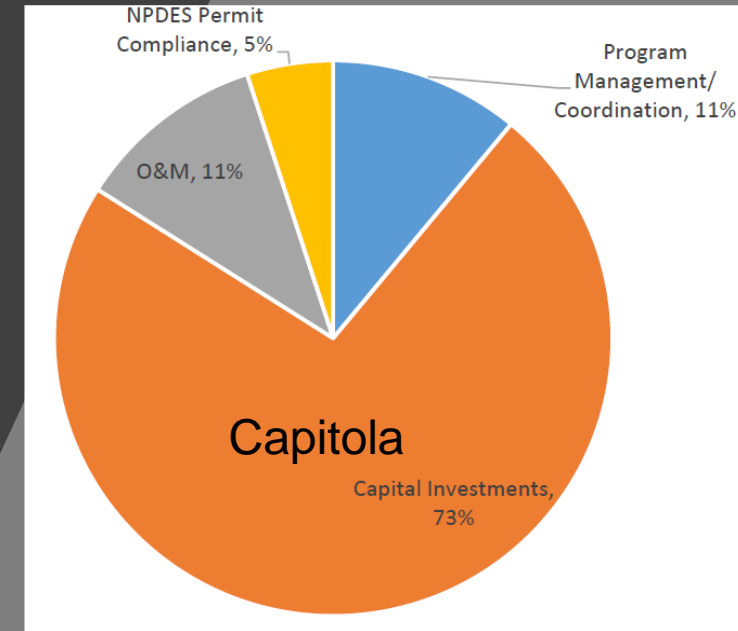
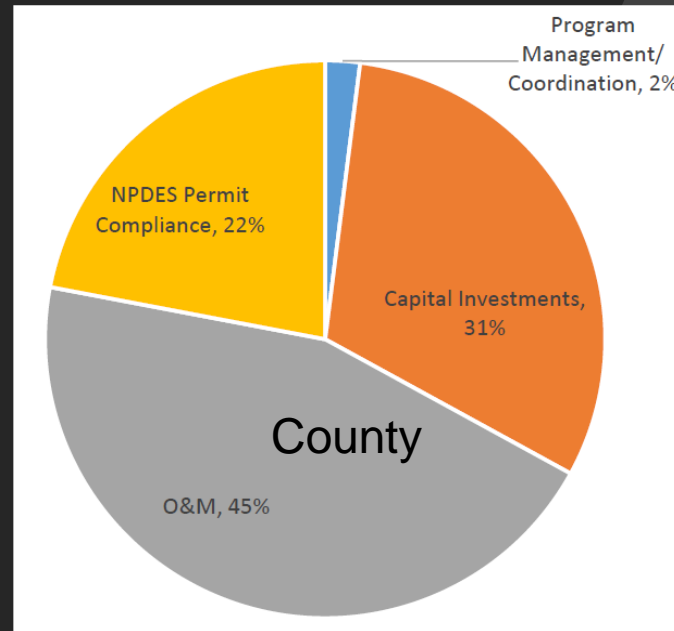
- ✓ ~\$1M O&M, ~\$100K Impacts, Roads Fund

## ■ Possible Funding Mechanisms

- ✓ Impact Fees
- ✓ General Fund
- ✓ General Obligation Property Tax
- ✓ Uniform Parcel Tax
- ✓ Special Tax
- ✓ Property Related Fee
- ✓ Special Assessment

## ■ Other Sources

- ✓ Grants
- ✓ Partnerships
- ✓ Development Fees





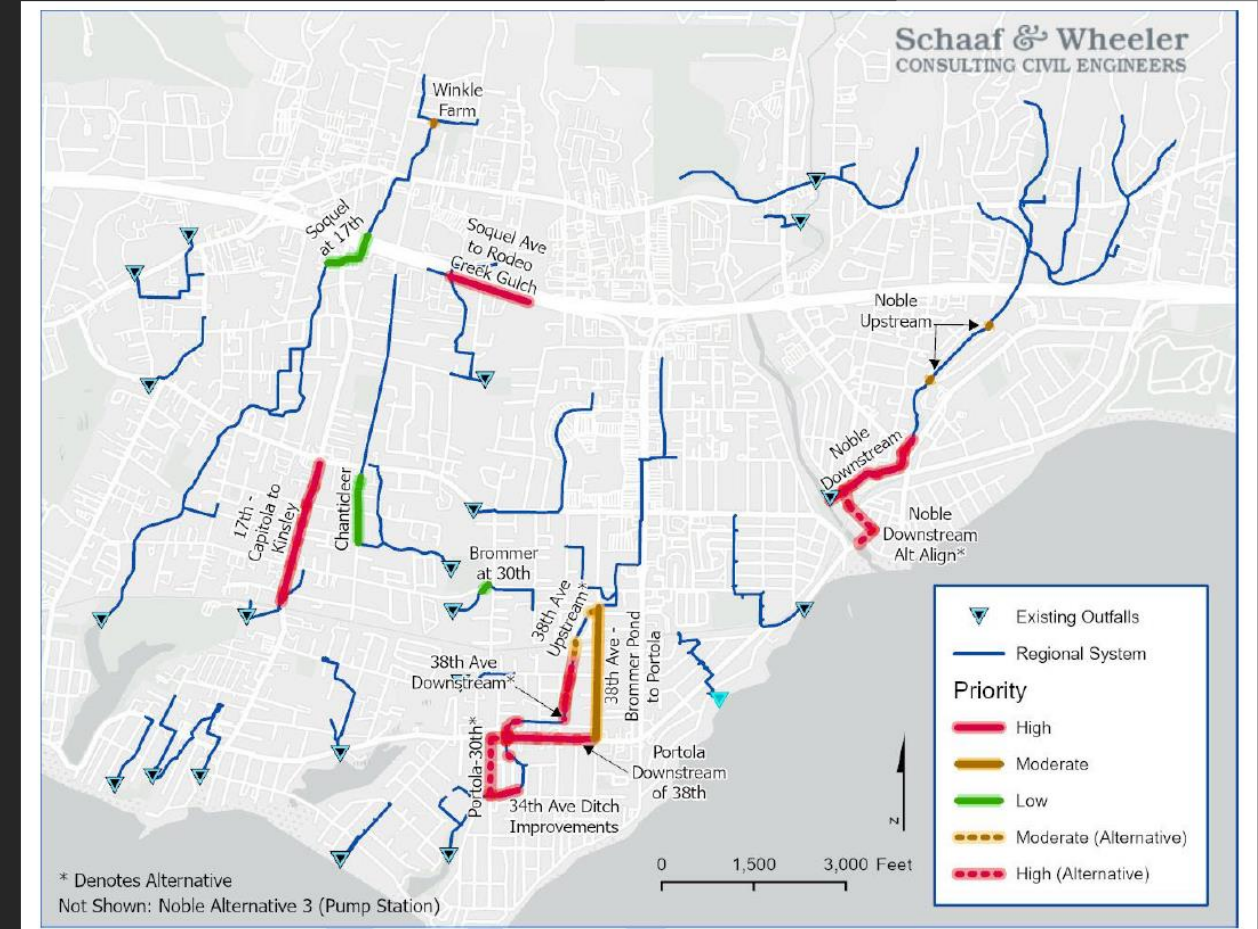
# Capacity Recommendations

## ■ Capacity CIPs

- ✓ Phase the High Priority Projects
- ✓ Study Alternatives
- ✓ Coordinate w/ Other Agencies

## ■ Condition CIPs

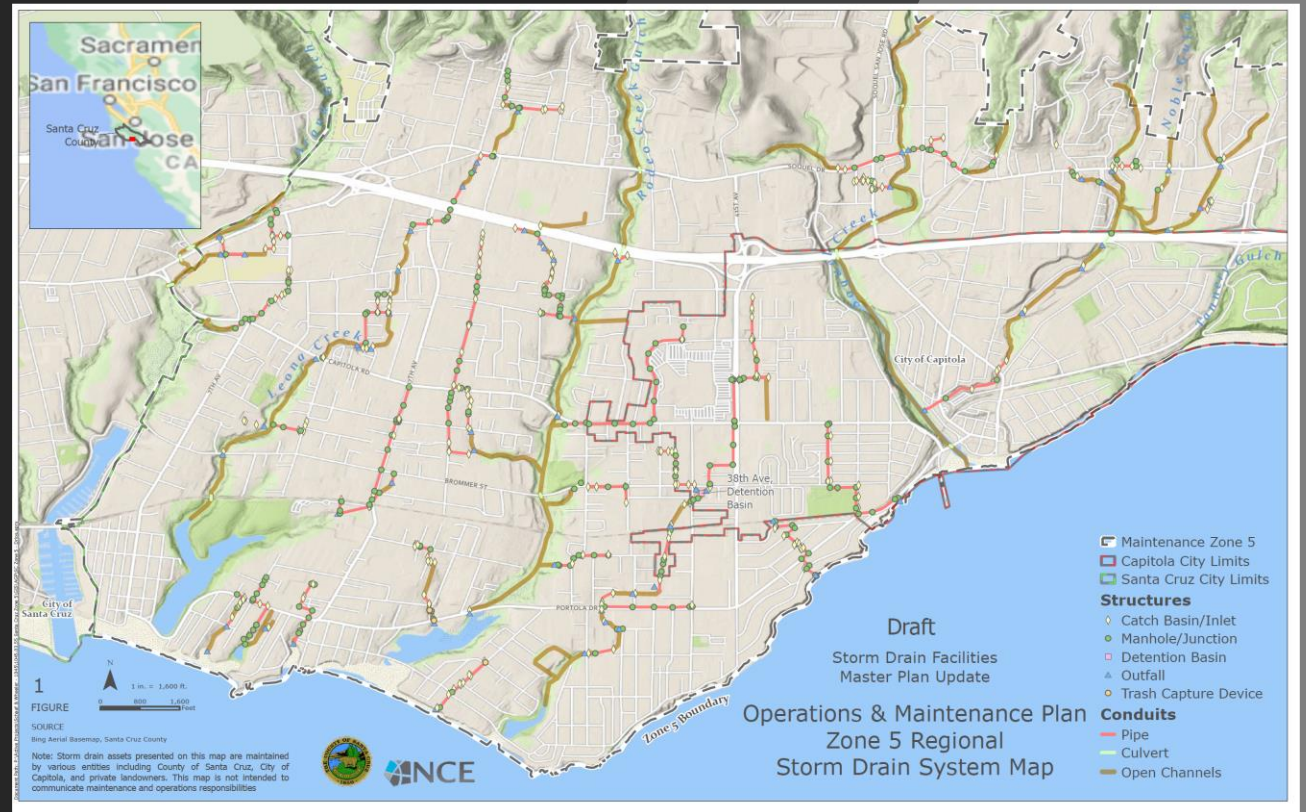
- ✓ Address Critical Issues First
- ✓ Study Alternatives
- ✓ Couple with Capacity Projects



# Operations Recommendations

## ■ O&M Program

- ✓ Implement Study Findings
  - Phased Approach
  - Get Training
  - Procedural Changes Take Time
  - Purchase and Implement Lucidity
- ✓ Reporting
- ✓ Continue to Improve Program





# Funding Recommendations

- Involve County and City Staff
- Find Best Mechanism(s)
- Public Outreach
- Identify Key Stakeholder
- Identify Champions
- Polling

## Prop 218 Process for Stormwater Fee

### Identify the Need

Assessing the revenue required to fund maintenance needs and environmental regulations.



### Provide Written Notice

Informing property owners with details about the proposed fee and public hearing schedule.



### Property Owner Election

If a majority of property owners casting ballots approve the fee, the fee may be implemented.



### Calculate the Fee

Determining the fee based on proportional cost of service.



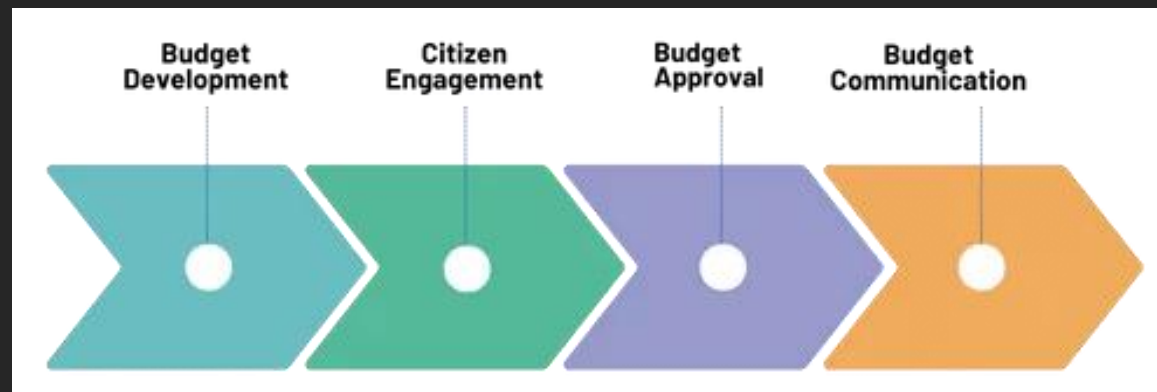
### Hold a Public Hearing

Forum for property owners to express their opinions regarding the proposed fee, submit written protests.



### Adopt the Fee

If election successful, City Council may adopt the stormwater fee.



# Next Steps

- Alternatives Analyses
- Monitor System Performance
- Start Implementing O&M Program
- Develop a Funding Strategy
- Design
- Construction

