



# CITY OF SANTA BARBARA

## COUNCIL AGENDA REPORT

**AGENDA DATE:** December 11, 2012

**TO:** Mayor and Councilmembers

**FROM:** Water Resources Division, Public Works Department

**SUBJECT:** Annual Wastewater Collection System Report

### **RECOMMENDATION:**

That Council hear a report from staff on the wastewater collection system maintenance and management activities for Calendar Year 2012.

### **DISCUSSION:**

The City operates 257 miles of wastewater collection system pipelines, the majority of which are six- or eight-inch in diameter and serve to convey wastewater to the City's El Estero Wastewater Treatment Plant. The operation of the wastewater collection system is regulated by the State Water Resources Control Board under a Waste Discharge Requirement Permit.

In December 2010, the City retained the consultant Brown and Caldwell to assess system management practices and assist with modifying those practices to reduce the sanitary system spill level. In April of 2011, Santa Barbara Channelkeeper filed a lawsuit against the City in federal district court alleging violations of the Clean Water Act. City staff and Channelkeeper agreed to the terms of a consent decree in March 2012.

As part of this agreement, City staff will present the progress on collection system maintenance and operation activities to Council each year. This is the first of those presentations. Channelkeeper will be afforded 20 minutes to address the Council at the beginning of the item.

### **BUDGET/FINANCIAL INFORMATION:**

Funding for implementation of the consent decree, along with all collection system costs, is provided through the Wastewater Fund rates. The rates were most recently increased in June 2012.

**SUSTAINABILITY IMPACT:**

Limiting overflows and accelerating the renewal of the collection system will ensure that wastewater is effectively conveyed to the El Estero Wastewater Treatment Plant for treatment.

**PREPARED BY:** Rebecca Bjork, Water Resources Manager/mh

**SUBMITTED BY:** Christine F. Andersen, Public Works Director

**APPROVED BY:** City Administrator's Office



# PUBLIC WORKS DEPARTMENT

## Water Resources Division

### Wastewater Collection System Update



*City Council Meeting*  
December 11, 2012

# Presentation Purpose

- ◆ Background and SSO Performance History
- ◆ 2012 Management Practices
- ◆ 2012 Completed CIP Activities
- ◆ 2013 CIP Activities

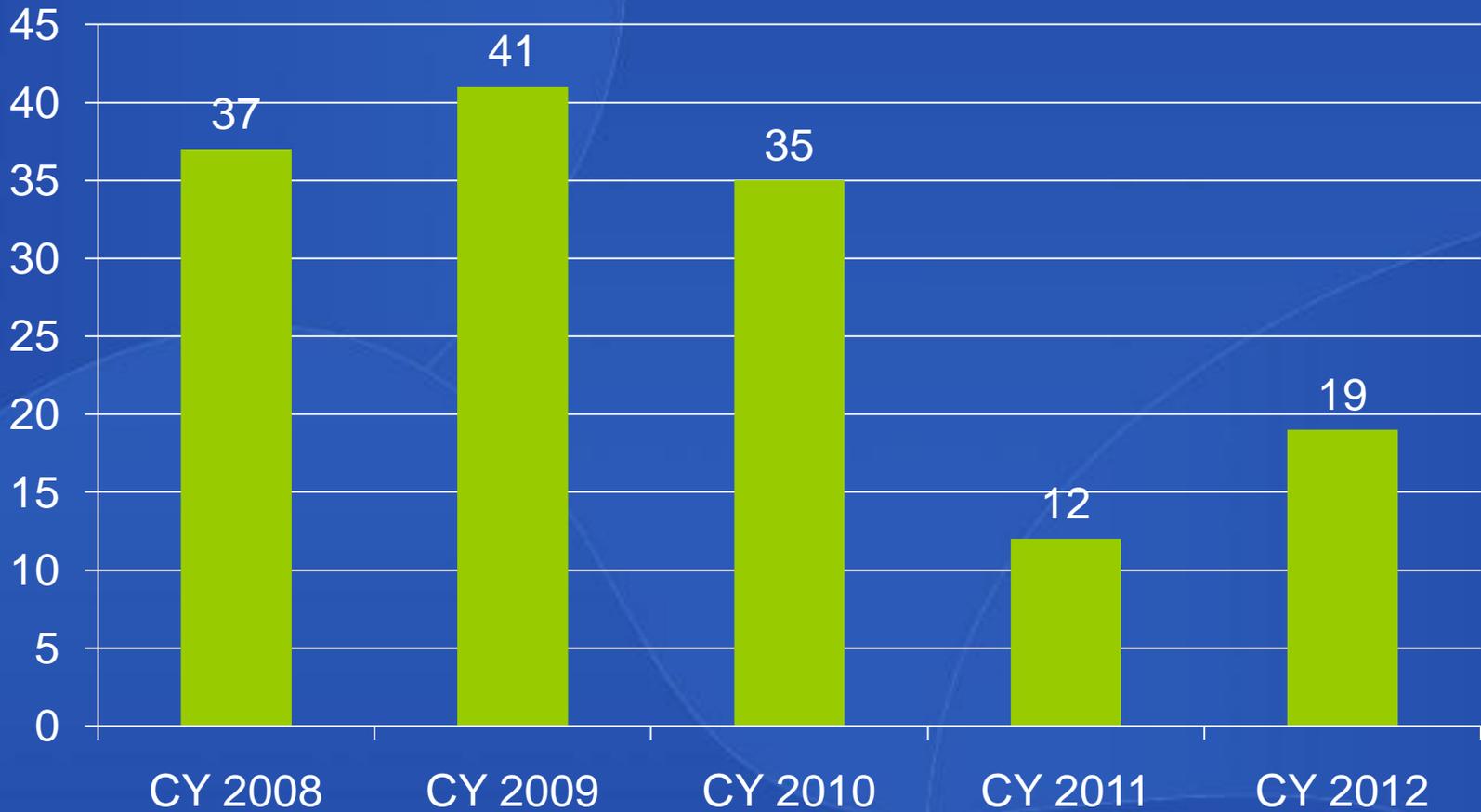


# System Information

- ◆ Dates to 1890's
- ◆ 257 miles of collection system pipe
- ◆ 9 Lift Stations

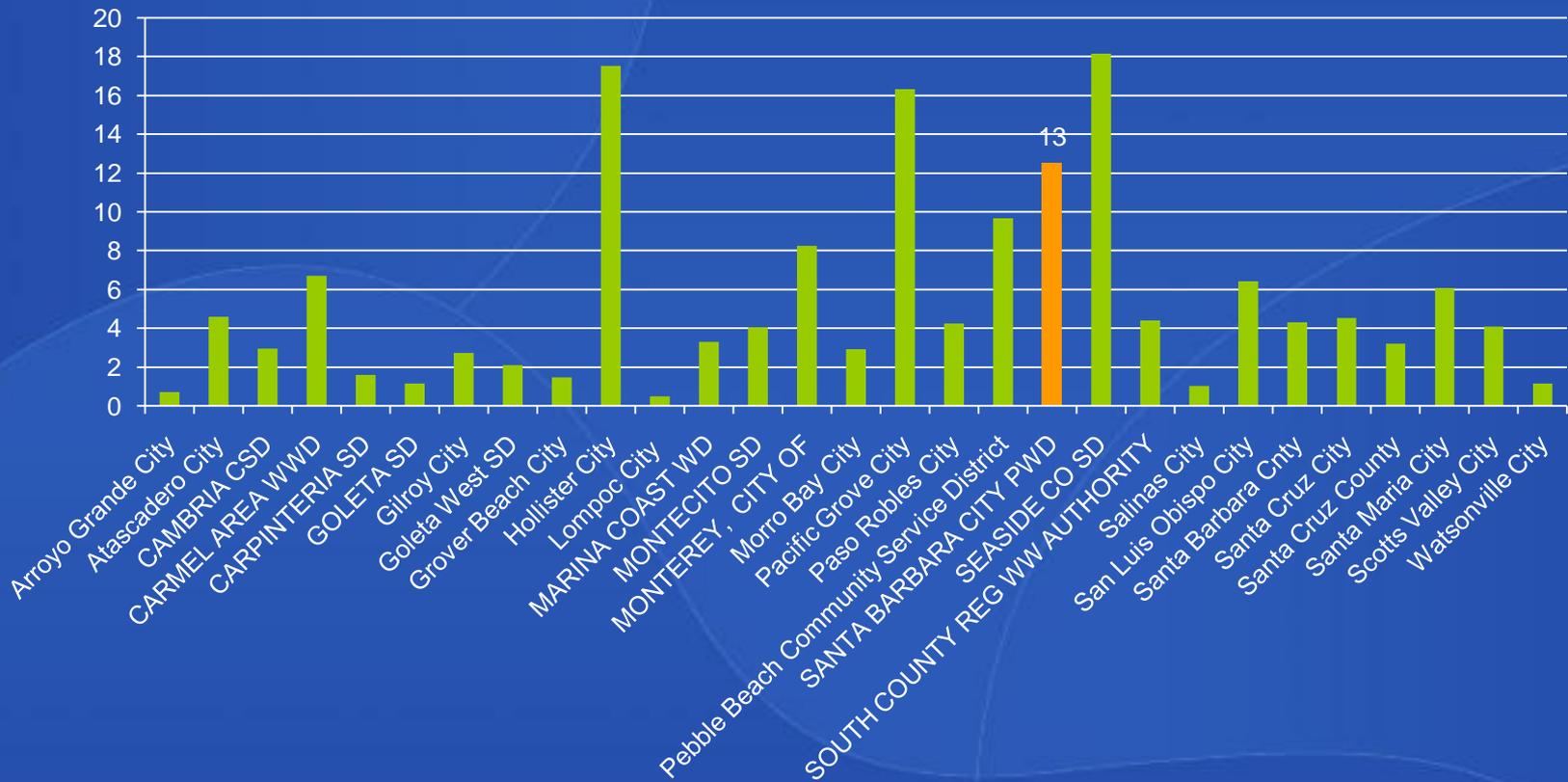


# Five Year Spill History



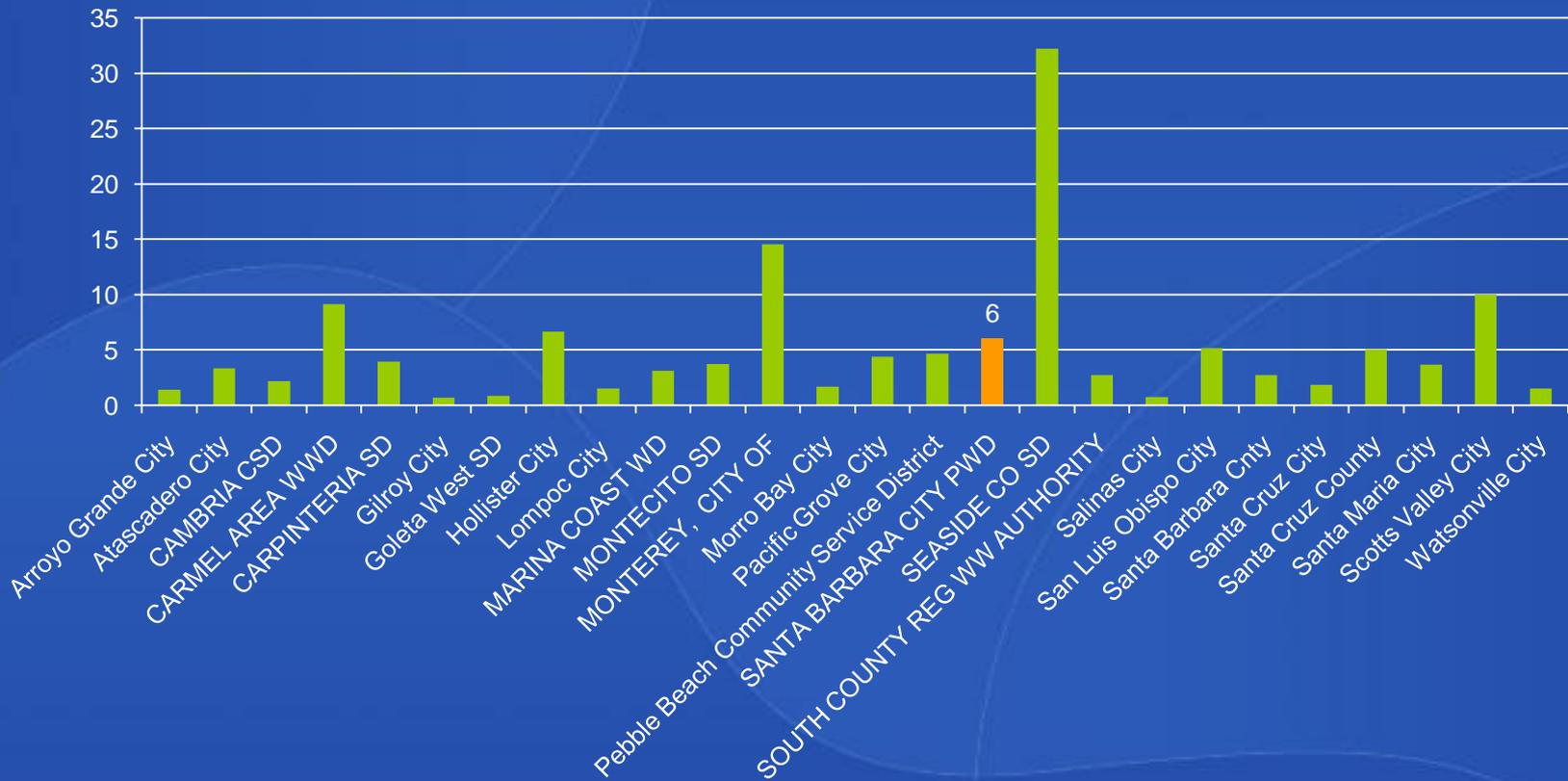
# Regional Spills

## 2007-2010 Spills Per Year Per 100 Miles of Pipe



# Regional Spills

## 2011-2012 Spills Per Year per 100 Miles of Pipe



# 2012 Spills by Cause



# December 2, 2012 Spill



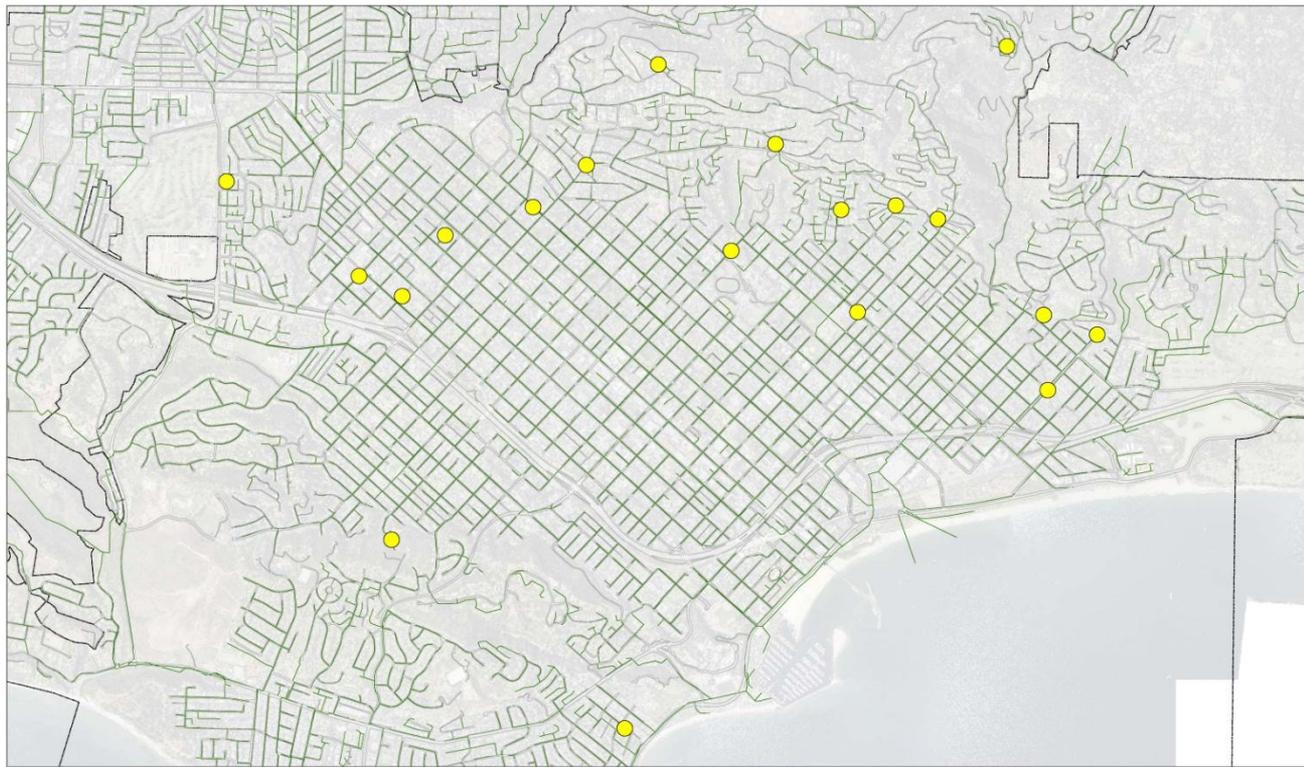


# 2012 “Other Causes”

- ◆ March 7: Private Contractor Plug
- ◆ April 7: Broken Sewer Main
- ◆ September 28: Private Contractor Debris
- ◆ November 10: City Contractor’s trowel

# Map Of 2012 Spill Locations

MAP OF CY 2012 SSO LOCATIONS



Legend

● SSO Related Pipes for 2012



# Management Practices





# Consultant Support

- ◆ WWC Strategic Management
  - Brown & Caldwell Engineering, Inc – Developed and Documented Management Practices And Related IT Support
- ◆ WWC System Modeling/Capacity Analysis Support
  - Akel Engineering, Inc – Modeled Collection System Capacity and Identified Pipe Sections for Future Capacity Improvements
- ◆ Maintenance Crew Training
  - Tilson And Associates, LLC – Quarterly Training On-site For City Collection Crews

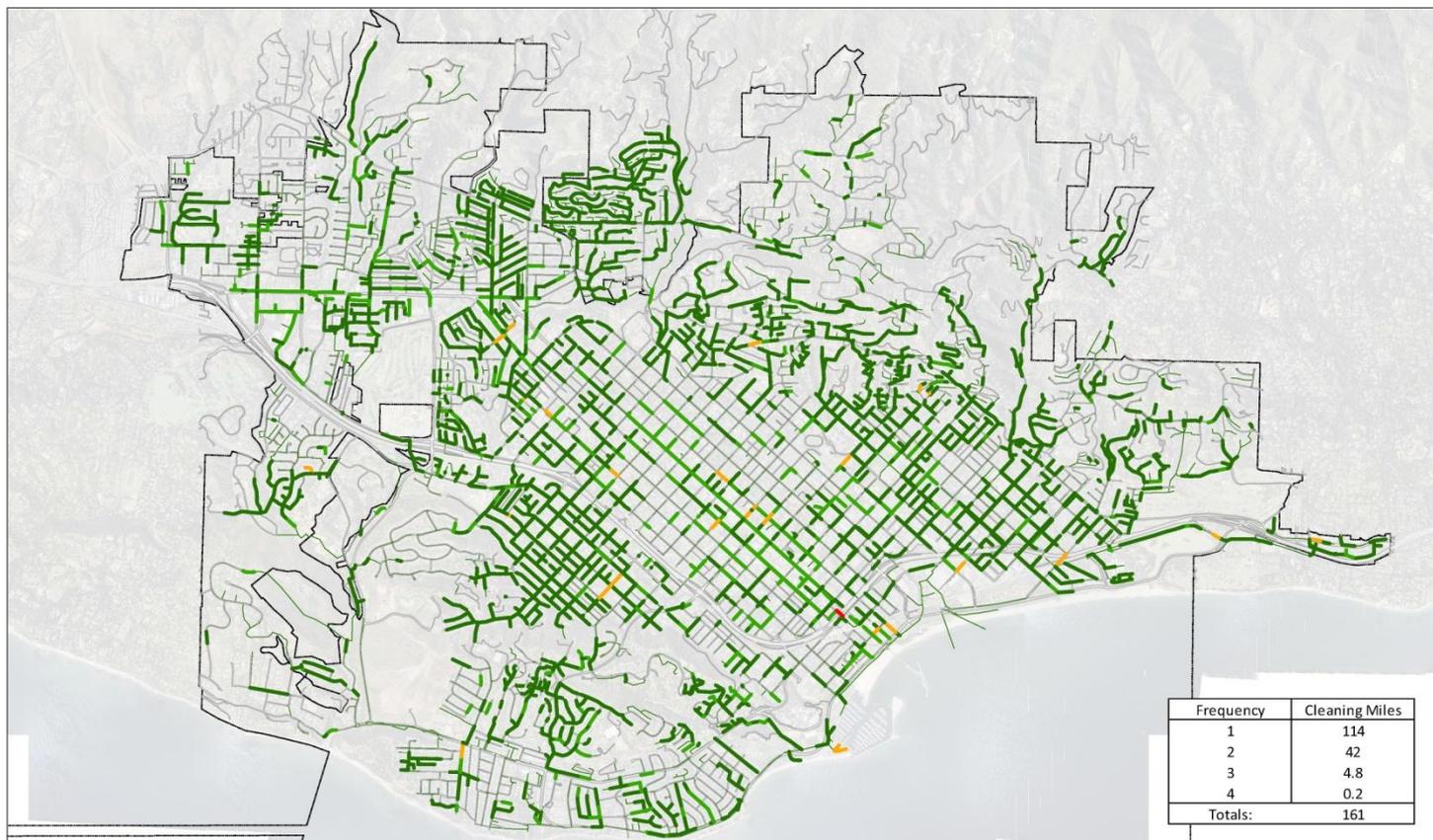
# Best Management Practices

- ◆ Spill Response & Reporting Plan
- ◆ Cleaning Program Plan



# Sewer Mains Cleaned in 2012

PIPES CLEANED IN CALENDAR YEAR 2012 BY CITY CREWS



# Best Management Practices

- ◆ Closed Circuit Television Inspection (CCTV)





# Best Management Practices

- ◆ Fats, Oil And Grease
- ◆ Information Technology Governance Plan

# Computer Software Now Used

- ◆ Cartegraph:

- Sewer Main Cleaning
- Fats, Oil and Grease Program
- SLIP Activities
- Spill Activities



- ◆ Geographical Information System:

- Sewer Activity Mapping and Reporting

- ◆ Pipeline Observation System Management (POSM):

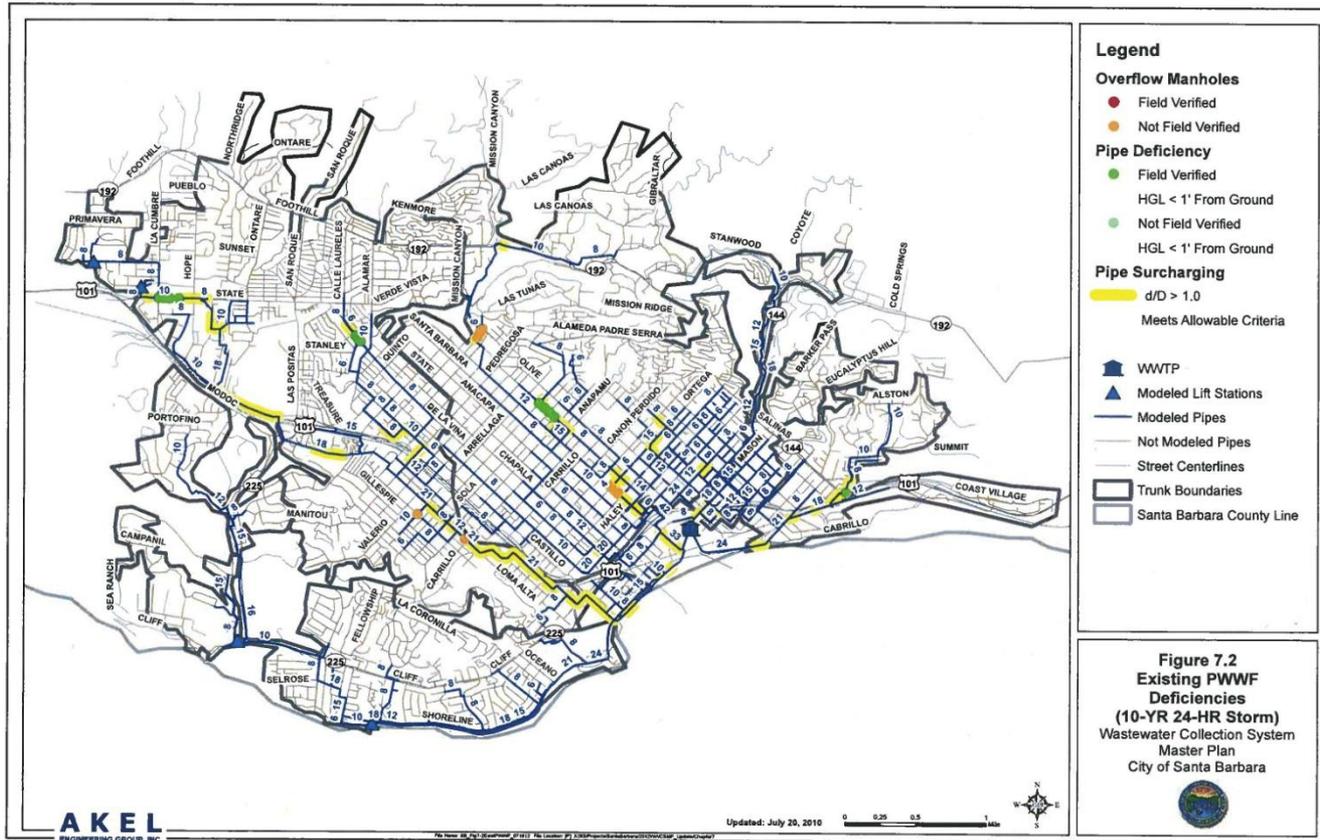
- Inspection Video Capture, Analysis, Reporting



# Best Management Practices

- ◆ Capital Improvement Program
  - Capacity Assurance
  - Lift Station and Force Main Condition Assessment
  - Annual Rehab and Repair
  - Exfiltration Abatement Program Plan
- ◆ Sewer System Management Plan

# Capacity Plan Locations



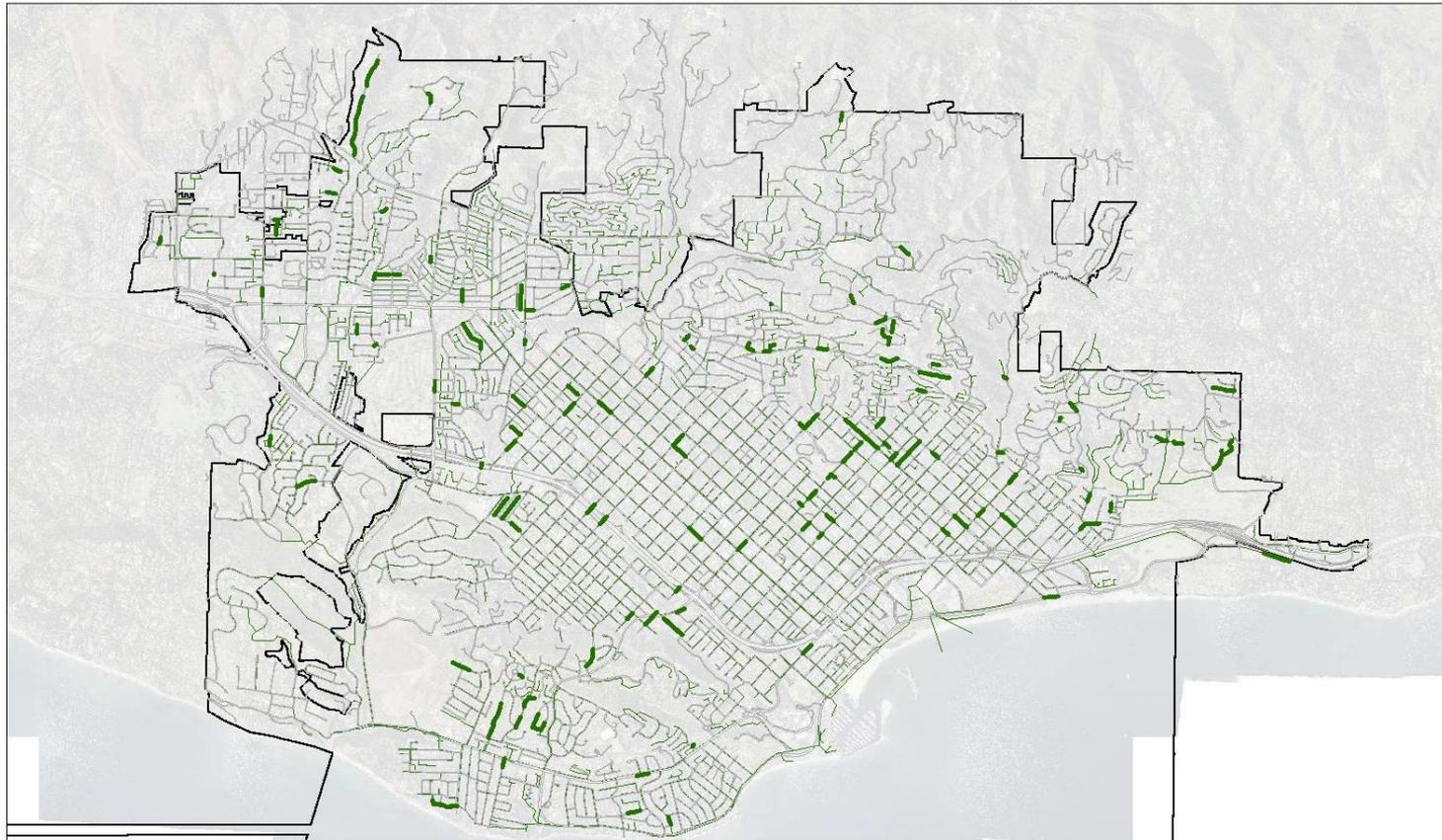


# 2012 Accomplishments

- ◆ Completed Survey Contract: Updated GIS Elevation Data for Select Locations
- ◆ Catalogued Pipes in Proximity to Storm Drains
- ◆ Completed Large Diameter Pipe CCTV Contract
  - Six Miles of 20" to 42" Diameter Pipe
- ◆ Completed Conejo Road Sewer Main Improvements
- ◆ Plan and Bid FY 2013 Exfiltration Abatement Construction Contract
- ◆ Repaired or Rehabilitated 4.01 Miles of Pipe

# FY 12 Rehab & Repair

FY12 WASTEWATER MAIN REPAIR AND REHABILITATION PIPE LOCATIONS  
(WORK COMPLETED IN FISCAL YEAR 2012)



**Legend**

-  FY2012 Wastewater Main Repair and Rehabilitation Locations
- Calendar Year 2011 Mileage = 4.73 mi
- Calendar Year 2012 Mileage = 4.01 mi



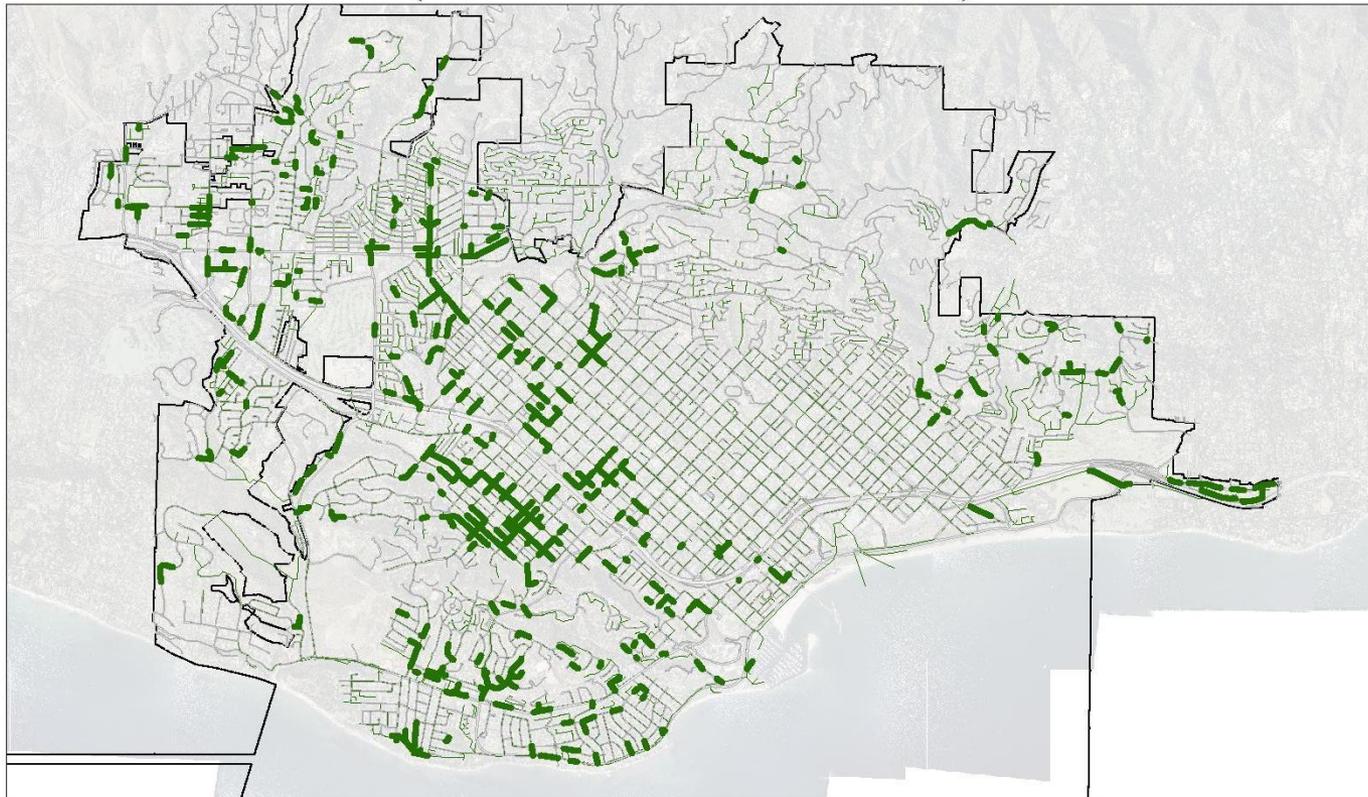
# Planned 2013 Work

- ◆ Conduct CCTV Consultant Contract Work for 25 Miles of Sewer Main
- ◆ Complete 2 Miles of Exfiltration Abatement Pipe Rehabilitation
- ◆ Complete 2.6 Miles of Regular Sewer Main Pipe Repair, Rehabilitation or Replacement
- ◆ Complete Priority Lift Station Projects
- ◆ Continue Special Collection System Projects
  - Rattlesnake Creek Sewer Main Crossing
  - Camino De La Luz Sewer Main Crossing
  - La Entrada Hotel Sewer Infrastructure Evaluation



# Collection System CCTV 2013

MAP OF FY 2013 CCTV INSPECTION LOCATIONS  
(WORK TO BE COMPLETED IN EARLY 2013)



Legend

— FY 2013 CCTV Locations





# Questions?





## ◆ Extra Slides Follow



# Channelkeeper Comments:

- ◆ Channelkeeper is pleased that we were able to work cooperatively with the City to forge an effective and proactive solution to Santa Barbara's sewage pollution problem.
- ◆ Our agreement is a win-win-win for Channelkeeper, the citizens of Santa Barbara, and the environment.



# Summary

- ◆ City of Santa Barbara Has Successfully Implemented Wastewater Collection System Management, Engineering, and Construction Activities in CY 2012
- ◆ CY 2013 Holds Significant Promise For Continued Successful Wastewater Collection System Performance



# Background

- ◆ System Size: 257 Miles
  - 80% Consists of 6" & 8" Diameter Pipe
- ◆ Pipe Age:
  - Pre-1962 – 62%
  - 1960 to 1999 – 33%
  - 2000 to Present – 4%
  - Unknown – 1%

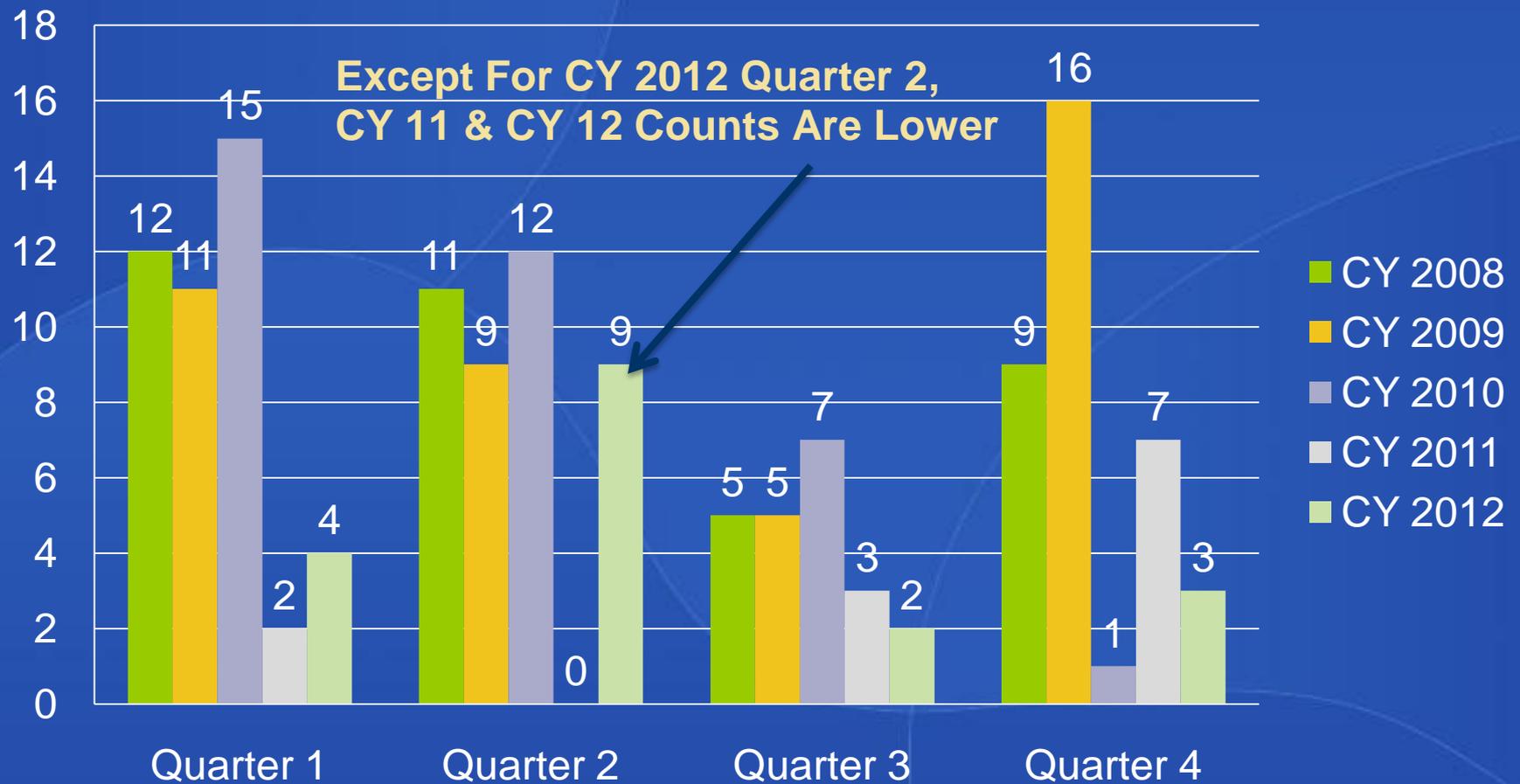


# Background

- ◆ Pipe Material:
  - VCP – 78%
  - PVC – 21%
  - Ductile Iron Or RCP: 1%
- ◆ Nine Sewer Lift Stations:
  - 7 City Owned and Maintained
  - 2 County Owned and City Maintained

# Five Year Quarterly SSO Events

## SSO Events by Quarter



# Collection System Expenditures

| Program                         | Cost Year To Date | Projected Total |
|---------------------------------|-------------------|-----------------|
| Operations and Maintenance      | \$1,643,618       | \$2,451,947     |
| Accelerated Pipe Rehabilitation | \$ 2,727          | \$ 477,727      |
| Pipe Rehabilitation & Repair    |                   |                 |
| Lift Station Maintenance        | \$ 8,005          | \$ 8,005        |
| Legal Costs                     |                   |                 |
| Total                           | \$                | \$              |



# Sewer Lateral Inspection

- ◆ 41 Sewer Laterals repaired
- ◆ 79 OK
- ◆ 12 In Process