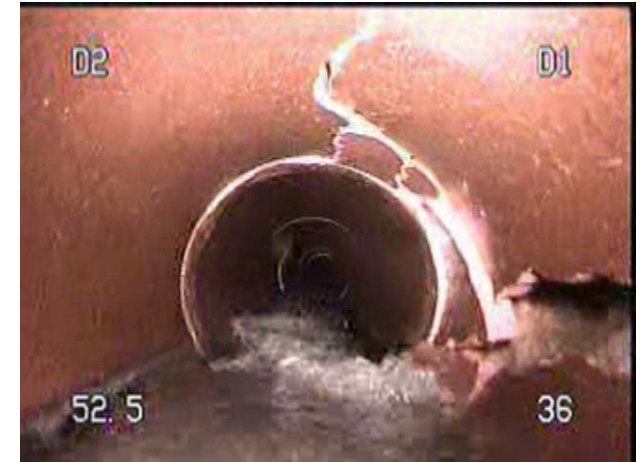




Asset Management Principles

BPU Study Session
February 21, 2019



OUR FUTURE IN EVERY DROP



Outline

- What is an Asset?
- Water Department Assets
- Why Asset Management?
- What is Asset Management?
- How do we get from Asset Management to Project Development?
- Questions?

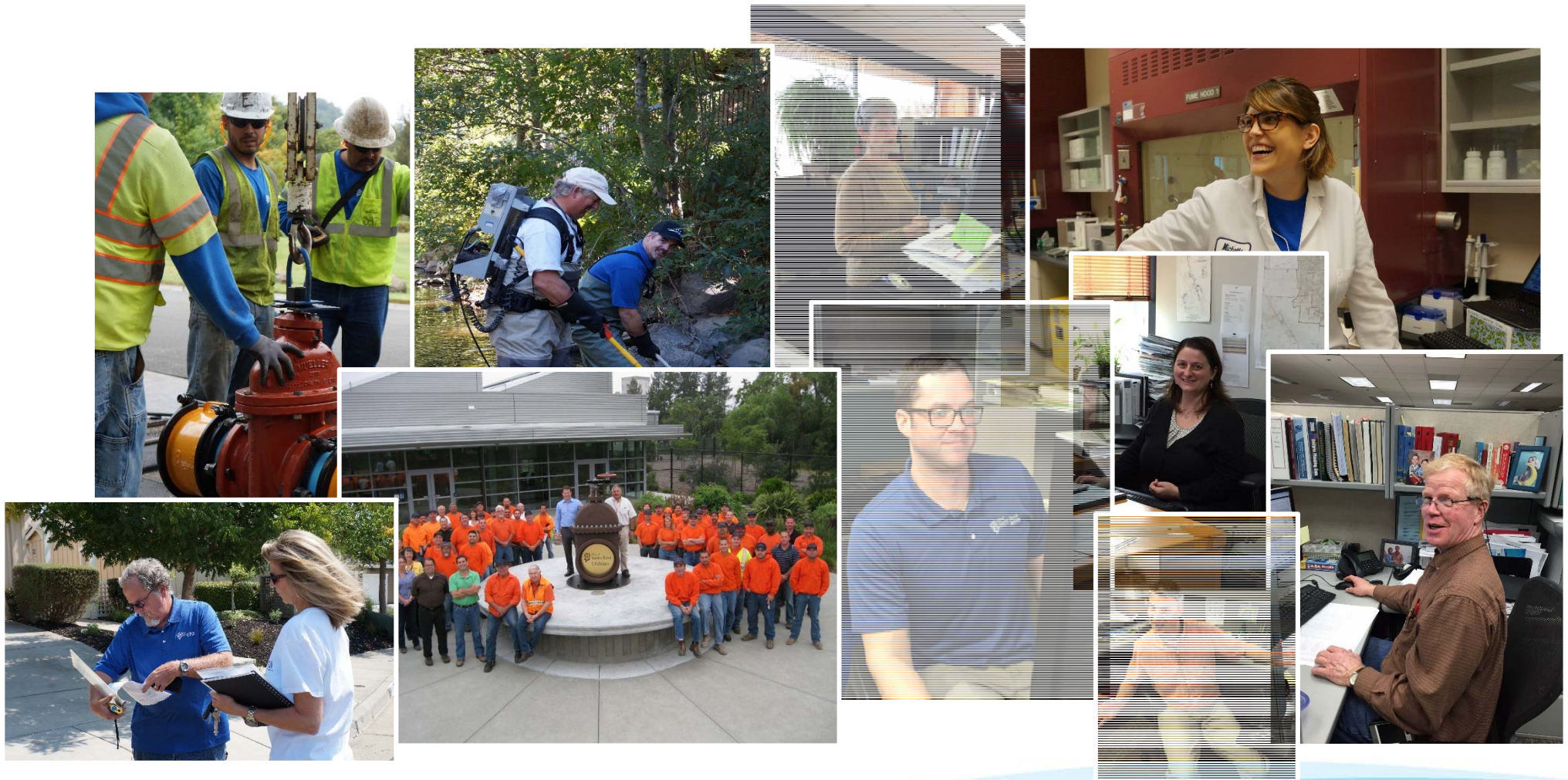
What is an Asset?

as·set—noun

1. *a useful or valuable thing, person, or quality*



Water Department's Biggest Asset



Local Water Assets

- 622 Miles of Transmission and Distribution Mains
- 28,731 Water Valves
- 6,412 Hydrants
- 23 Reservoirs
- 20 Booster Stations



Local Sewer Assets

- 594 Miles of Trunks and Collection Mains
- 17 Sewage Lift Stations
- 12,250 Sewer Manholes



Increasing Challenges

- Regulatory compliance
- Aging assets
- Customer demands
- Security
- Financial constraints
- Loss of institutional knowledge
- Climate change
- Emergency response
- Resiliency / Redundancy



Why Asset Management?

- Programmatic Approach
- No Surprises
- Right Decisions
- Right Time



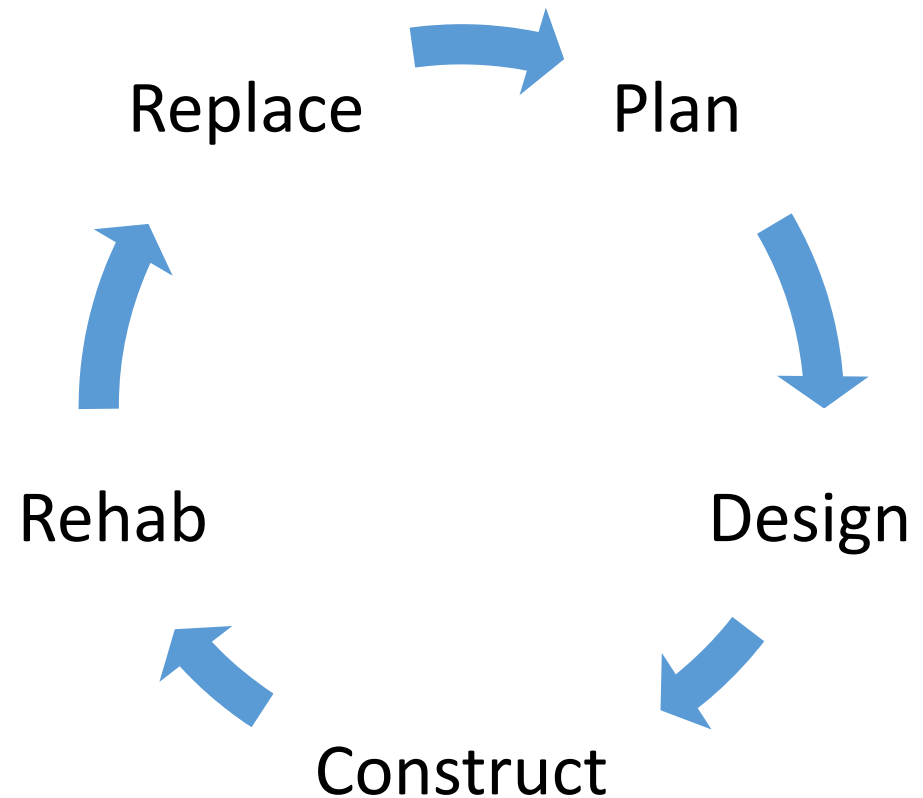
Why Asset Management?

- Which **capital projects** to undertake, when, and why?
- What asset information should our **operations and maintenance** crews be tracking and why?
- When to **repair**, when to **refurbish**, and when to **replace**?
- To give our **customers** the **best value**

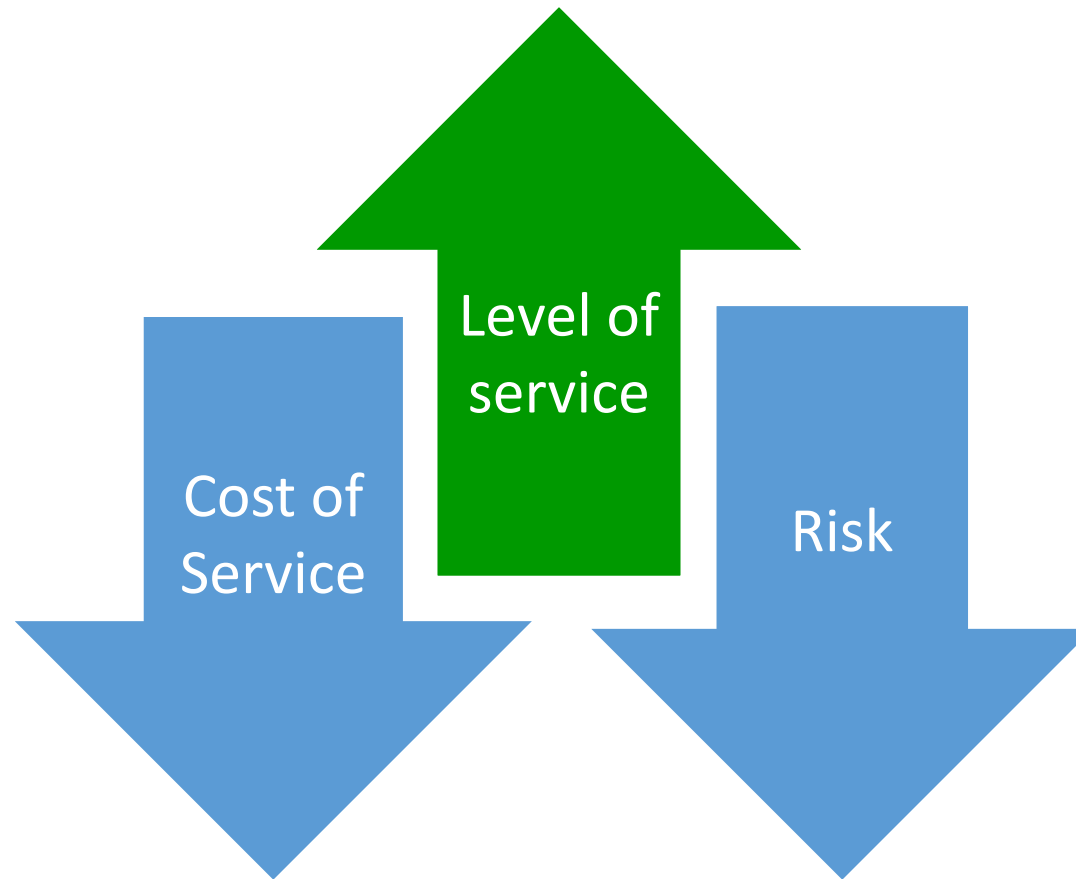


What is Asset Management?

- Not software
- Management Commitment
- Long Term Financial plan
- Project Development
- Based on life cycle of assets
- Software used to analyze and track assets



Comprehensive Asset Management

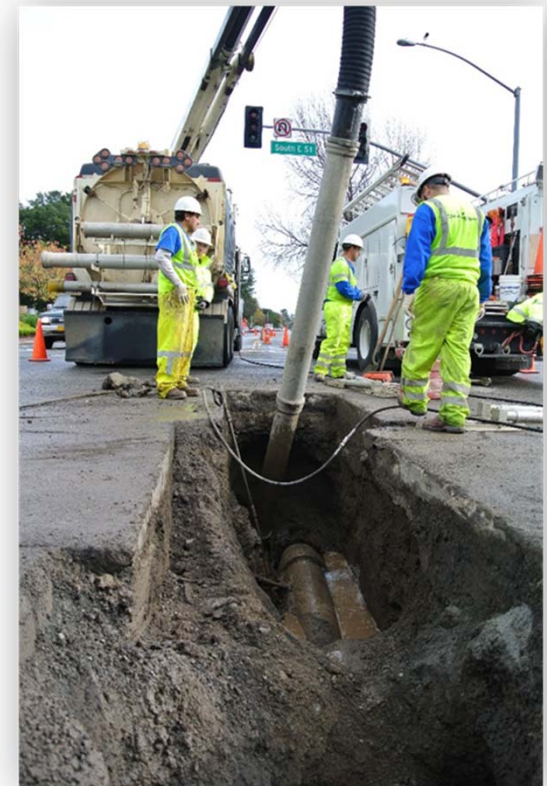


How do we get from AM to Project Development?

- Comprehensive Asset Management
 - Data
 - Asset Inventory
 - Maintenance Management System
 - Standardized Criteria
- Leads To Data Driven Decisions
 - Project Development
 - 5 Year CIP Program
 - O&M Budgets

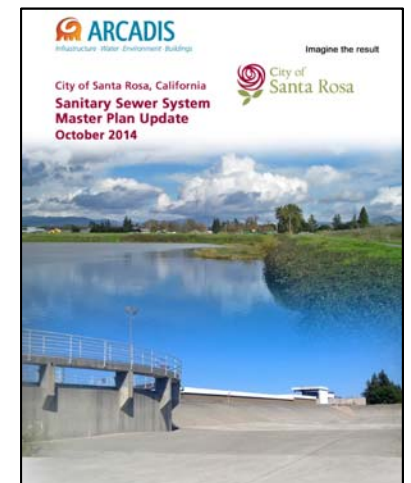
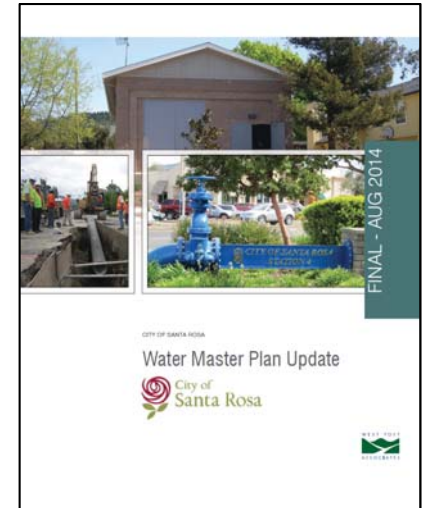
Project Development Process

1. Review Master Plans
2. Update asset scores
3. Assess risks
4. Establish new scores
5. Rank priorities
6. Reality check
7. Develop CIP based on funding



Standardized Criteria

- Regulatory Requirements
- Legal Mandates
- Condition Assessment
- Operations Maintenance History
- General Plan and Master Plans
- Public Input
- Street Rehabilitation and Maintenance
- Proximity to Other Assets



Asset Scoring Process

CONDITION

- Remaining Service Life
- CCTV-Pipe Condition
- Number of repair work orders
- Number of schedule maint

PERFORMANCE

- Hydraulic Capacity
- Flush Score
- Slope

RISK

- Seismic Activity
- Fire Flow Deficiencies
- Creeks
- Hwy Right of Way
- RR XINGS

Asset Scoring Process

CONDITION

+

PERFORMANCE

+

RISK

=

TOTAL SCORE

Condition Assessment

- CCTV
 - assess condition of sewer pipes
 - identifies deteriorated sewer pipes that need replacement



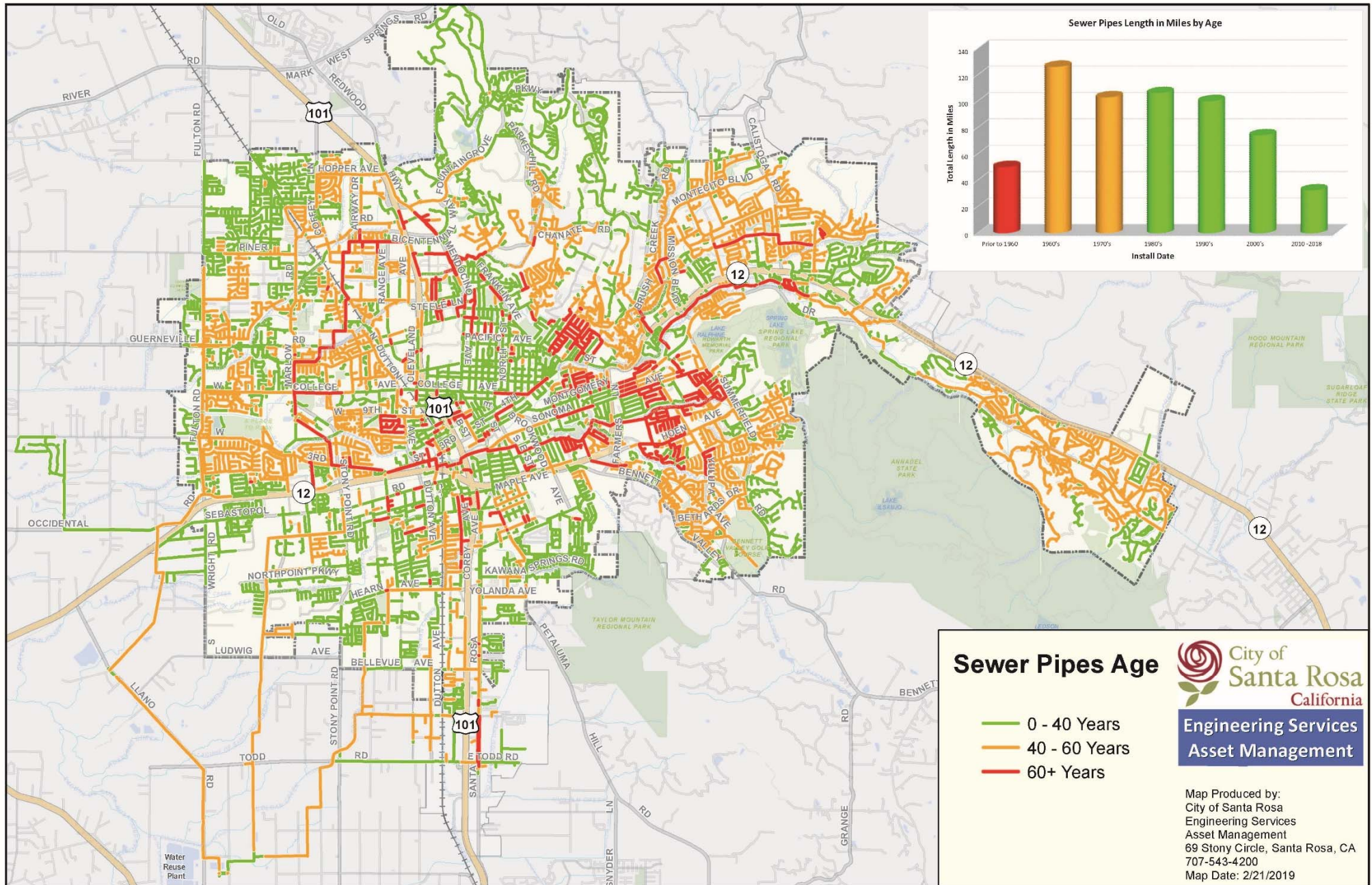
Residual Life

Remaining Service Life

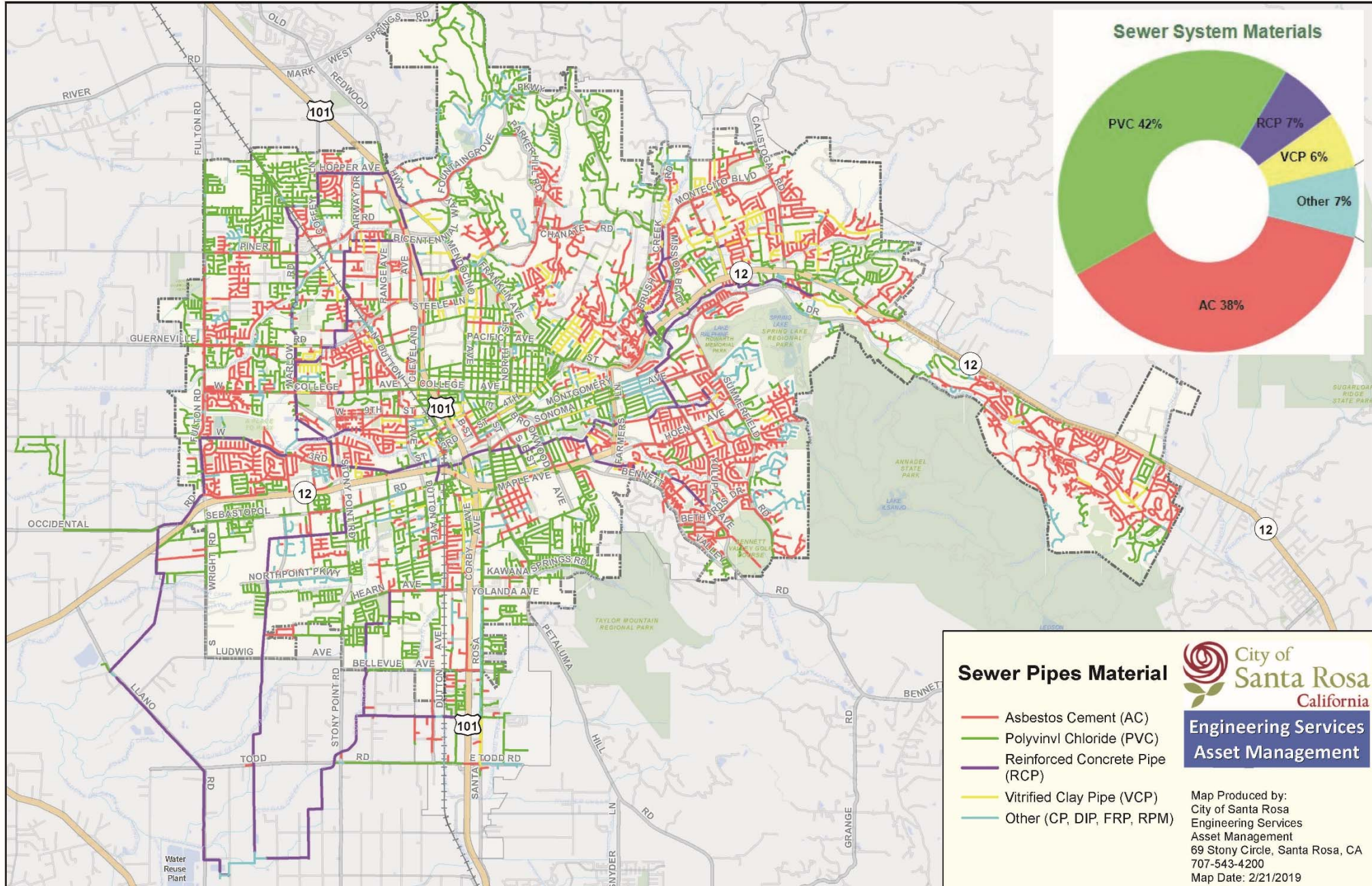
Sanitary Sewers

Material Type		Description	Estimated Service Life
PVC		POLYVINYL CHLORIDE	100
PE		POLYETHYLENE	100
DIP		DUCTILE IRON PIPE	80
AC		ASBESTOS CEMENT	65
CAS		CAST IRON	75

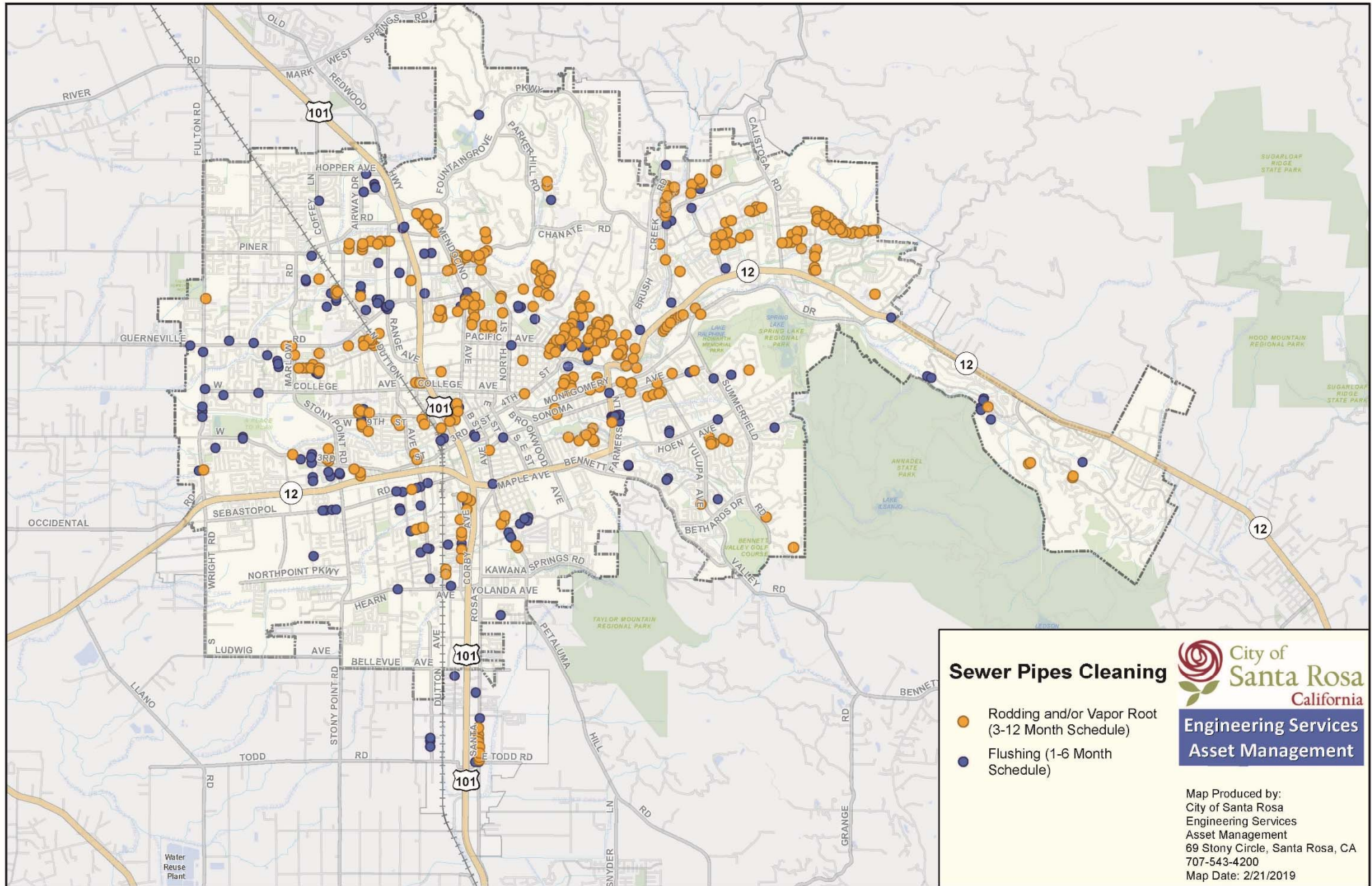
Sewer Collection System by Age



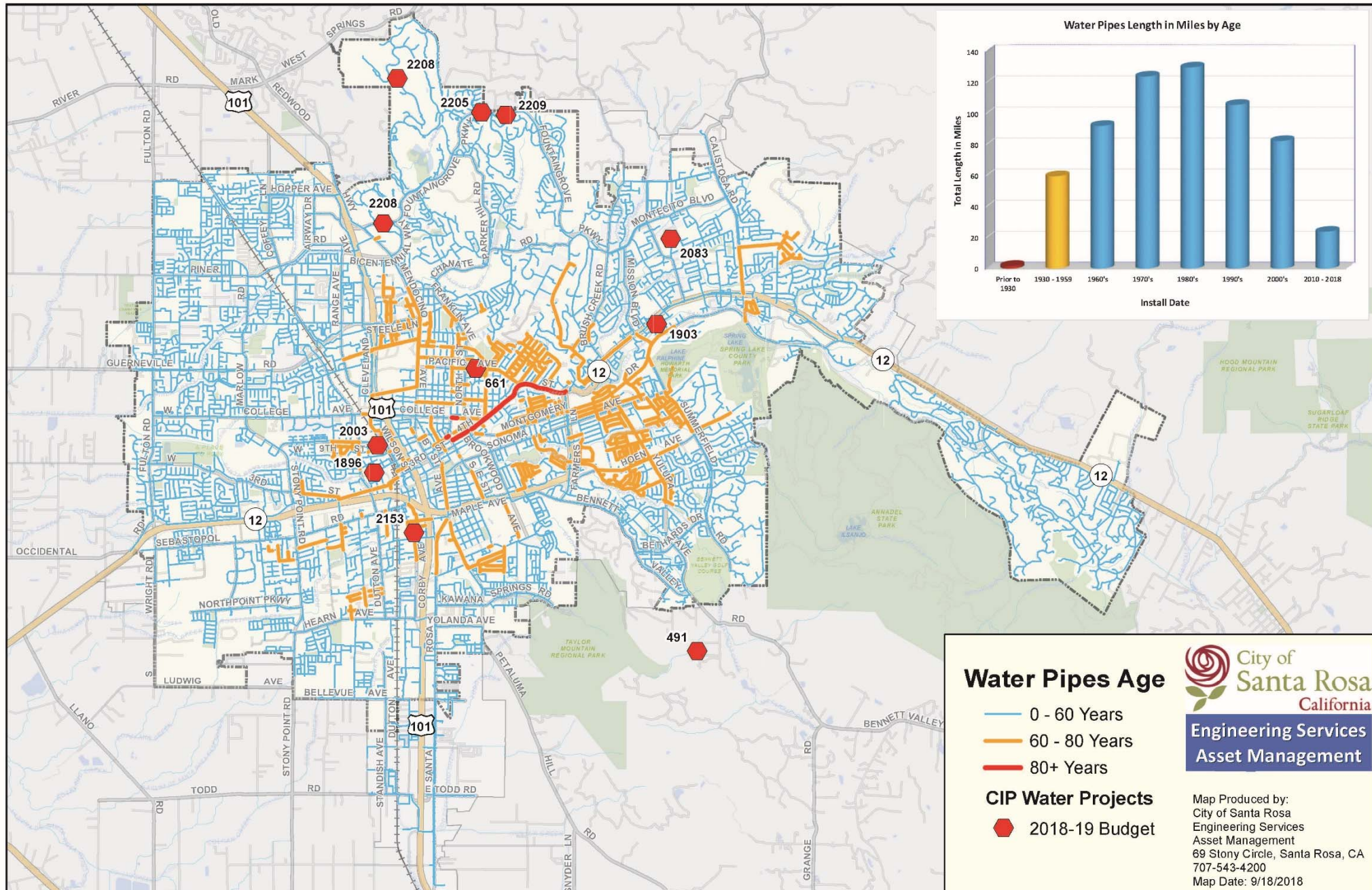
Sewer System by Material



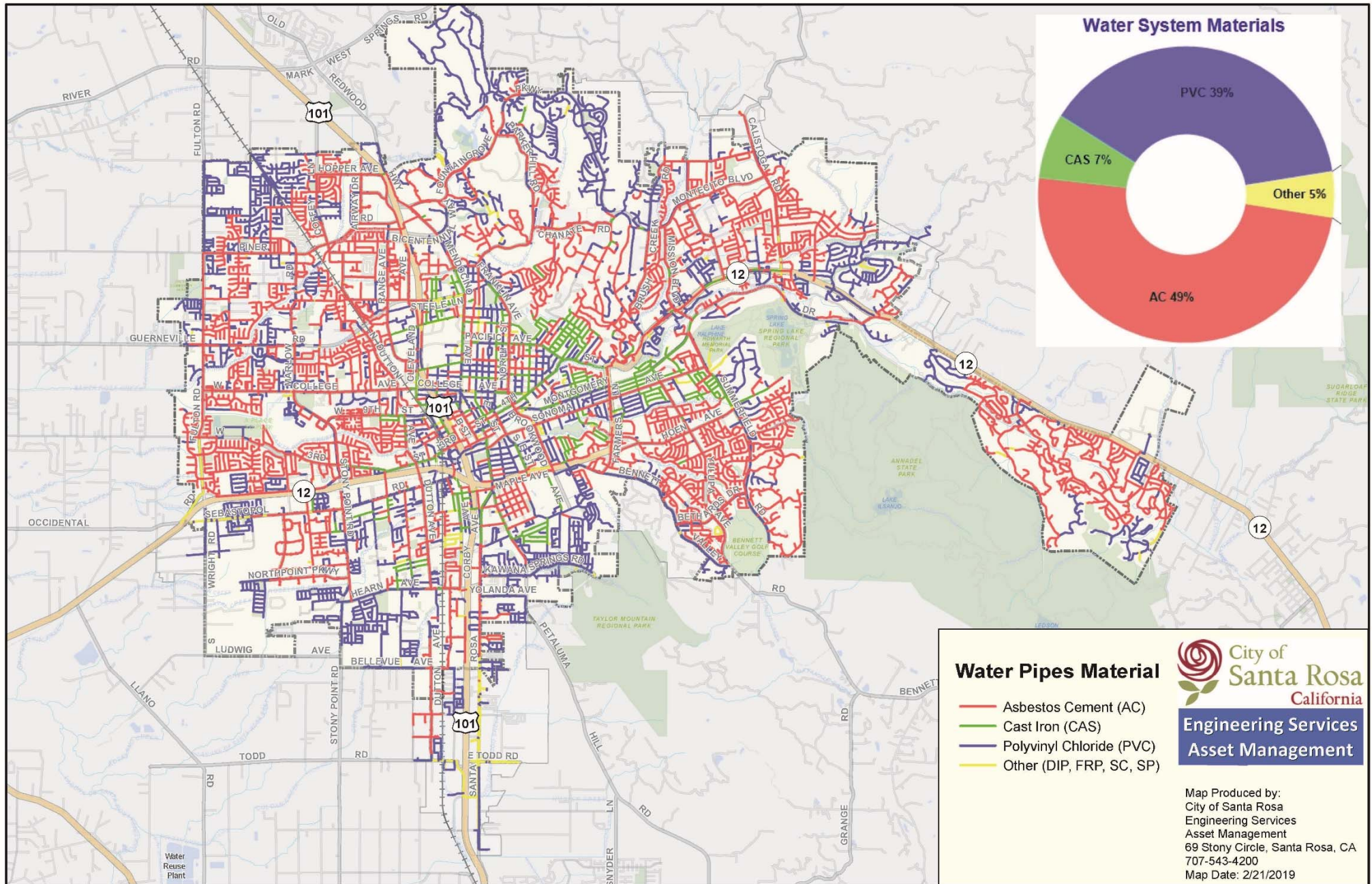
Sewer System Scheduled Maintenance



Water System by Age



Water Systems by Material



Regional Water Reuse System

- Laguna Treatment Plant
- Laboratory
- Reclamation
- Geysers
- Biosolids



Regional Water Reuse System

Master Plan (draft)

- Condition Assessments
- Agreements, Contracts, Permits
- Regulatory Requirements
- Project Prioritization
- CIP Project Identification
- 10 Year + Horizon
- Risks
- Opportunities
- Strategies





Questions?