2020 SEWER MASTER PLAN UPDATE

Temporary Flow Monitoring, Inspection and Condition Assessment, Sanitary Sewer Master Plan Update, and Ongoing Sewer System Modeling

Board of Public Utilities | November 21, 2019

Jason Roberts, PE | Associate Civil Engineer

Santa Rosa WATER

OUR FUTURE IN EVERY DROP

Background

- Master Plan Updates on ~5-yr cycle
- Previous Master Plan Update by Arcadis in 2014
- Previous Flow Monitoring Data from 2007-2008

Project Objectives

- Provide Summary of Critical Assets
  - Capacity Assessment
  - Condition Assessment
- Prioritize Sewer System Improvements
- Inform CIP Development
- 2nd Round of Inspections for Riverwatch Settlement
  Due 2021 & 2023

An Integrated Approach

<u>Scope of Work Includes Four Traditional Projects</u>

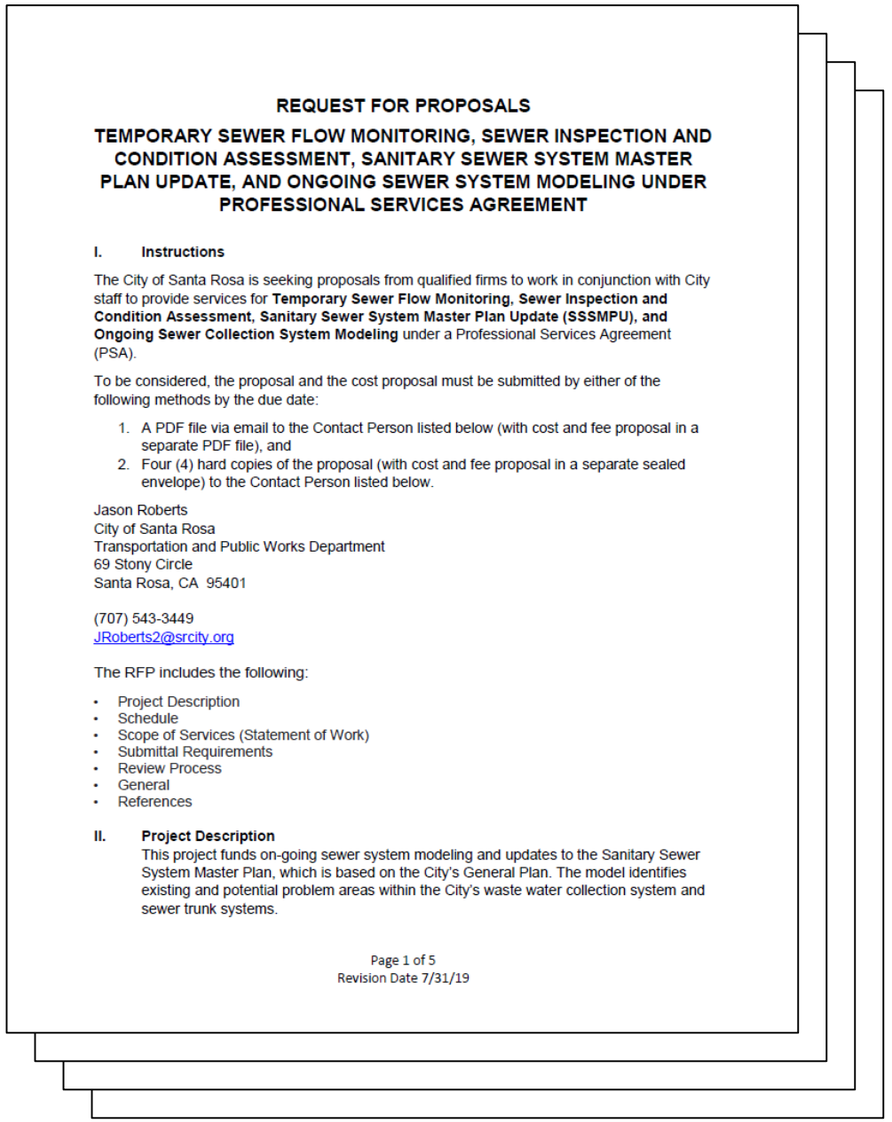
1. Temporary Flow Monitoring
2. Inspection and Condition Assessment
3. Sanitary Sewer System Master Plan Update
4. On-Call Modeling Support

<u>This Approach Consolidates Work Under A Single Consultant Contract</u>

- Greater Efficiency in Communication and Execution of Work
- Cost Savings From Less City Overhead

The RFP Process

- Advertised on August 1, 2019
- Professional Services Agreement or Project Work Order
- Proposals submitted August 27, 2019
  - Three Proposals Received
- Woodard & Curran Selected on September 11, 2019
- Fee Estimate
  - Base $1,735,155
  - Ongoing $199,941
  - Optional $198,212
  - **Total** **$2,133,308**



REQUEST FOR PROPOSALS

TEMPORARY SEWER FLOW MONITORING, SEWER INSPECTION AND CONDITION ASSESSMENT, SANITARY SEWER SYSTEM MASTER PLAN UPDATE, AND ONGOING SEWER SYSTEM MODELING UNDER PROFESSIONAL SERVICES AGREEMENT

I. Instructions

The City of Santa Rosa is seeking proposals from qualified firms to work in conjunction with City staff to provide services for **Temporary Sewer Flow Monitoring, Sewer Inspection and Condition Assessment, Sanitary Sewer System Master Plan Update (SSSMPU), and Ongoing Sewer Collection System Modeling** under a Professional Services Agreement (PSA).

To be considered, the proposal and the cost proposal must be submitted by either of the following methods by the due date:

1. A PDF file via email to the Contact Person listed below (with cost and fee proposal in a separate PDF file), and
2. Four (4) hard copies of the proposal (with cost and fee proposal in a separate sealed envelope) to the Contact Person listed below.

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Transportation and Public Works Department
69 Stony Circle
Santa Rosa, CA 95401

(707) 543-3449
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The RFP includes the following:

- Project Description
- Schedule
- Scope of Services (Statement of Work)
- Submittal Requirements
- Review Process
- General
- References

II. Project Description

This project funds on-going sewer system modeling and updates to the Sanitary Sewer System Master Plan, which is based on the City's General Plan. The model identifies existing and potential problem areas within the City's waste water collection system and sewer trunk systems.

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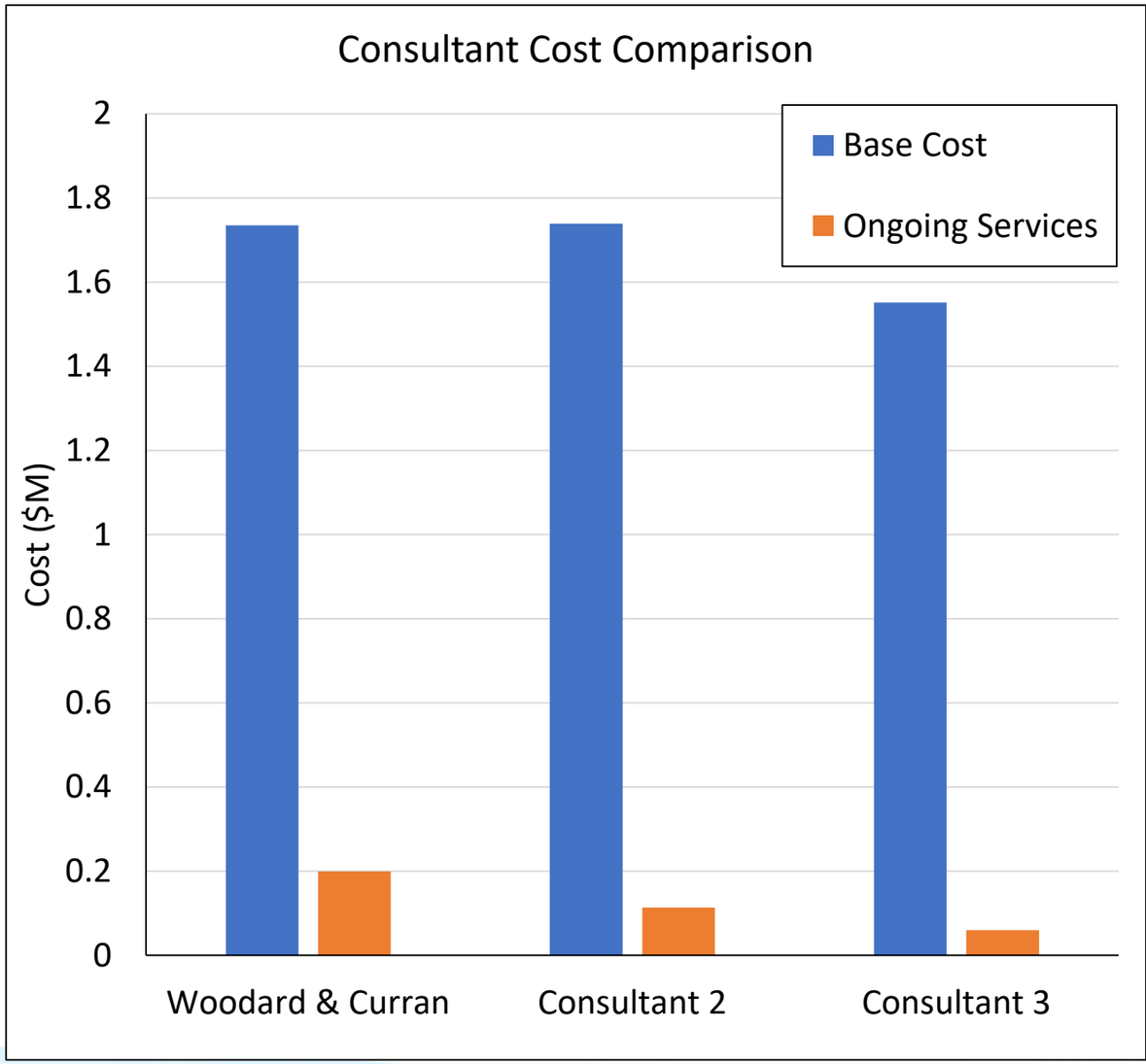
Revision Date 7/31/19

Consultant Cost Comparison

- Base Cost – *Apples to Apples*
  - W&C Base Cost was:
    0.1% lower and 11% higher than others
- Ongoing Services
  - 40% to 70% higher
  - Conservative assumption of labor required
- Optional Tasks
  - W&C proposed additional flow meters



Woodard & Curran Selection

- Comprehensive Understanding of City Needs
- Impressive List of Comparable Projects
- Work Plan Exhibited Superior Approach in Key Service Areas:
  - Flow Monitoring
  - Condition Assessment
  - Sanitary Sewer Modeling
- Selection of Highly Skilled Project Team

Services

Base Services

- Temporary Flow Monitoring
- Sewer System Model Development
- Inspection and Condition Assessment
- Review of City's Sewer Inspections
- Sanitary Sewer System Master Plan Update

Ongoing Services

- On-Call Modelling Support
- Sewer Model Updates

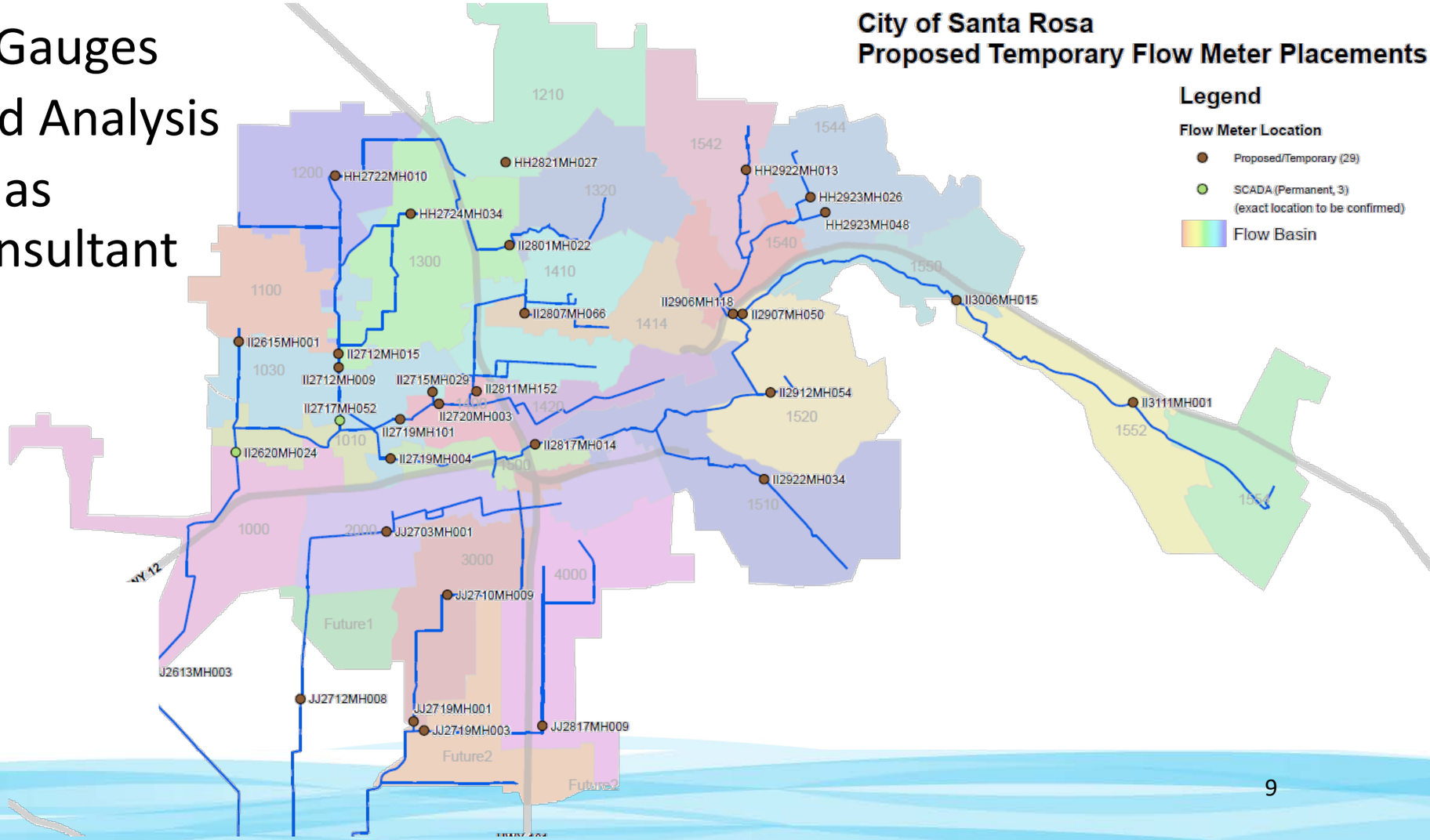
Optional Tasks (Flow Monitoring)

- Additional Flow Meters & Model Calibration
- Additional Traffic Control As Needed

Temporary Flow Monitoring

- 29 Temporary Meter Installations
- 5 Temporary Rain Gauges
- Data Collection and Analysis
- Additional Meters as Determined by Consultant

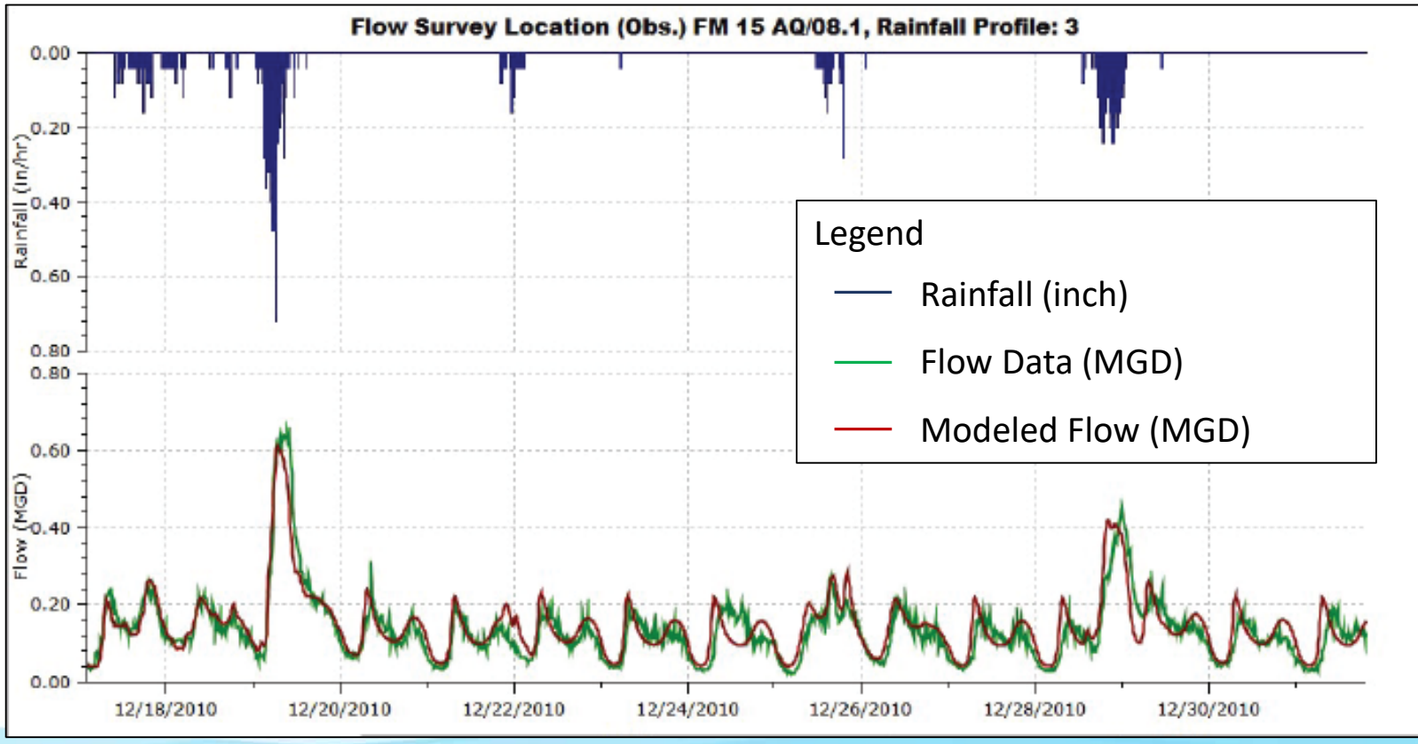
This Task will Provide the Basis for Development of an Accurate Sewer Model



Sewer System Model Development

- Develop Sewer Model Network From City GIS Data
- Develop Model Wastewater Flows (Dry and Wet Weather)
- Calibrate and Verify Model Using Flow Meter and Rainfall Data

The Sewer Model Developed in this Task will be used to Assess the Hydraulic Capacity of the Sewer System and Identify Capacity Deficiencies for the Master Plan Update

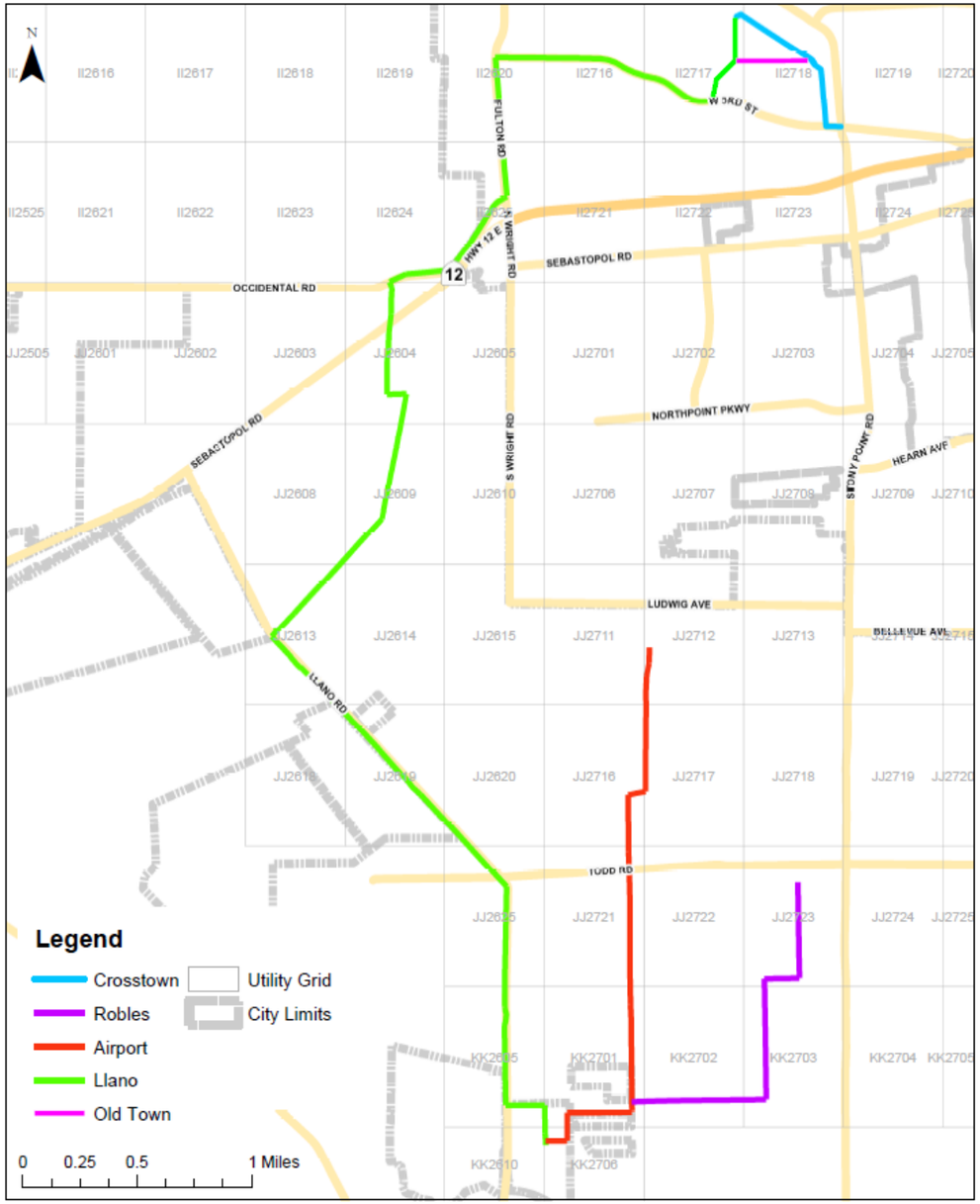


Inspection and Condition Assessment

- Development of a Sewer Inspection Plan
- 67,657-feet of Large Diameter Trunk Sewer
- 28 Siphons
- 214 Manholes

<u>This Task Serves Two Purposes:</u>

1. Fulfills the requirements of the California River Watch Settlement Agreement
2. Adding Condition Assessment as a component of project prioritization for the Sewer Master Plan Update

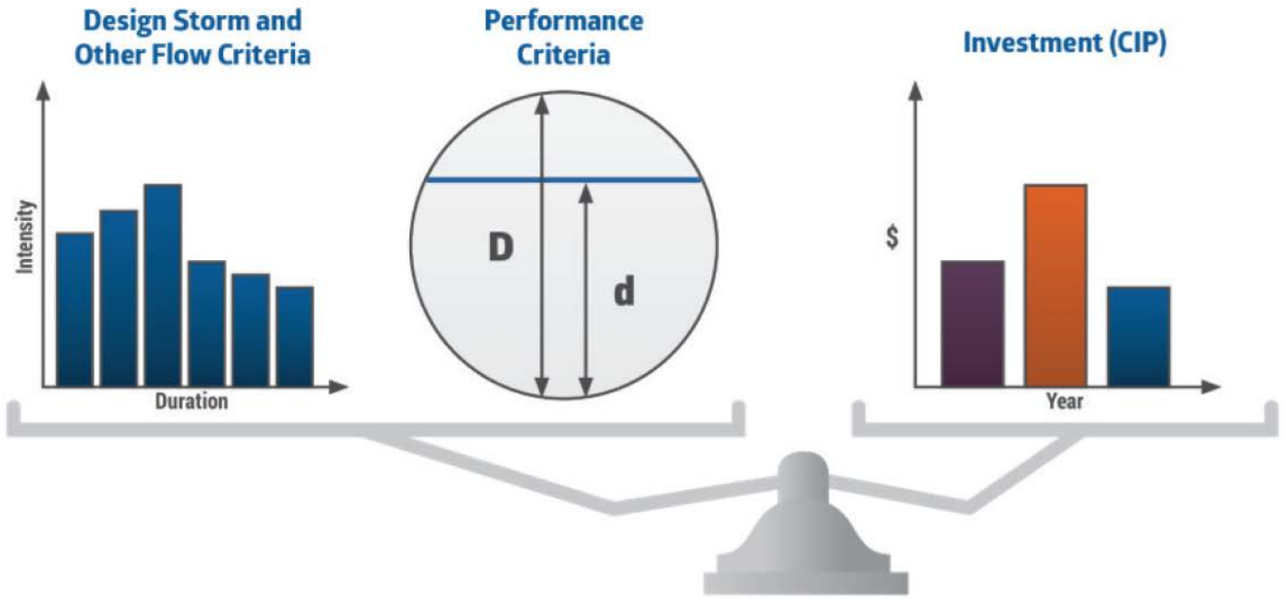


Review of City Sewer Inspections

- Review CCTV Footage from 50 Selected Pipe Segments
- Evaluate City Pipe Assessments

Sanitary Sewer System Master Plan Update

- Establish Performance Criteria with City Staff
- Evaluate System Performance for Existing Conditions and Future Growth
- Develop Capacity Improvements and Identify Rehabilitation Projects
- Prioritize Projects and Develop a Capital Improvement Program
- Prepare 2020 Sanitary Sewer System Master Plan Update



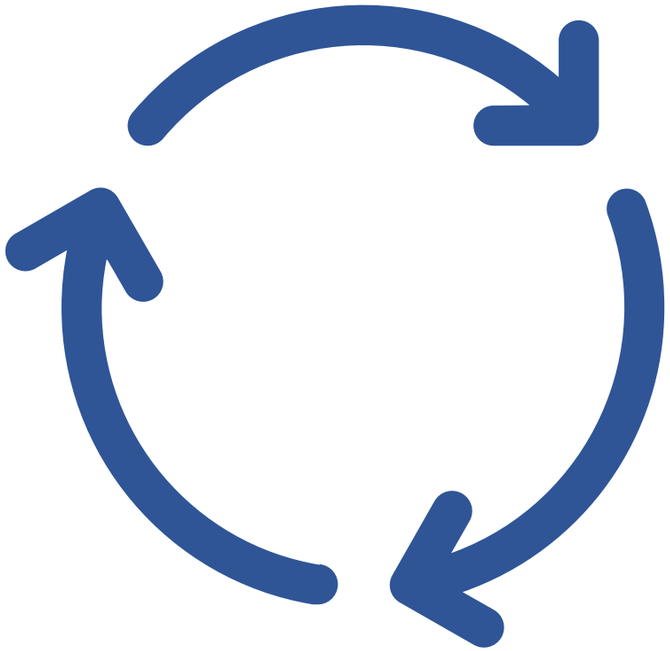
Joint CIP Efforts

- Evaluate congruent water system and stormwater improvements
- Coordinate with Public Works regarding potential road improvements and sidewalk/ADA improvements
- Develop CIP projects with improvements to multiple asset types
- Realized cost savings for both departments
- Minimizes unnecessary construction activity and neighborhood disturbance

Ongoing Modeling Support & Sewer Model Updates

- Provide On-Call Modeling Services
  - Capital Projects Engineering
    - Design (pipe sizing)
    - Construction (Bypass pumping plans)
  - Engineering Development Services

- Update the City's Sewer Model as CIP and Private Development Projects are Completed



BPU Contract Review Subcommittee

- Met on October 15, 2019
- Reviewed Contract and Scope of Work
- Subcommittee Requested Additional Information
- Unanimous Recommendation for Contract Approval

Recommendation

It is recommended by the Water Department that the Board of Public Utilities approve a Project Work Order with Woodard & Curran under a Master Professional Services Agreement to provide professional engineering services for **Temporary Flow Monitoring, Inspection and Condition Assessment, Sanitary Sewer Master Plan Update, and Ongoing Sewer System Modeling** in the amount not to exceed **$2,133,308.**