



**City Services Academy
Public Works Department
September 27, 2017**

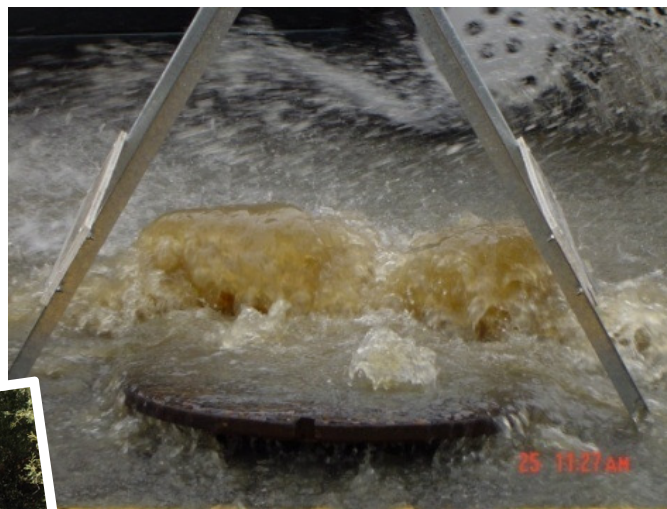
**Cathi Zammit, Engineering Manager
Clean Water Program Manager**

Wastewater Management System





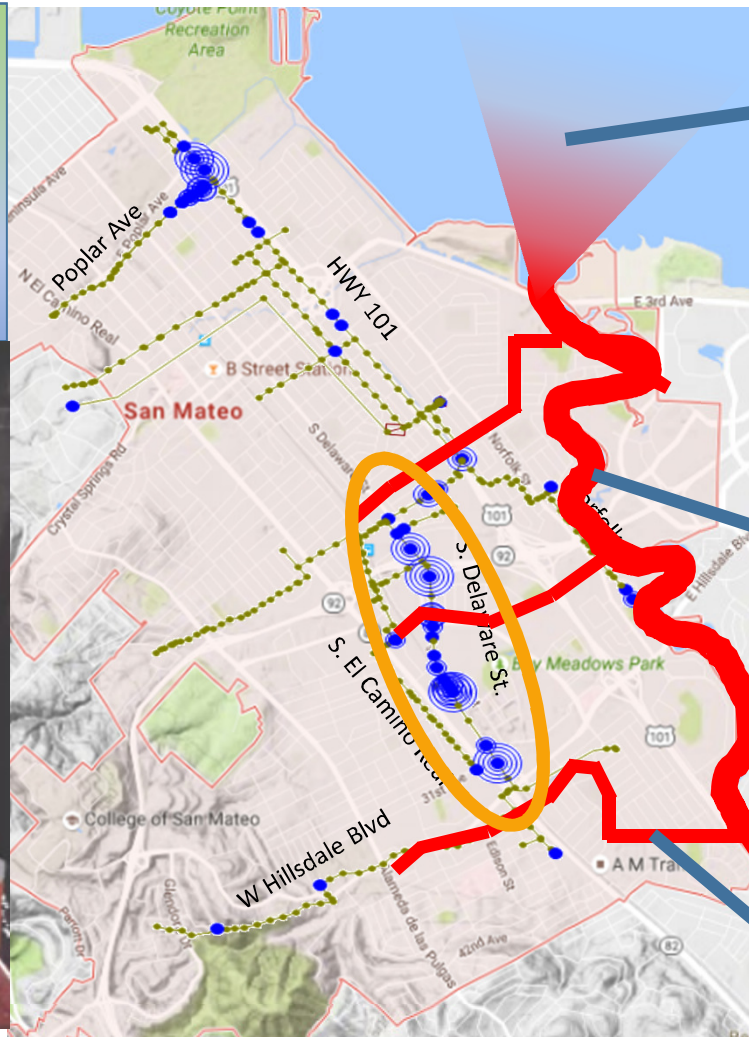
Insufficient Capacity – Sewer Overflows



Sewer Overflow Impacts & Regulatory Violations

What Causes Sewer Overflows?

*Raw Sewage, PLUS
Unintended Rain Water
Entering the System*



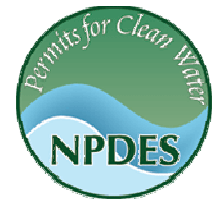
SF BAY

LAGOON
& BEACHES

CREEKS



CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS




Aging WWTP Facilities



Clean Water Program Drivers and Goals



Replace aging infrastructure and facilities



Build wet weather sewer system capacity assurance to prevent overflows



Meet current and future regulatory requirements



Align with the City of San Mateo and Foster City's sustainability goals

WWTP

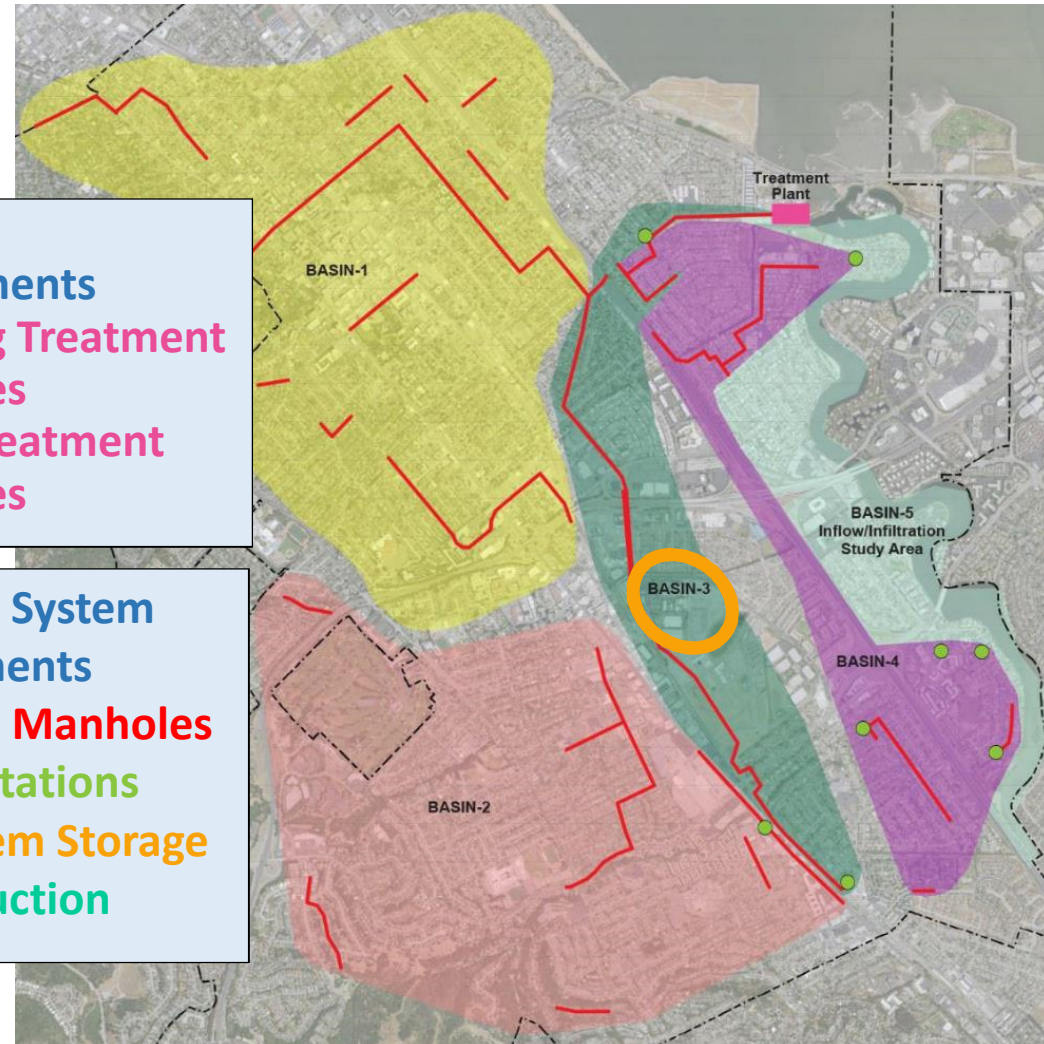
Improvements

- Existing Treatment Facilities
- New Treatment Facilities

Collection System

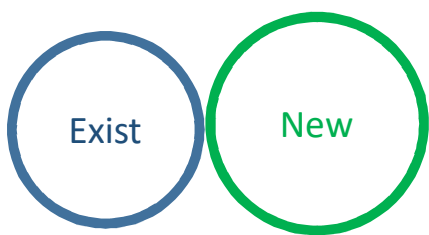
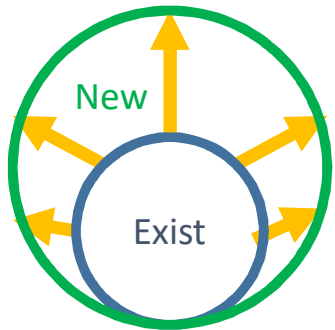
Improvements

- Pipes & Manholes
- Pump Stations
- In-System Storage
- I/I Reduction



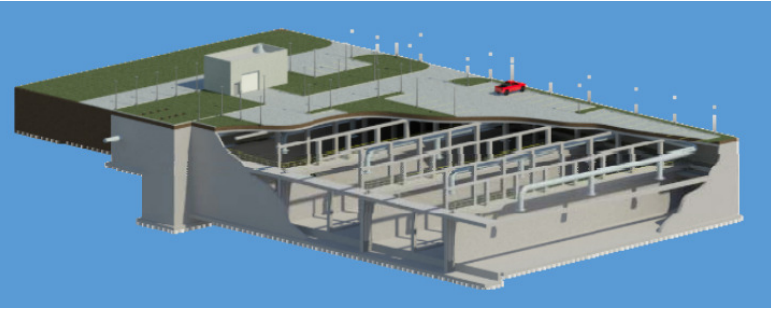
Capacity Assurance and Flow Management

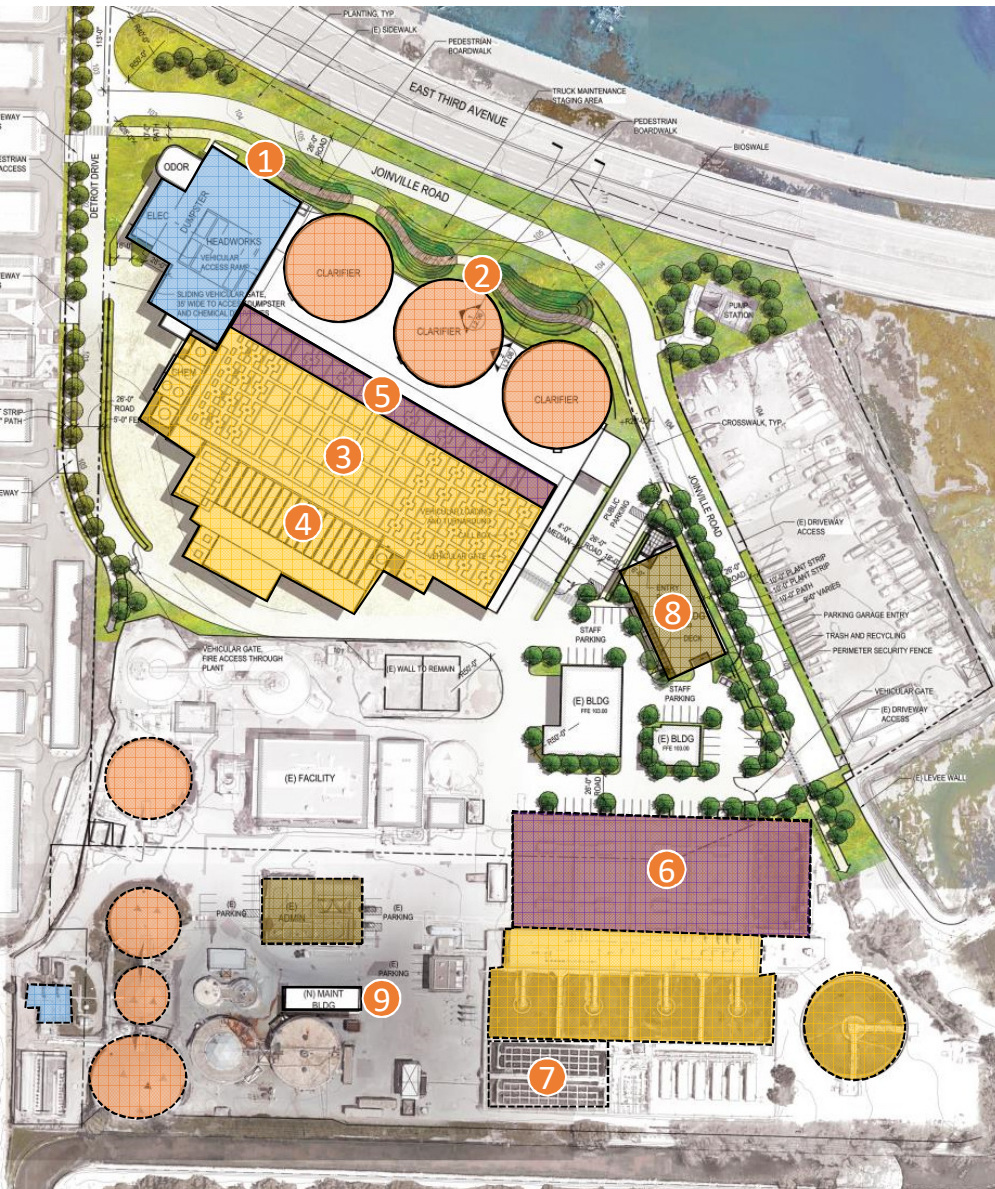
Pipe and
Pump Station
Improvements



Capacity Assurance and Flow Management

New Underground In-System Storage & WWTP Upgrades





Replacing Aging Infrastructure

PRELIMINARY TREATMENT

1. HEADWORKS

PRIMARY TREATMENT

2. DUAL-USE CLARIFIERS

SECONDARY TREATMENT (NORMAL)

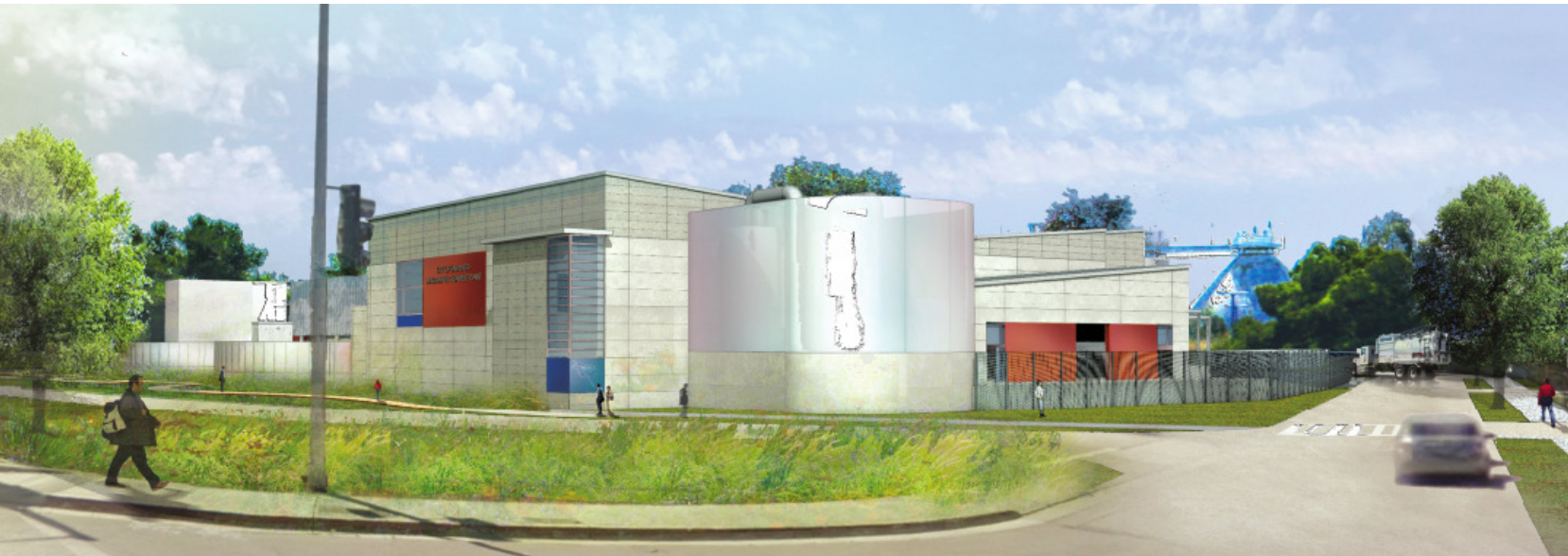
3. BIOLOGICAL NUTRIENT REMOVAL (BNR)
4. MEMBRANE BIOREACTOR (MBR)

SECONDARY TREATMENT (PEAK WET WEATHER)

5. DUAL-USE CONTACT TANK
6. FLOW EQUALIZATION BASIN
7. EXISTING DISINFECTION IMPROVEMENTS
8. ADMINISTRATION BUILDING
9. MAINTENANCE WAREHOUSE

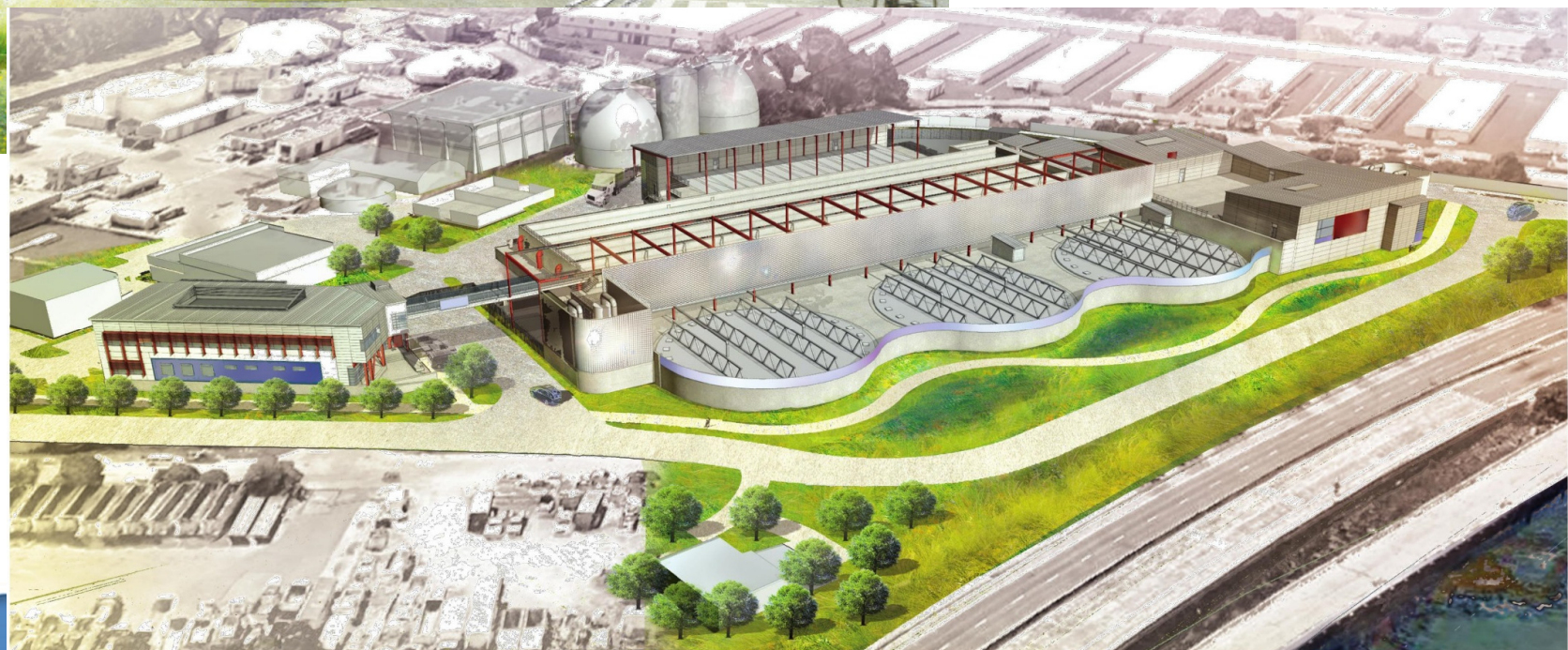
- ☐ New Facility
☐ Existing Facility to be Replaced/Rehabbed

Conceptual Renderings





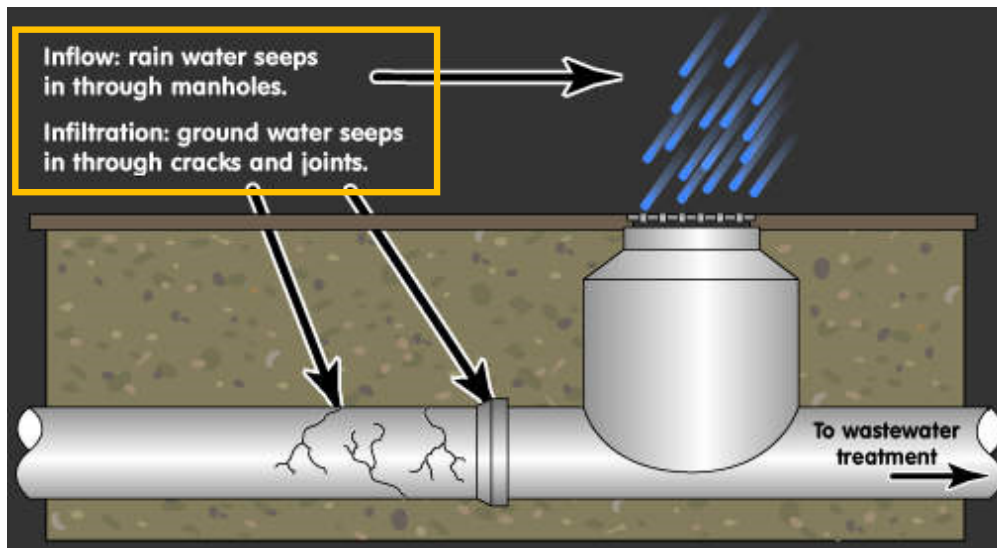
Conceptual Renderings



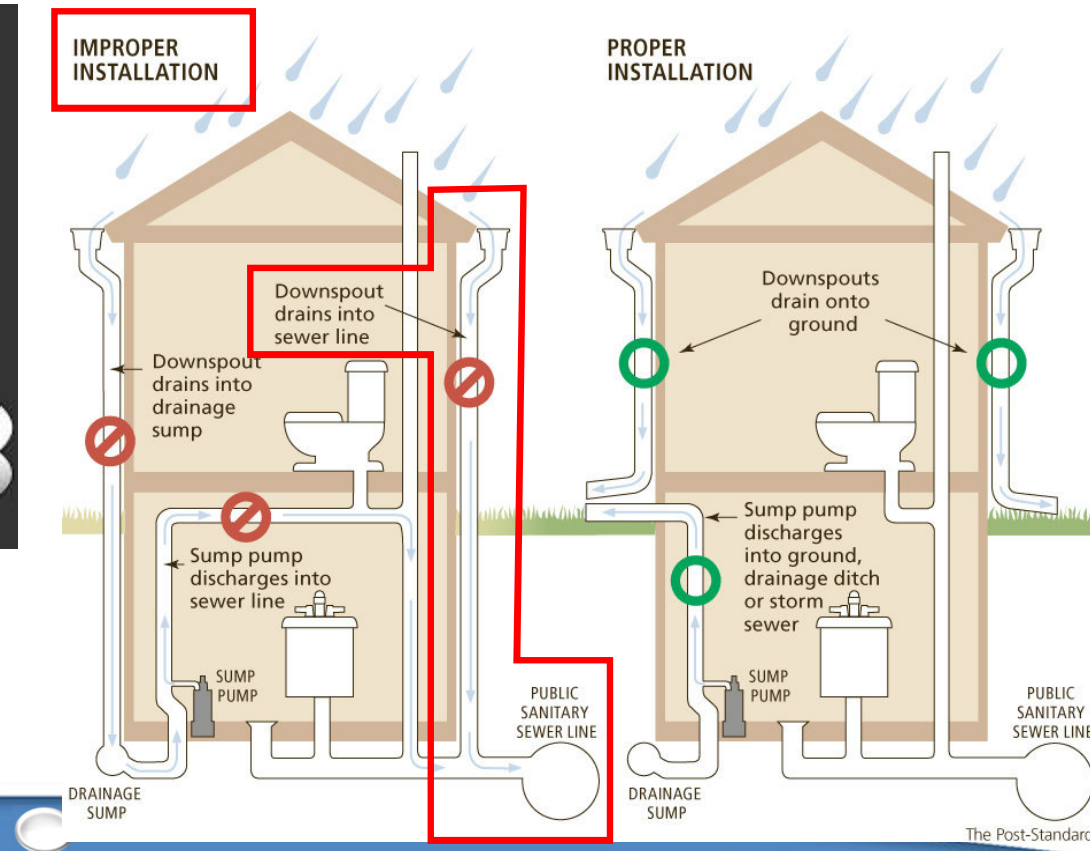


Sources of Inflow/Infiltration (I/I) and Contributors to SSOs

FAILURES & OPENINGS IN SYSTEM

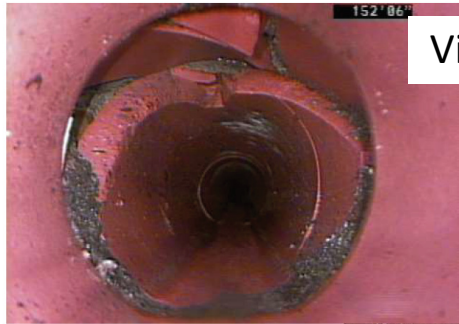


UNAUTHORIZED CONNECTIONS



System Rehabilitation and I/I Reduction

Video Inspections



Cracked & Offset Pipe

Rain & Groundwater
Infiltration



Fat, Oils, Grease
Reduction



Root Intrusion in Pipe



Pipe Spot Repairs



Pipe Replacement



Pipe Lining



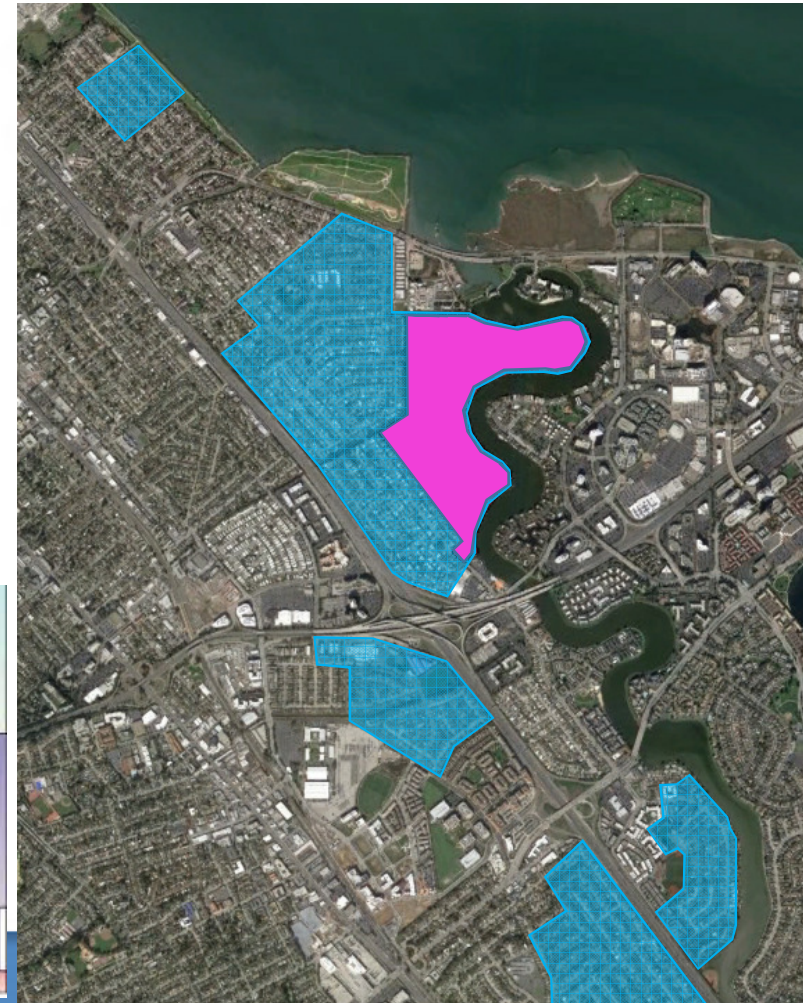
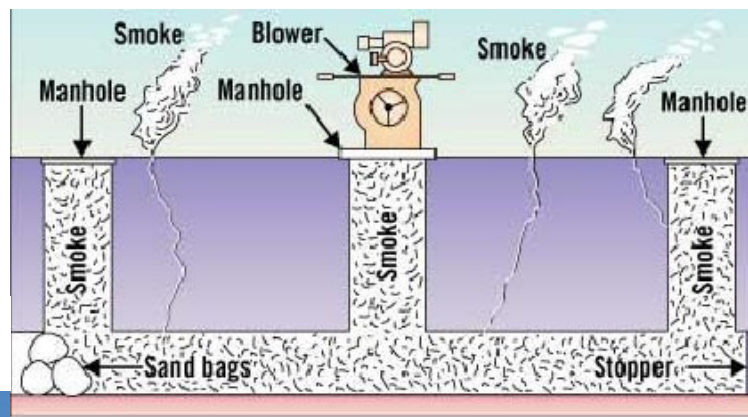
System Rehabilitation and I/I Reduction

- I/I Study and Pilot Projects

Additional I/I Reduction Approaches

- Optimize Private Sewer Lateral Replacement Program
- Pursue Point of Sale Lateral Ordinance
- Identify/address unauthorized connections to the sewer system

Smoke Testing



Questions



Checkout
the Updated
Website

www.CleanWaterProgramSanMateo.org

