CLEANWATERPROGRAM

PROTECTING THE BAY FOR A SUSTAINABLE FUTURE

Community Meeting
Underground Storage Facility Alternatives Process & Progress Update

Thursday, October 6, 2016

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Agenda

- Team Introductions
- Outreach Process Updates
- Presentation of Five Topic Areas
- Question & Feedback Sessions with Community After Each Topic
- Open House Format at Exhibit Board Stations

Outreach Process Updates

- Two August Community Meetings
- Two September City Commission Meetings
- Neighborhood Meetings
- Receipt of emails & hotline messages
- Summary Report of August Community Meetings on CWP website
- FAQ responses on CWP website
- Two October Community Meeting Notifications sent thru multiple distribution channels
- PW Commission Meeting on October 12th

Question & Feedback Session Guidelines

- 10 to 15 mins per feedback session after each topic
- Facilitator will acknowledge each speaker
- One speaker at a time
- Focus on questions
- Questions should pertain to topic at hand
- No applauding, cheering, or booing
- Questions & Feedback will be logged
- Be respectful & patient

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Two October Community Meeting Topics

- Tuesday, October 4th Specific Topics
  - *Clean Water Program Drivers & Goals*
  - *Wastewater Management & Underground Storage Basics*
  - *Program Approaches*
  - *Alternatives Selection Criteria & Process*
  - *Construction Impacts & Operational Considerations*

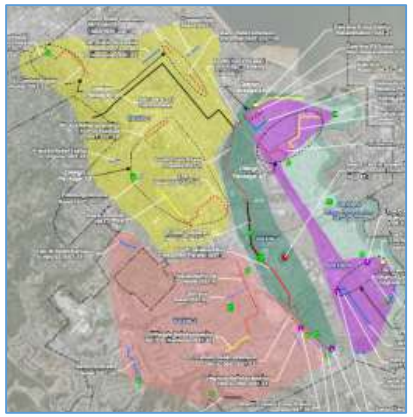
- Thursday, October 6th Specific Topics
  - *Clean Water Program Drivers & Goals*
  - *Wastewater Management & Underground Storage Basics*
  - *Preliminary Estimated Cost of Alternatives*
  - *CEQA Process*
  - *Environmental & Air Quality Mitigations*

Topic 1

Clean Water Program Drivers & Goals

Clean Water Program – Drivers & Goals

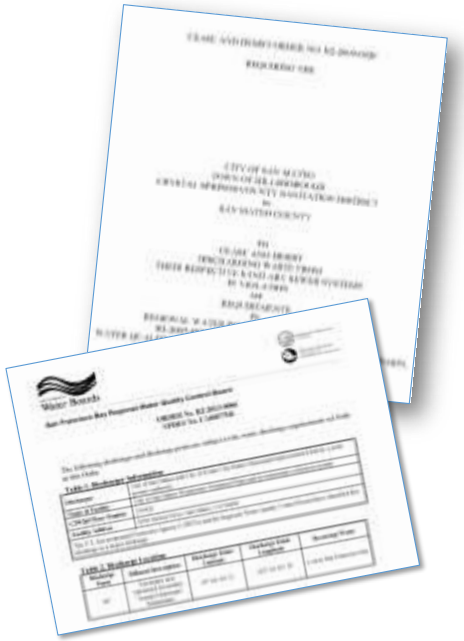
Replace Aging Infrastructure



Collection System

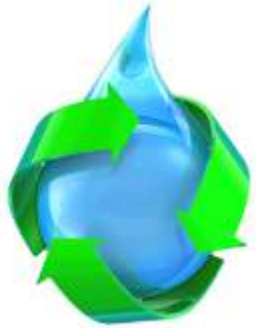
WWTP

Provide Higher Levels of Treatment & Capacity Assurance



RWQCB Cease & Desist Order
NPDES Permit

Address Sustainability, Climate Change, & Biosolids/Energy



Water Re-Use Partnerships

Institute for Sustainable Infrastructure

ENVISION™

Infrastructure Sustainability Metrics

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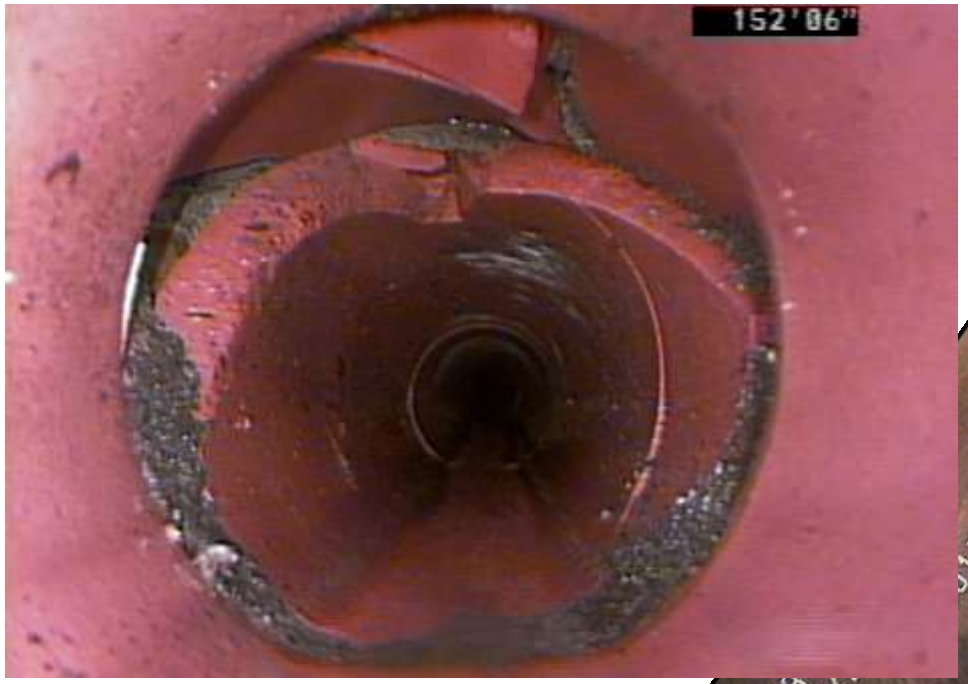
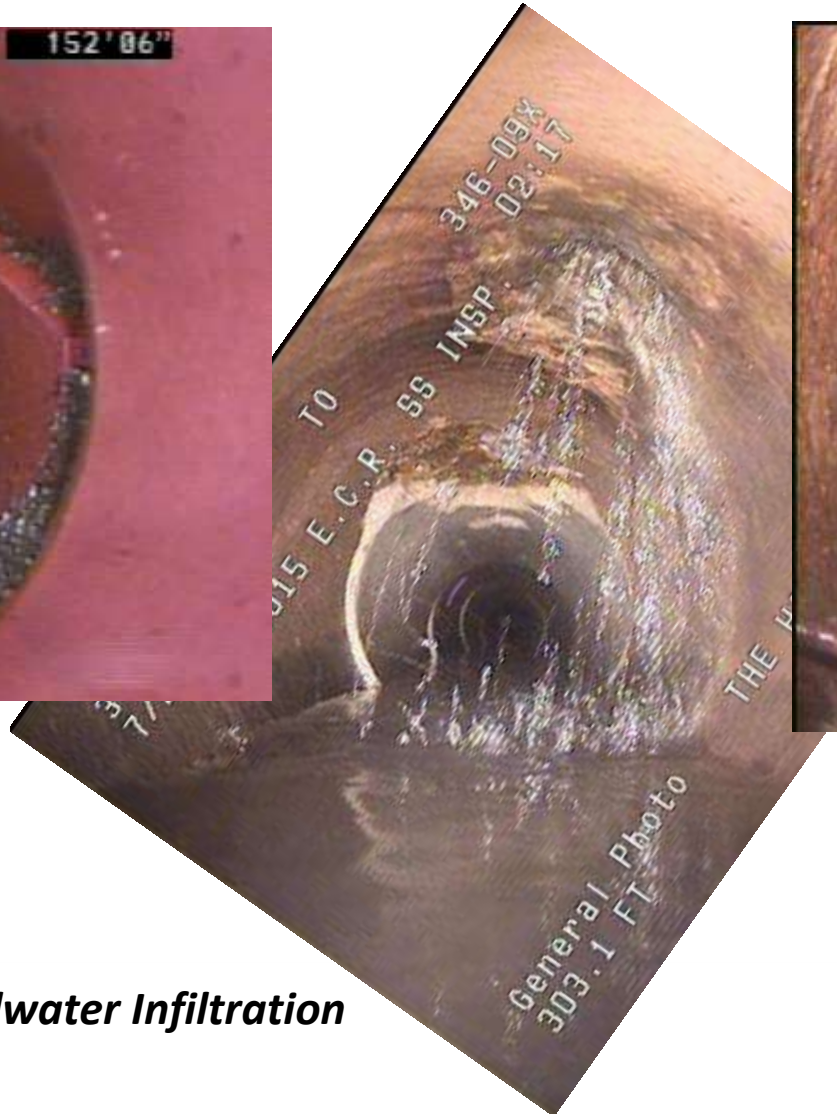
Aging WWTP Facilities

Aging Collection System Facilities



Cracked & Offset Pipe



Rain & Groundwater Infiltration

Root Intrusion in Pipe

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Insufficient Capacity - Sanitary Sewer Overflows (SSO)

Photos from San Mateo's Wet Weather Events That Flow in the Bay

Delaware Street Corridor

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SSO Impacts to Water Quality at San Mateo Beaches

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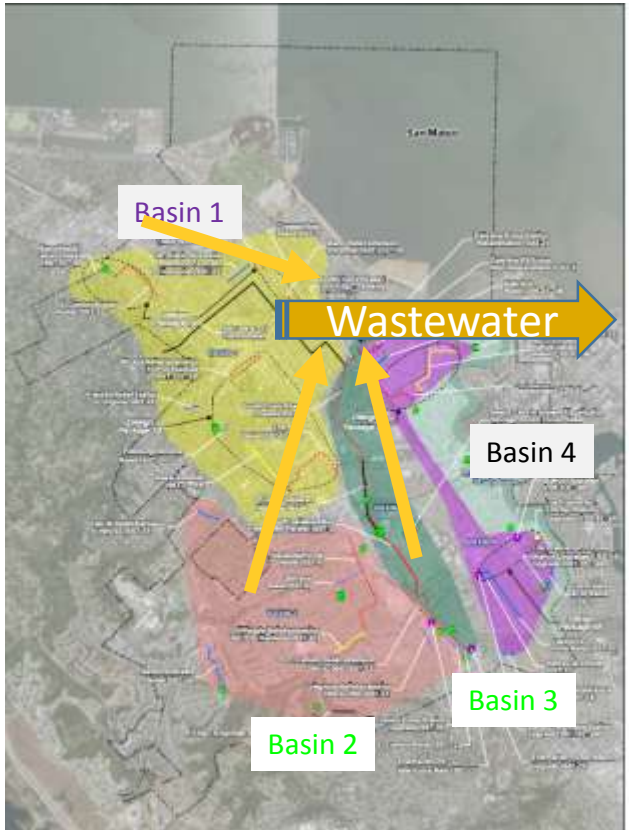
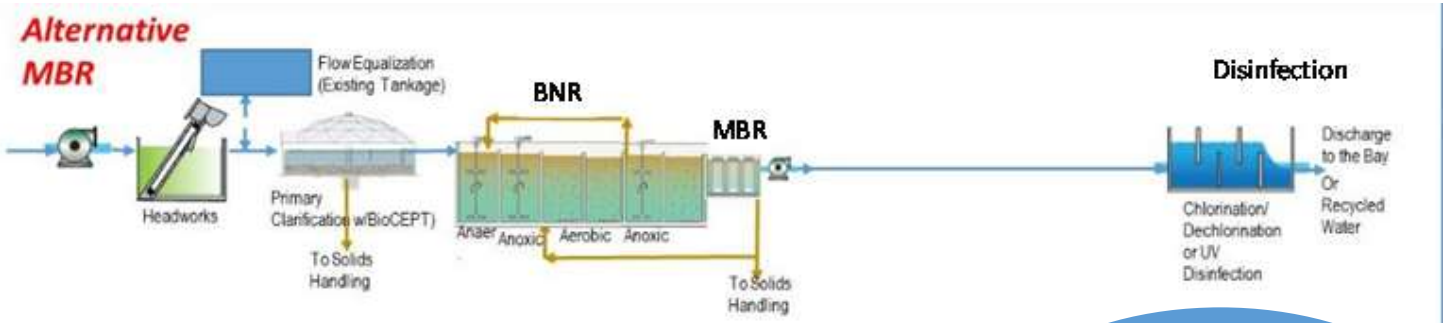
What is the Clean Water Program?

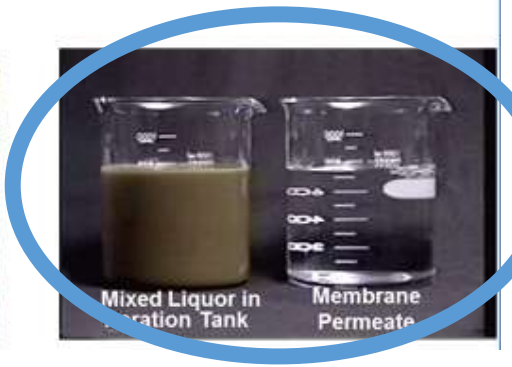
1. Collect	2. Treat	3. Discharge



Sewer In-System Storage Upgrades to Prevent SSOs

New WWTP Treatment Approach to Prevent Sewer Overflows to SF Bay





Before & After Treatment

Reusable Clean Water

PEIR was Certified in June 2016 & Council Selected this Alternative

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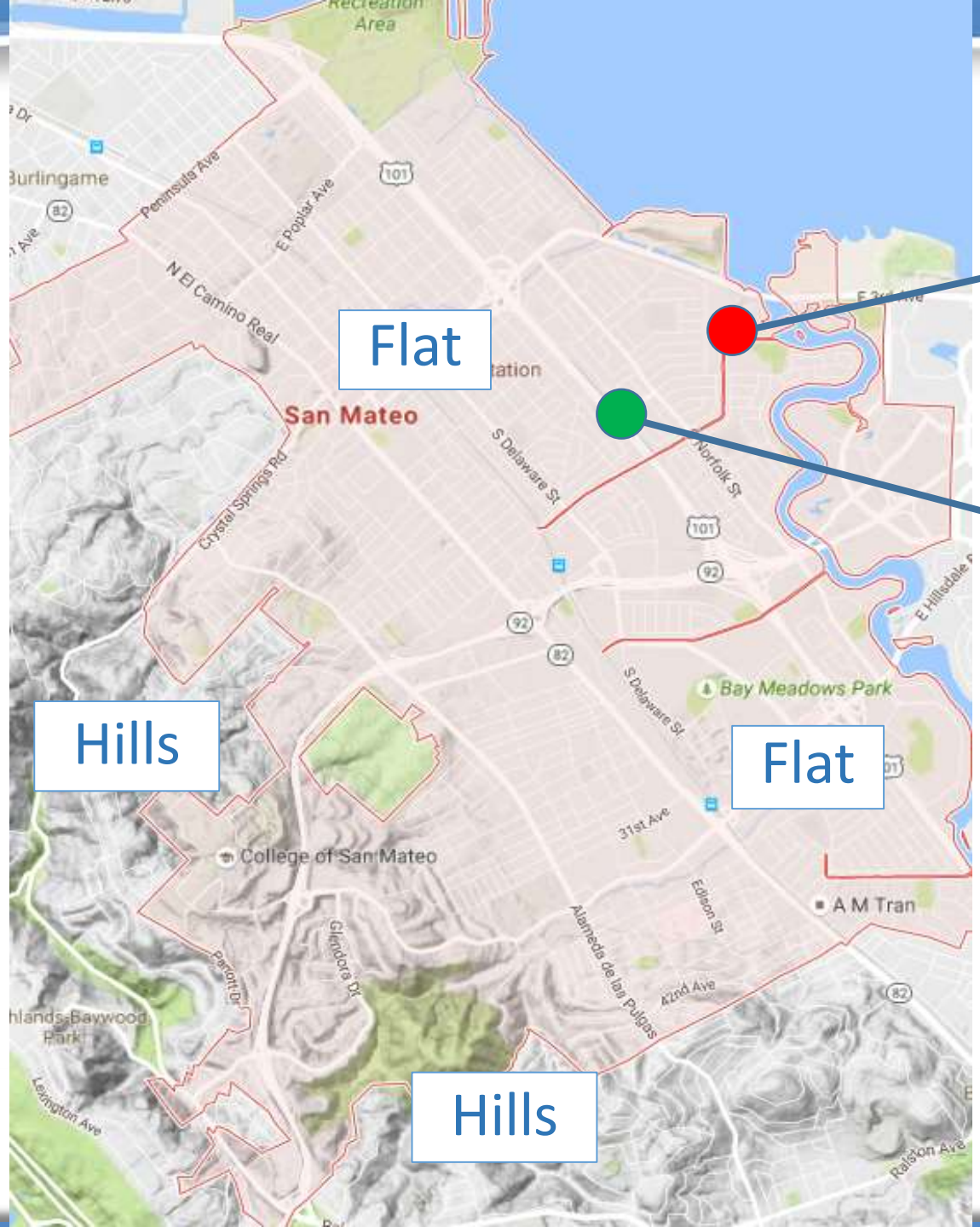
Topic 2

Wastewater Management & Underground Storage Basics

Wastewater Management System

San Mateo Topography



WWTP

Dale Ave Pump Station (DAPS)

Liquids Flow to the Low Areas

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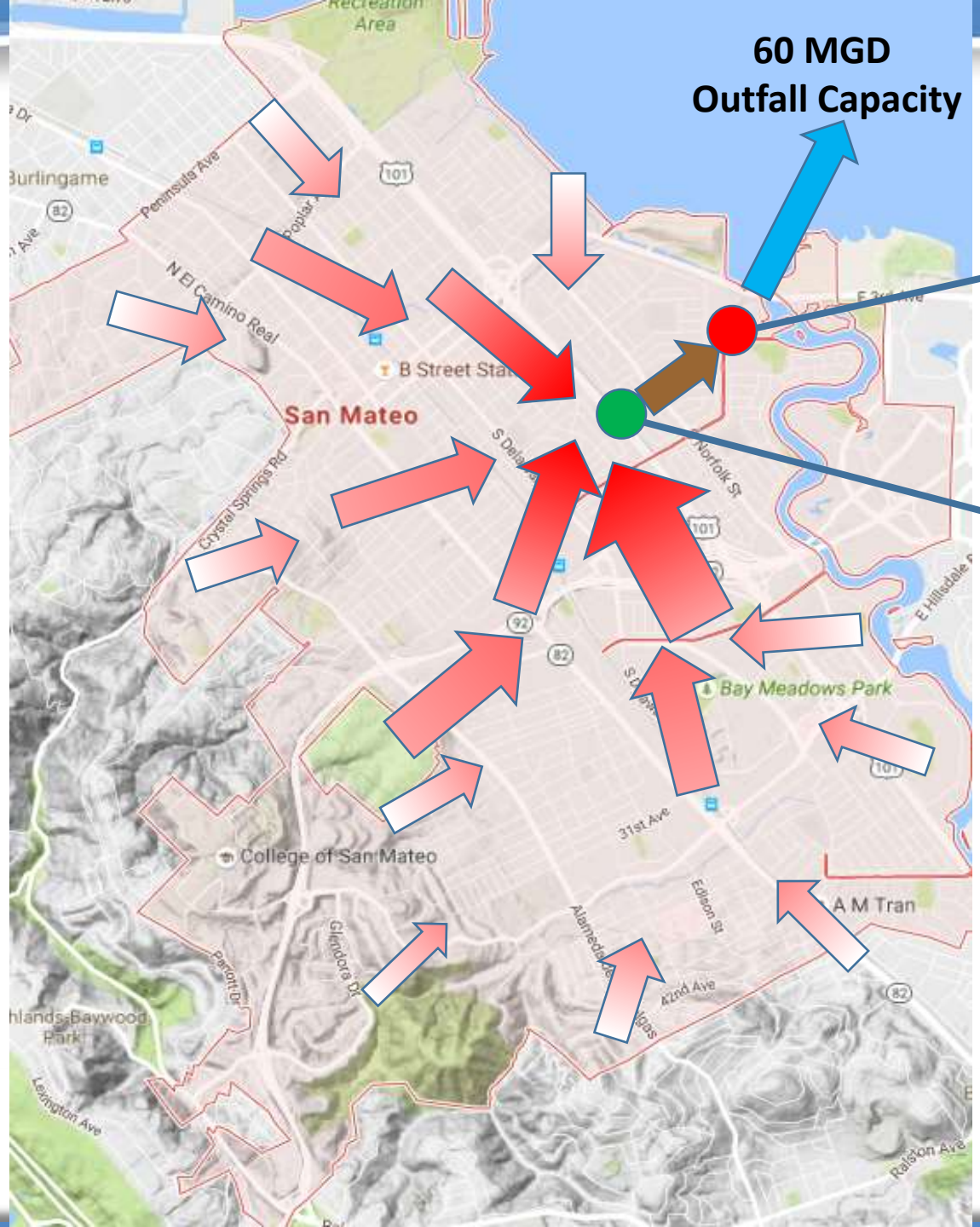
Dry Weather Gravity Sewers and Hydraulic Operations



Most Flows go through DAPS to get to WWTP

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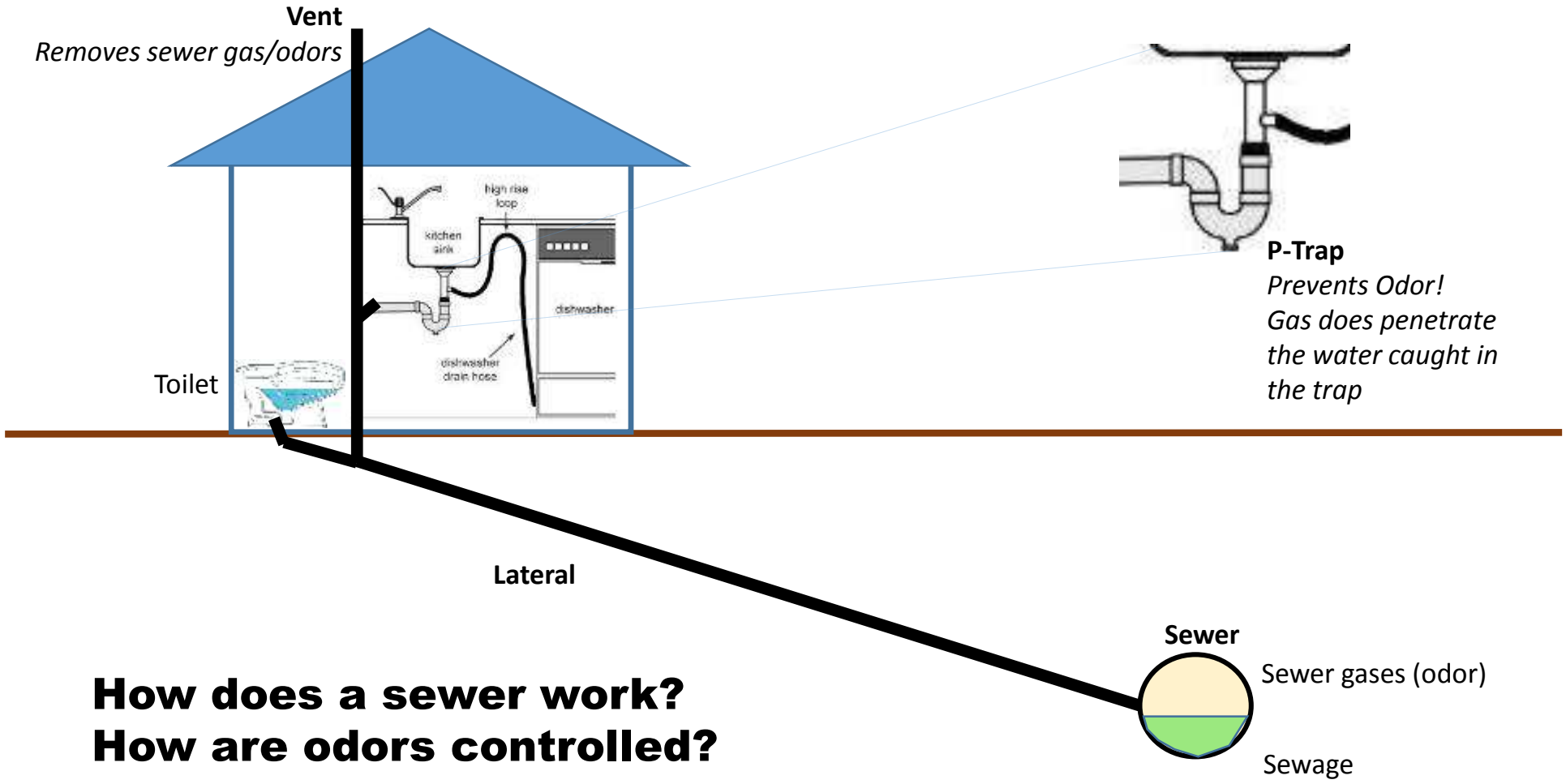
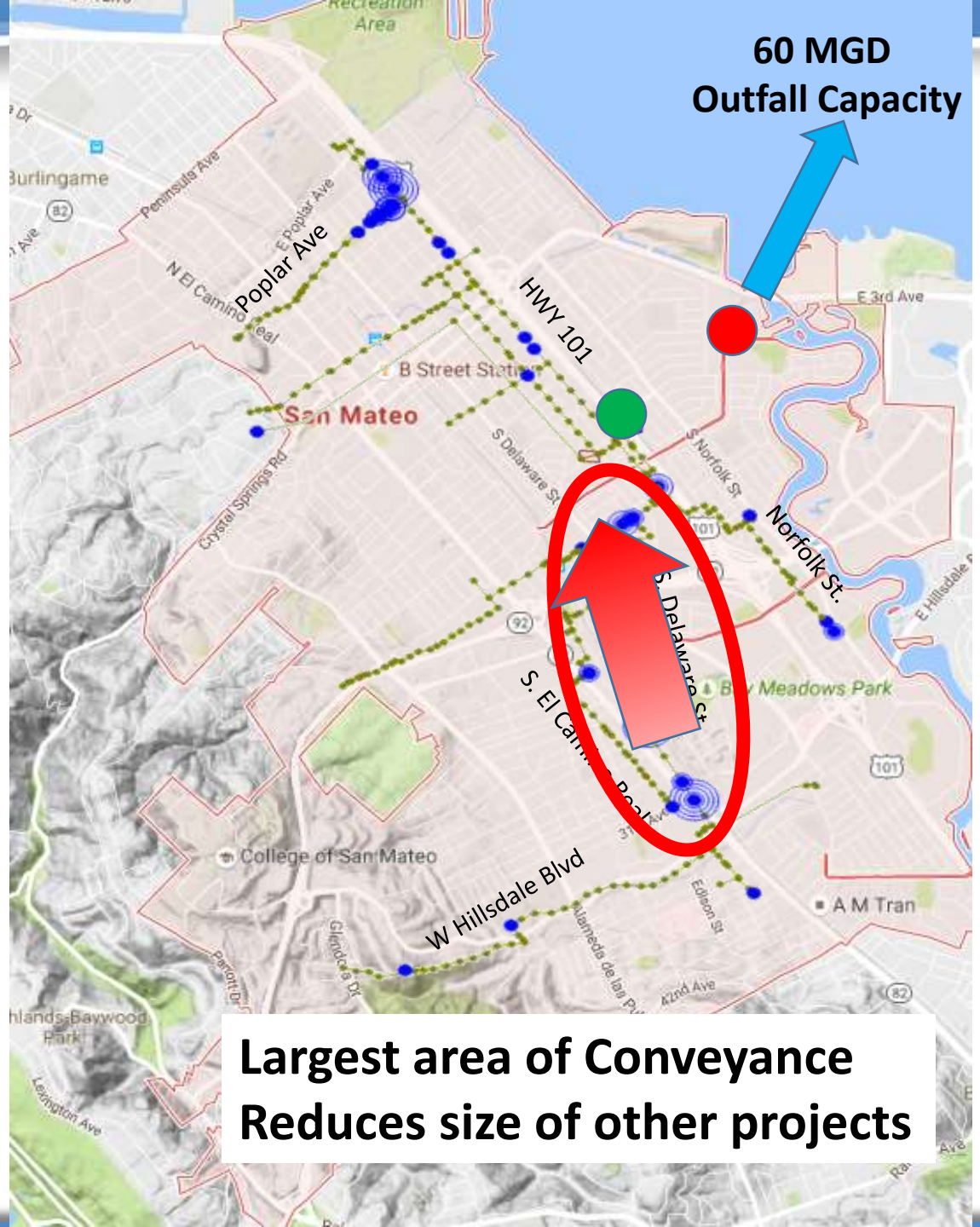
Wastewater Basics: Dry Weather Conditions



How does a sewer work?
How are odors controlled?

Peak Wet Weather Hydraulic Model and SSOs



Blue Dots are SSOs Identified through Hydraulic Modeling

High Concentration of SSO Occurrences Along Delaware St

Storage is best way to reduce peak flow

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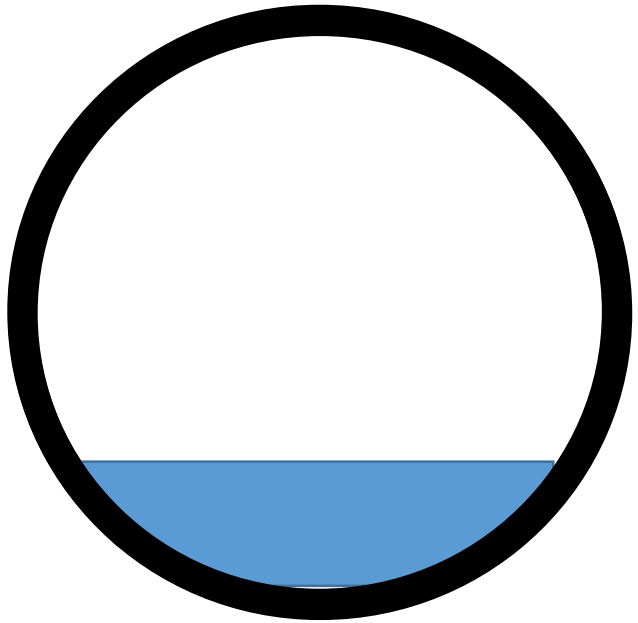
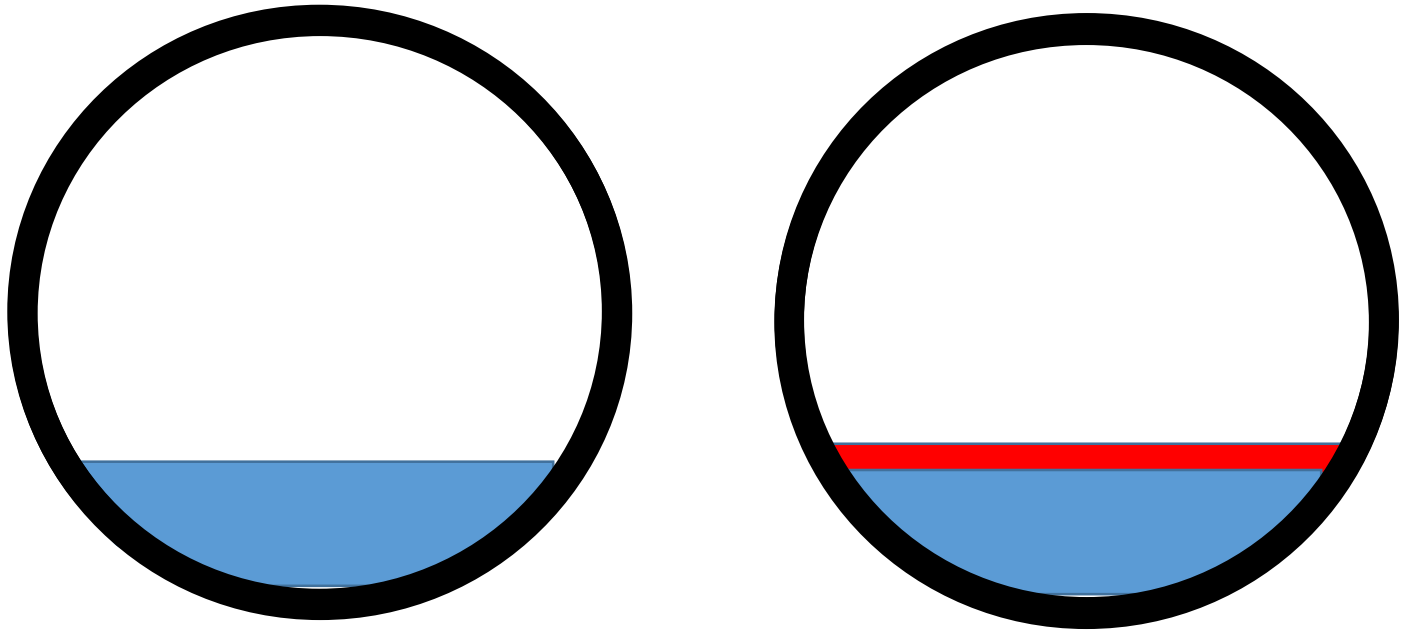
Sewer Capacity



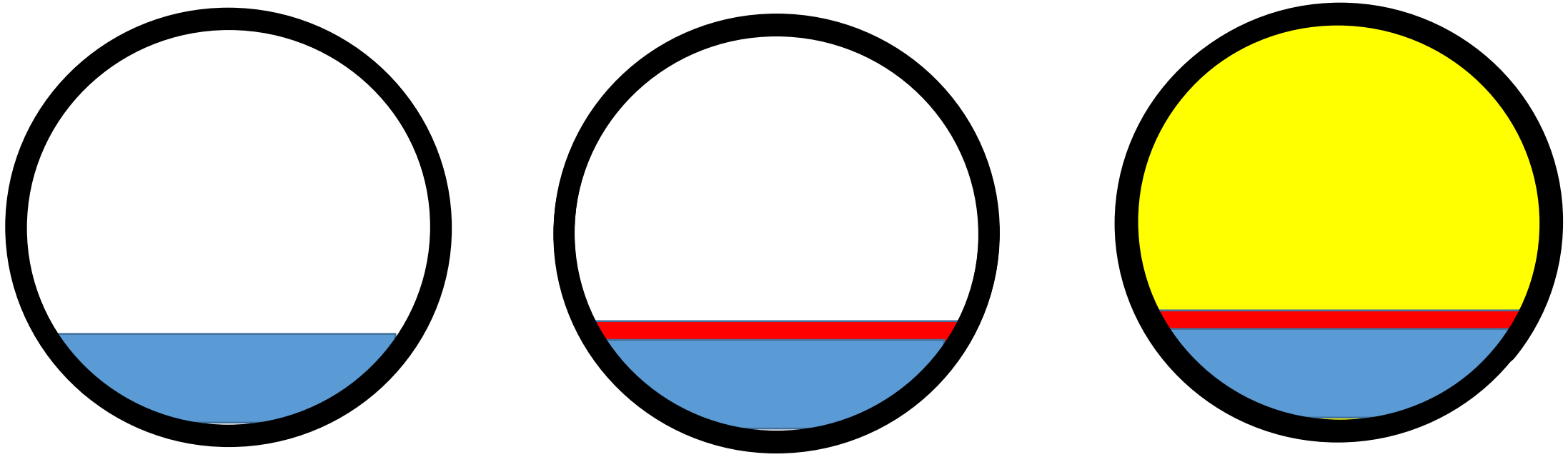
Existing dry weather sewage

Sewer Capacity



Existing and future dry weather sewage

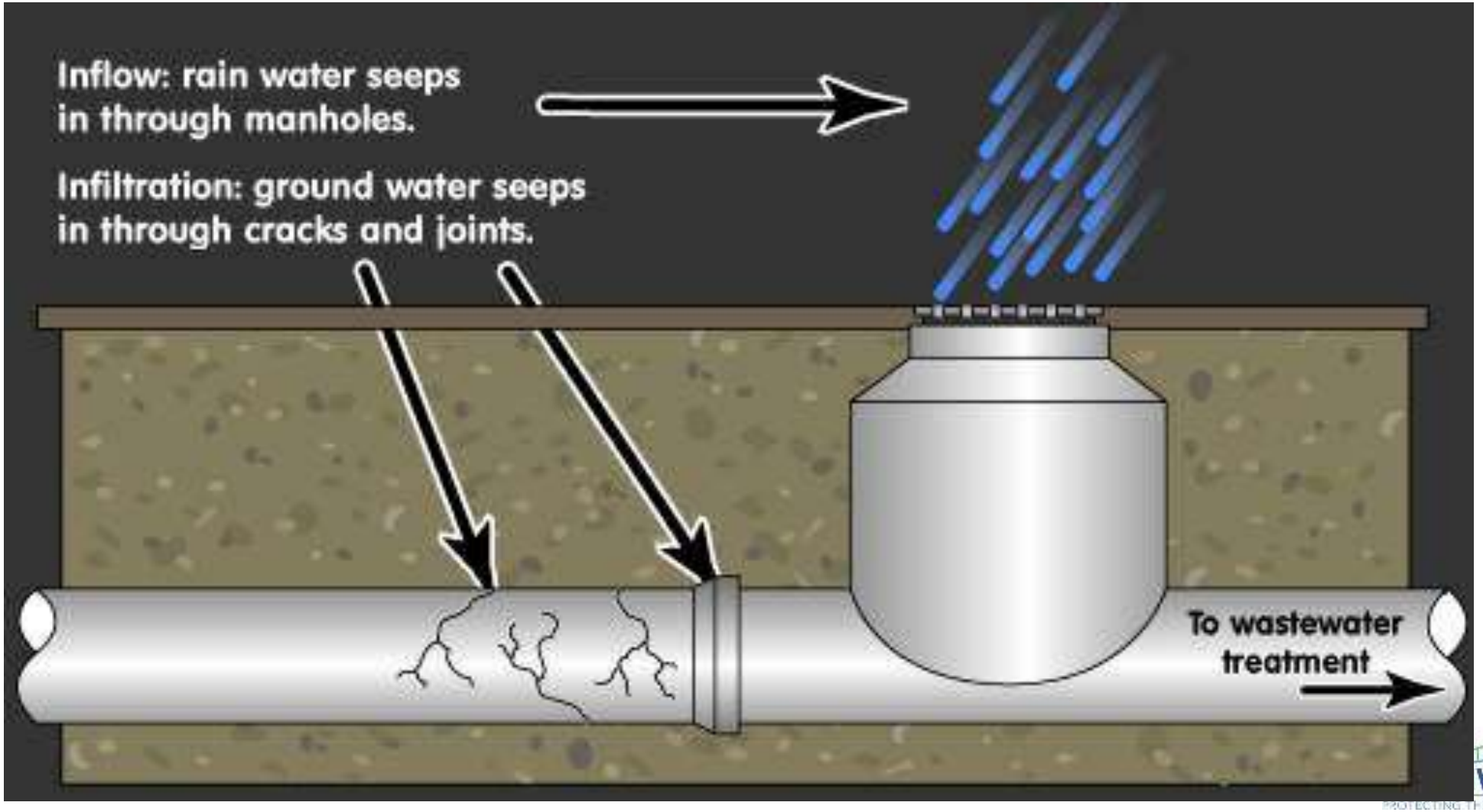
Sewer Capacity



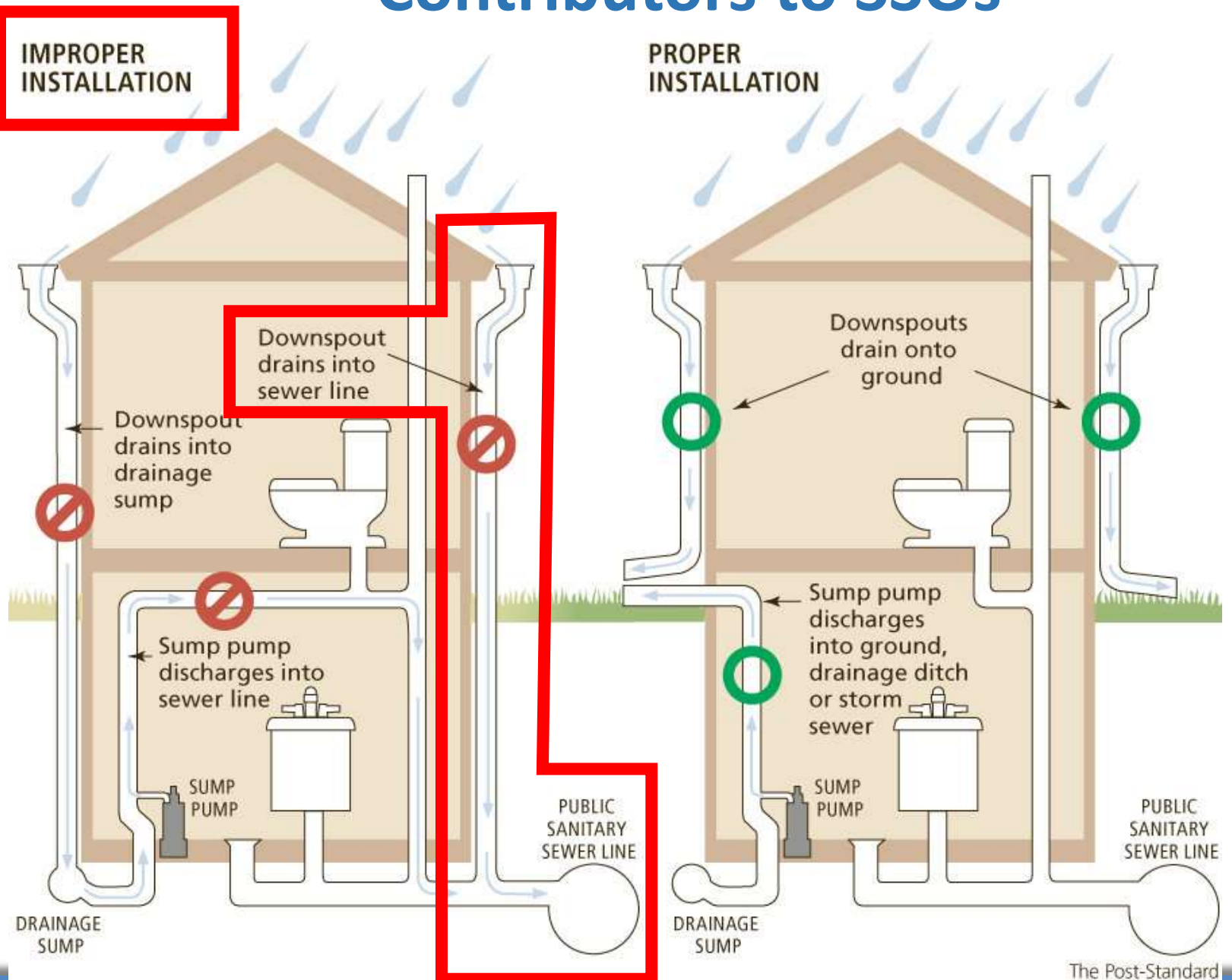
Existing and future sewage with rain induced inflow and infiltration

Contributors to SSOs

INFILTRATION & INFLOW (I&I)



Contributors to SSOs



ILLEGAL STORM DRAIN CONNECTIONS

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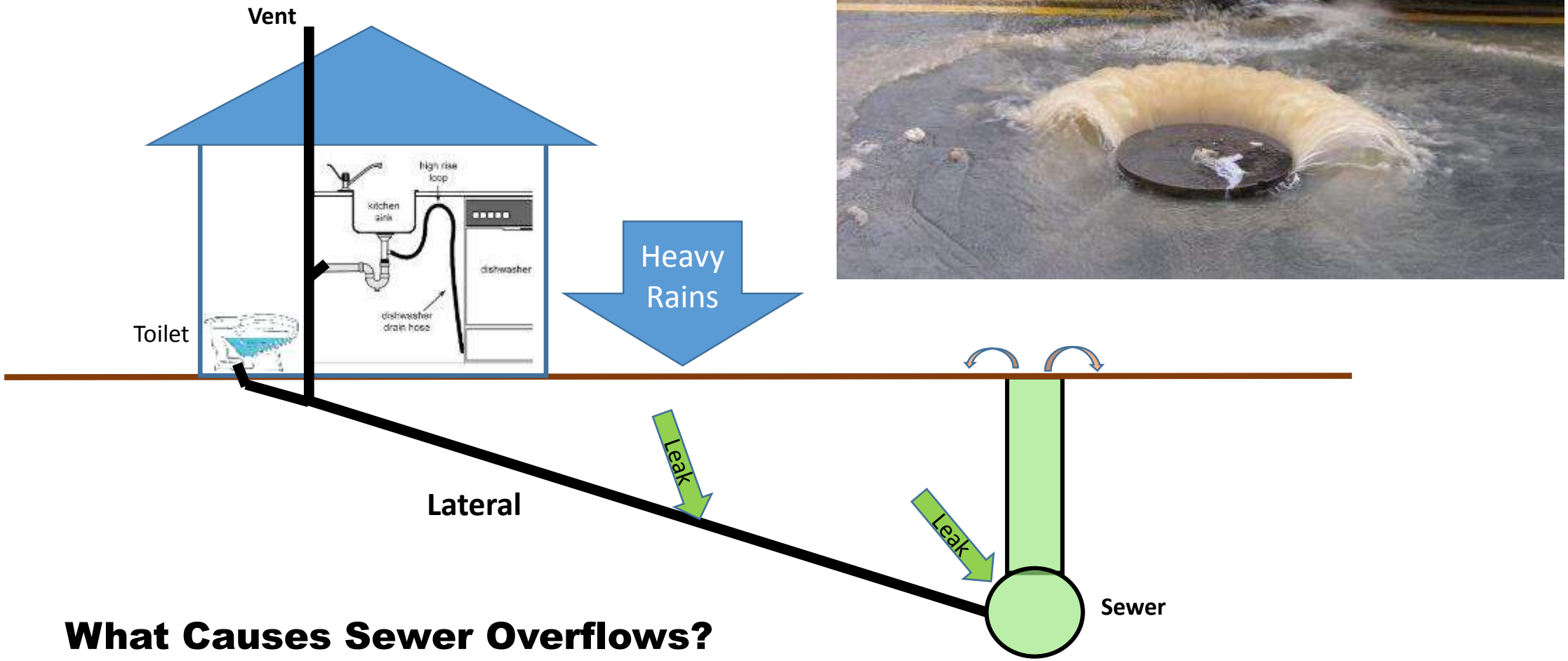
Wastewater Basics: Peak Wet Weather Conditions & SSOs



What Causes Sewer Overflows?

Sewage + Lots of Rain Water

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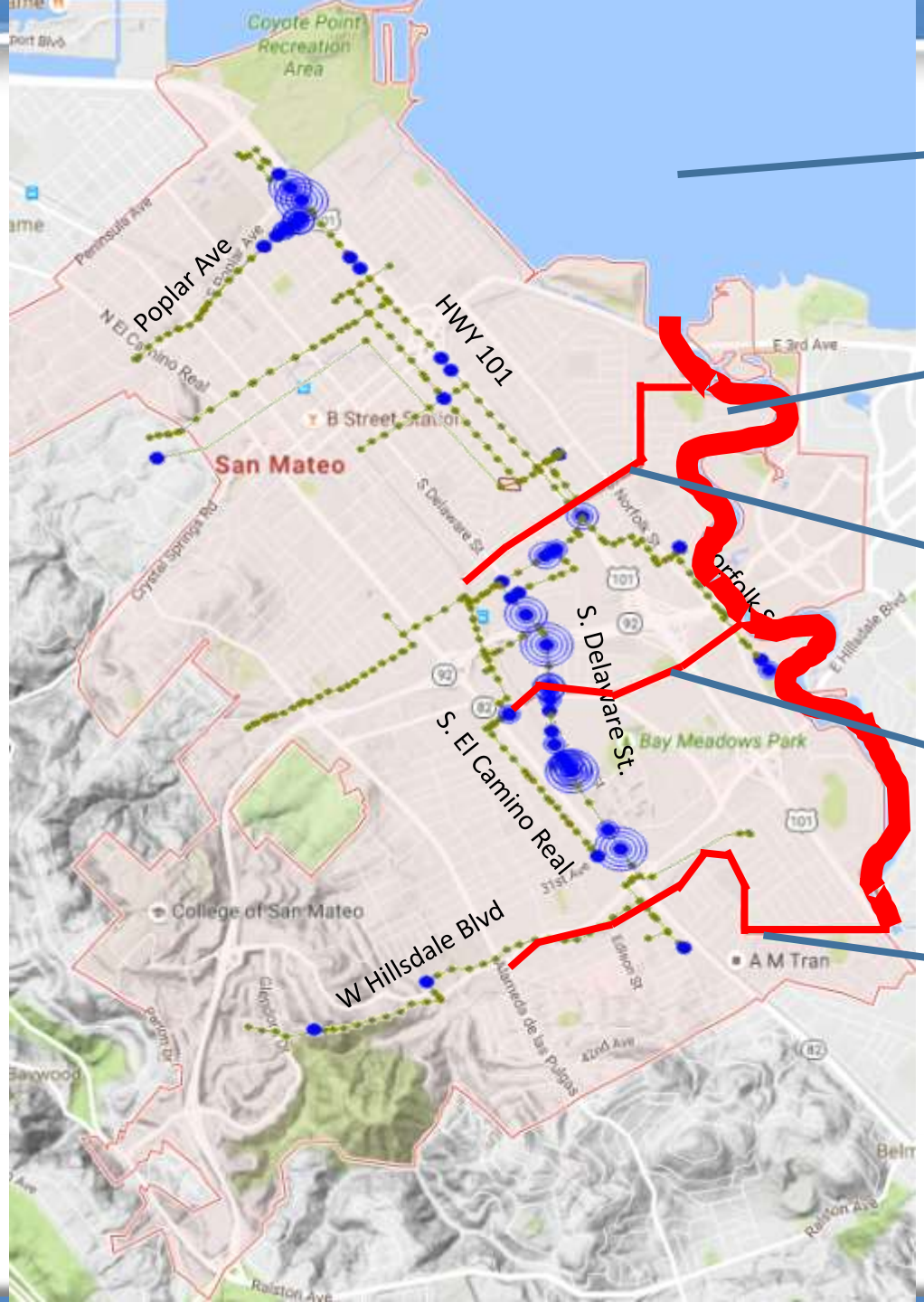
San Mateo Sanitary Sewer Overflows (SSO) to the Bay

SSO Video at Delaware & Saratoga

SSO Example (Not in San Mateo)

SSOs Flow onto Streets into Storm Drain Inlets then to Lagoon and Bay



SF Bay

Marina Lagoon

Leslie Creek

Borel Creek

Laurel Creek

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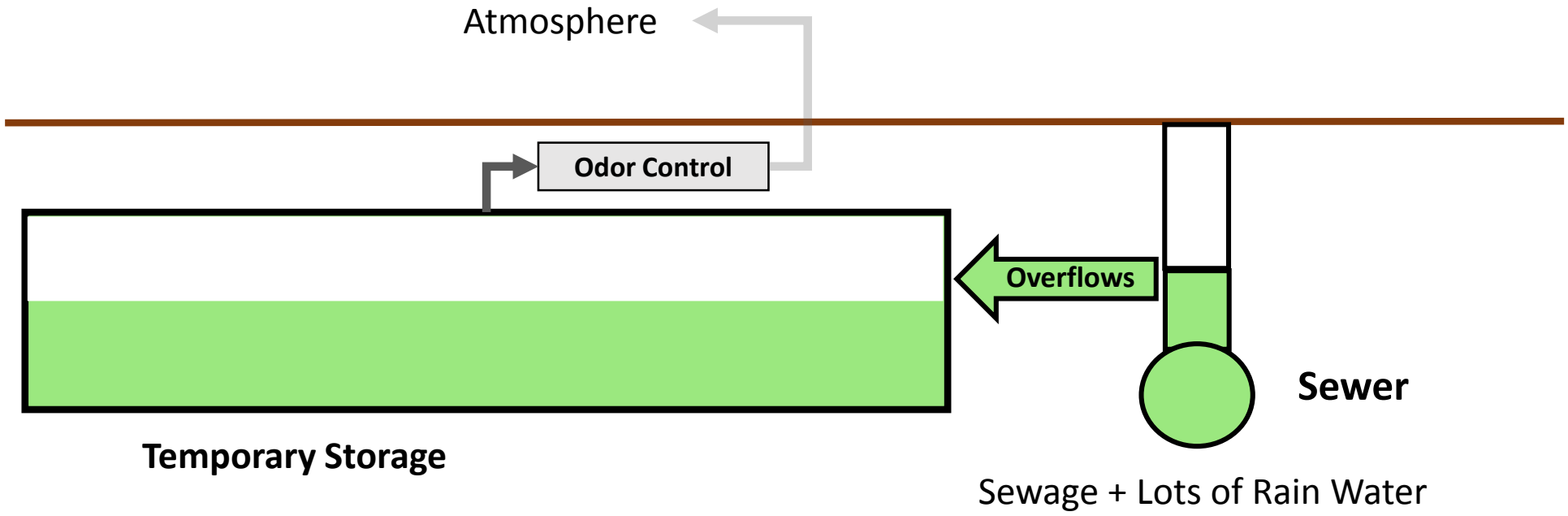
Collection System Improvements

Relief Sewers

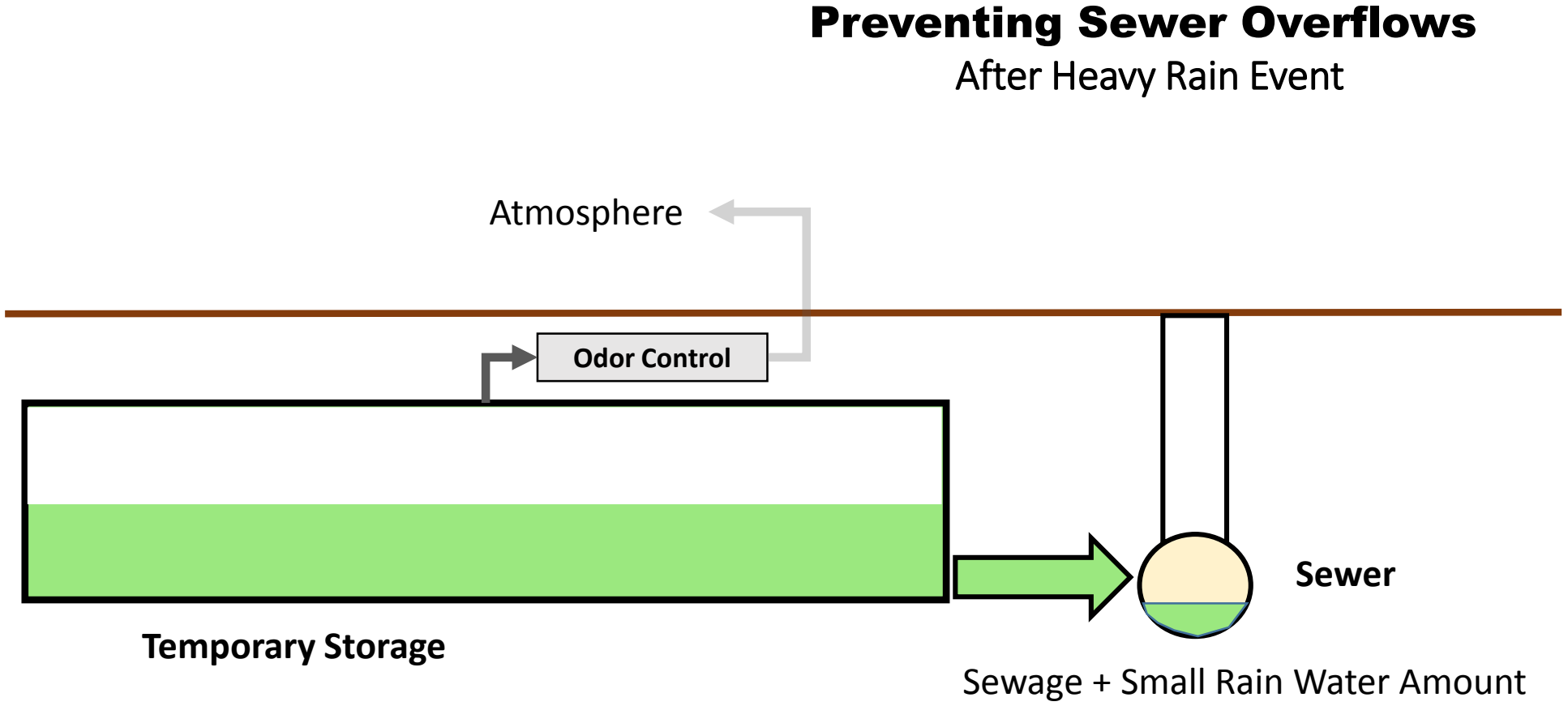
Pump Station Upgrades

Storage Facility: Peak Wet Weather Conditions

Preventing Sewer Overflows
During Very Heavy Rain Periods



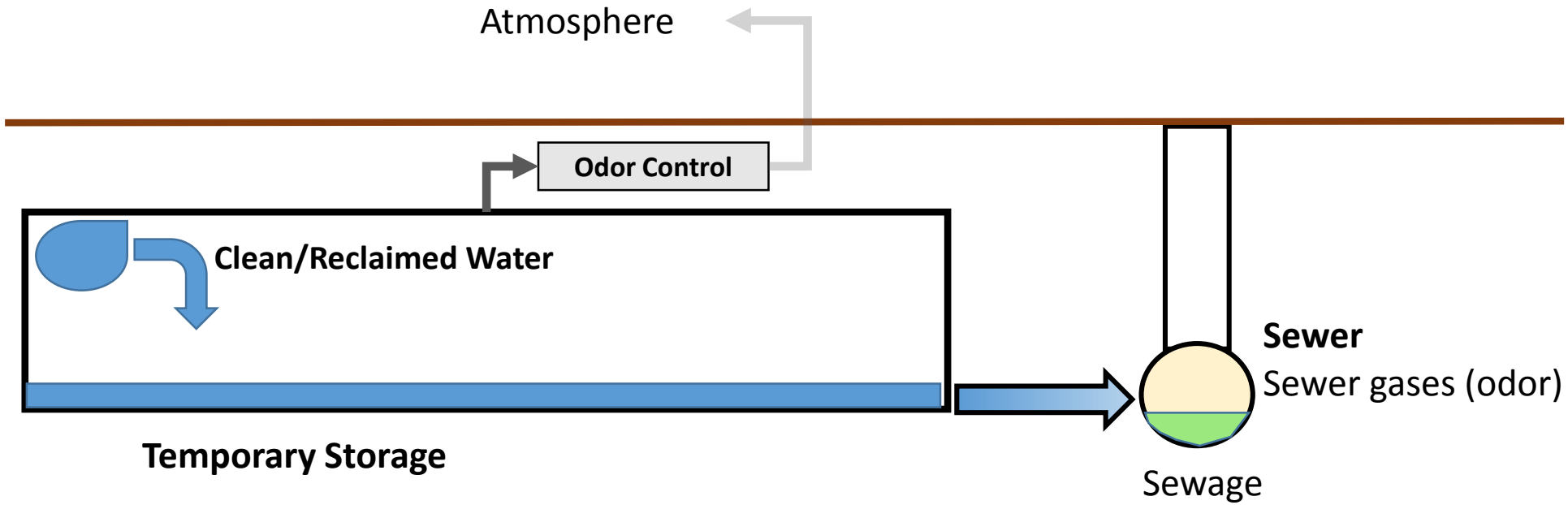
Storage Facility: After Wet Weather Conditions



Storage Facility: After Wet Weather Conditions
Odor Control & Self Cleaning Mechanisms

Preventing Sewer Overflows

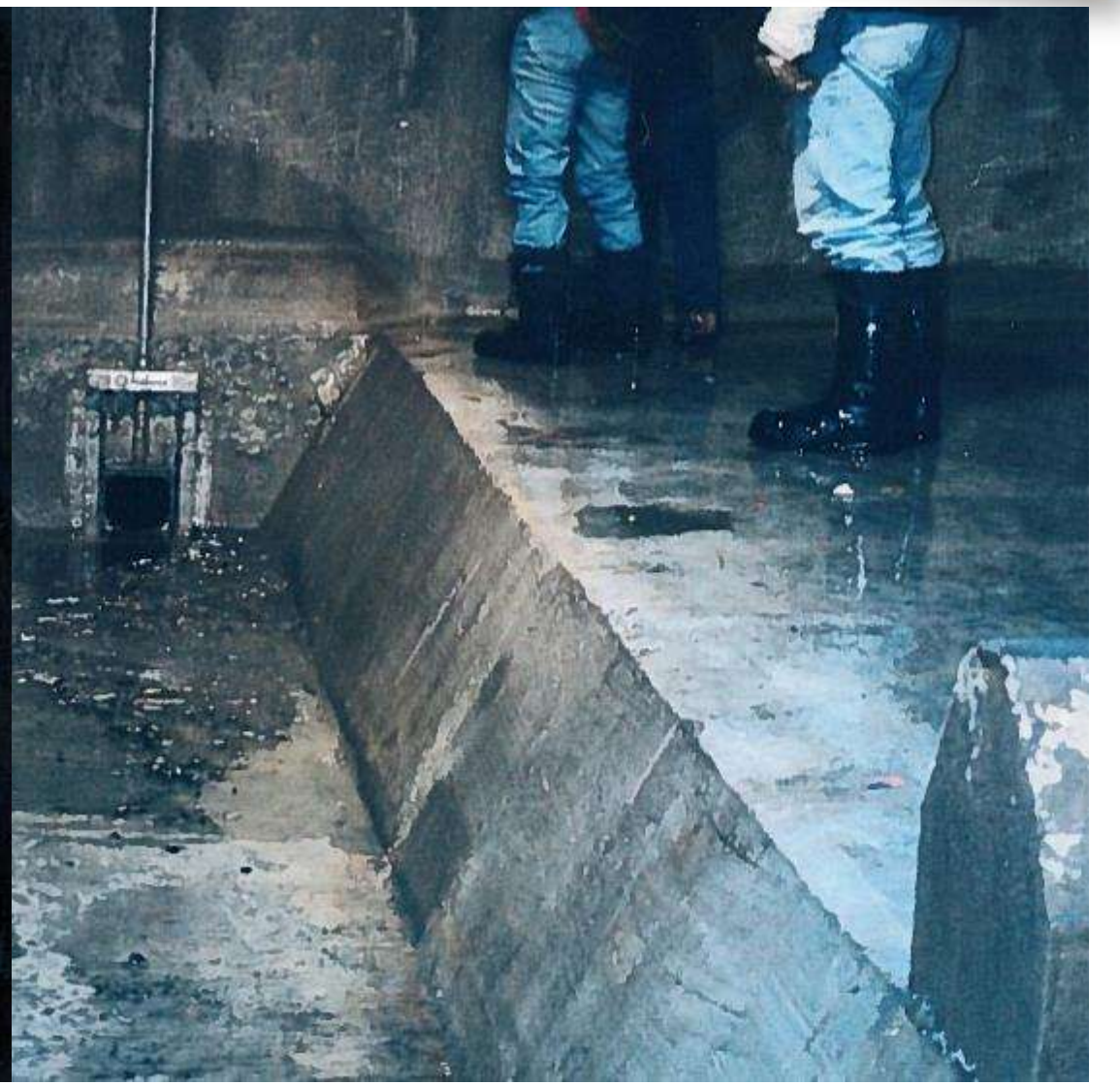
Cleaning Temporary Storage



Storage Facility After SSO is Managed

Tipping Buckets Dropping Water Load at 2000 gals/bucket

Storage Facility being Washed

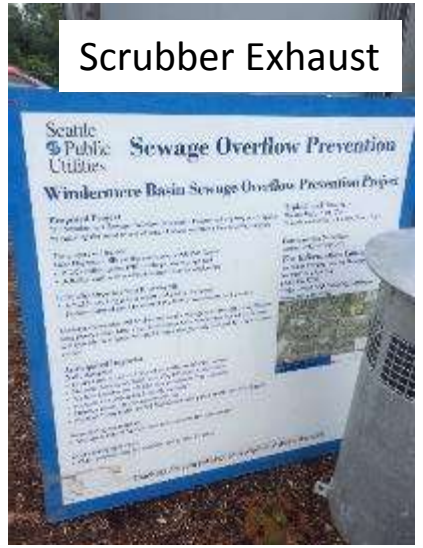


Final Results - Clean Floor

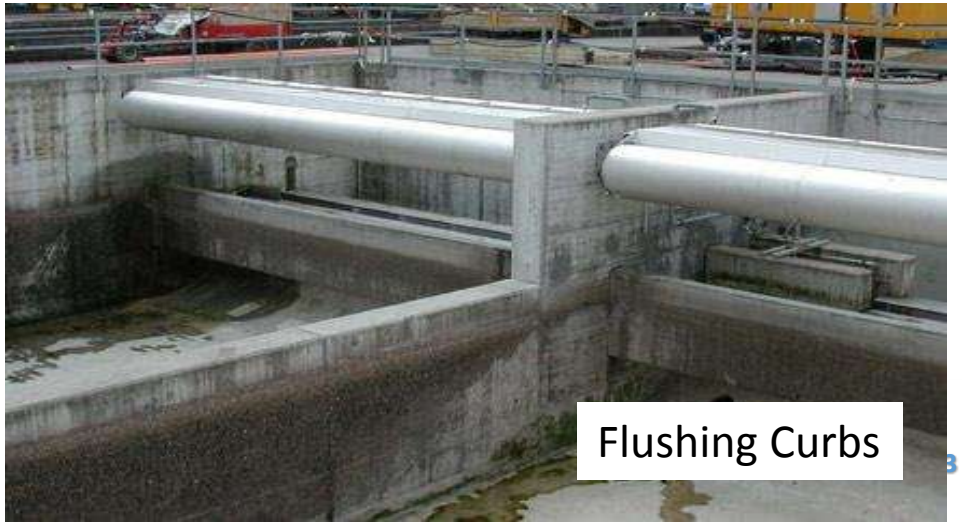
Storage Facility: Odor & Noise Control and Self Cleaning

Air Tight Vaults

Carbon Odor Scrubber



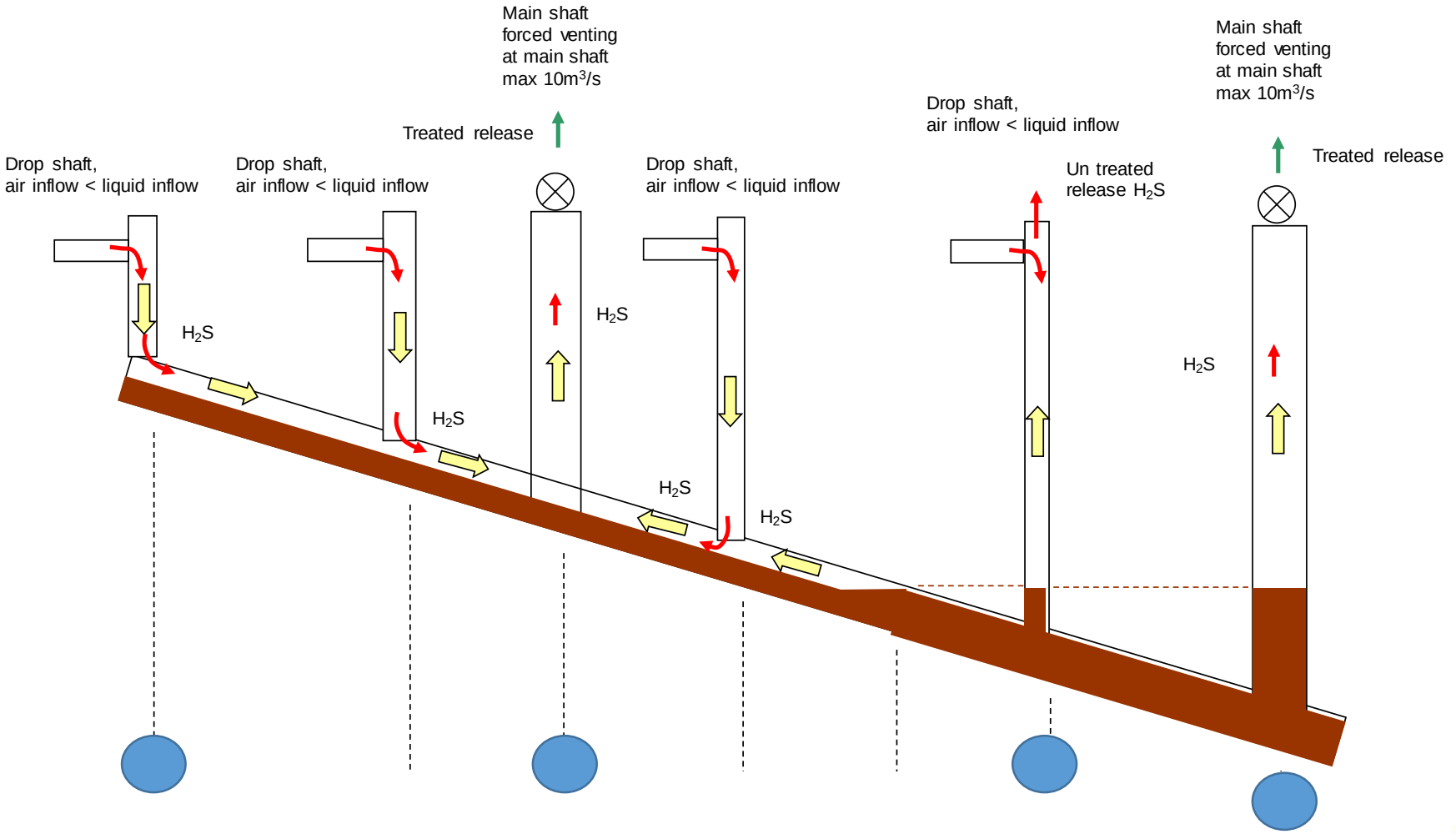
Scrubber Exhaust



Flushing Curbs

Self Cleaning Tipping Buckets

Tunnel Shaft Odor Control Needs



= Odor Control Locations

Topic 3

Preliminary Estimated Costs of Alternatives


Delaware Street Alignment Tank
Fiesta Meadows Park
Corporation Yard
Expo Center Parking Lot
Bay Meadows Park
Hillsdale Plaza
6 Alternatives

Corporation Yard

City Owned Property

Parking lot repaved over storage facility.

Construction would be coordinated with future Corporation Yard Plans

Access hatches installed at pavement grade so traffic can drive on them

During Construction, minimal traffic impacts to residential streets

During O&M, minimal traffic impacts

Expo Center Parking Lot

Not a City Owned Property

Usage Costs Associated

Same use after construction. Parking lot repaved over storage facility.

During construction, minimal impacts to residential streets

Access hatches installed at pavement grade so traffic can drive on them

Construction would be coordinated with Event Center to avoid conflicts with large events

During O&M, minimal traffic impacts

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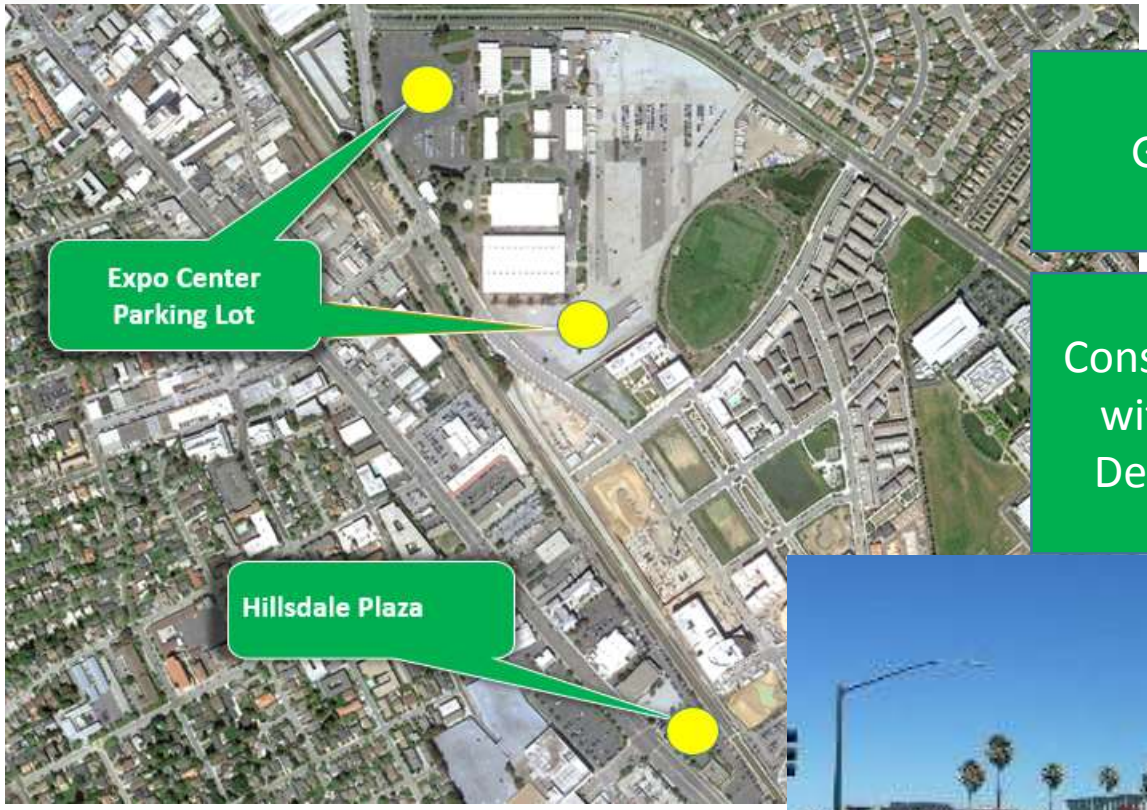
Hillsdale Plaza & Expo Event Center



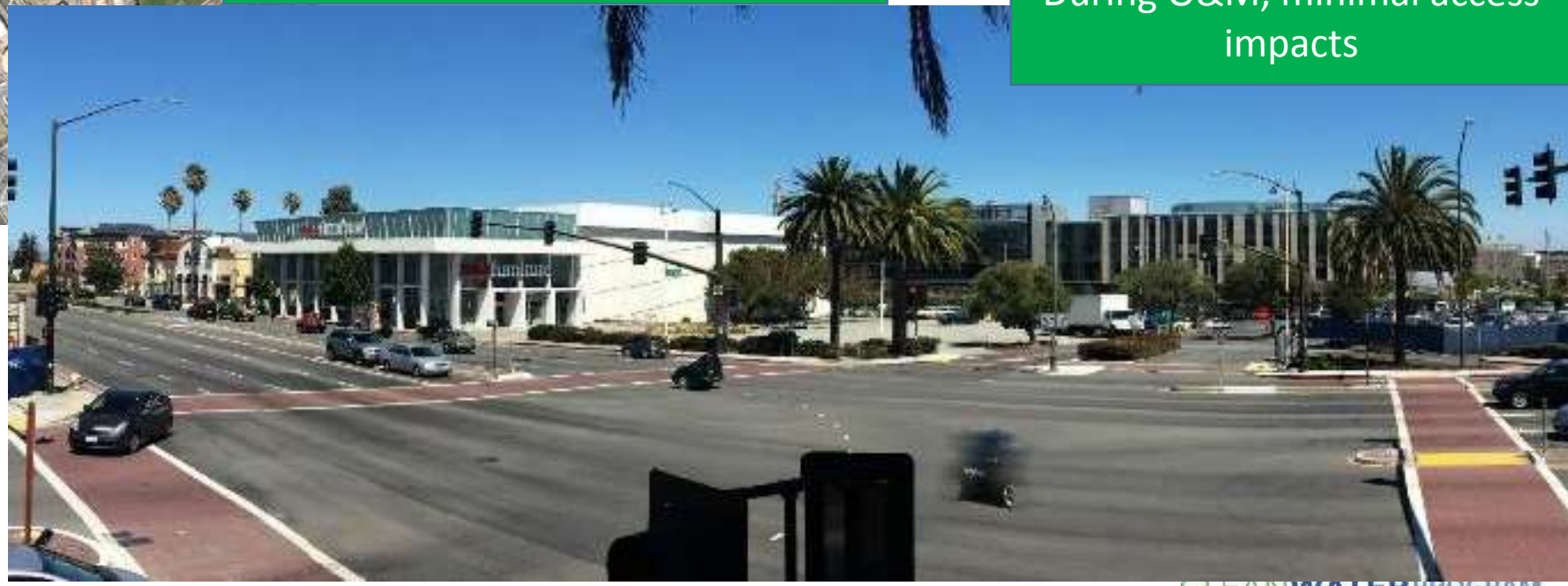
In two commercial areas. Greater impact than a single location.

Construction would be coordinated with Event Center, Hillsdale Site Developer & Joint Powers Board

Parking lot repaved over storage facility.

Access hatches installed at pavement grade so traffic can drive on them

During O&M, minimal access impacts



During construction, minimal impacts to residential streets

Not City Owned Properties. Usage Costs Associated.

Fiesta Meadows Park

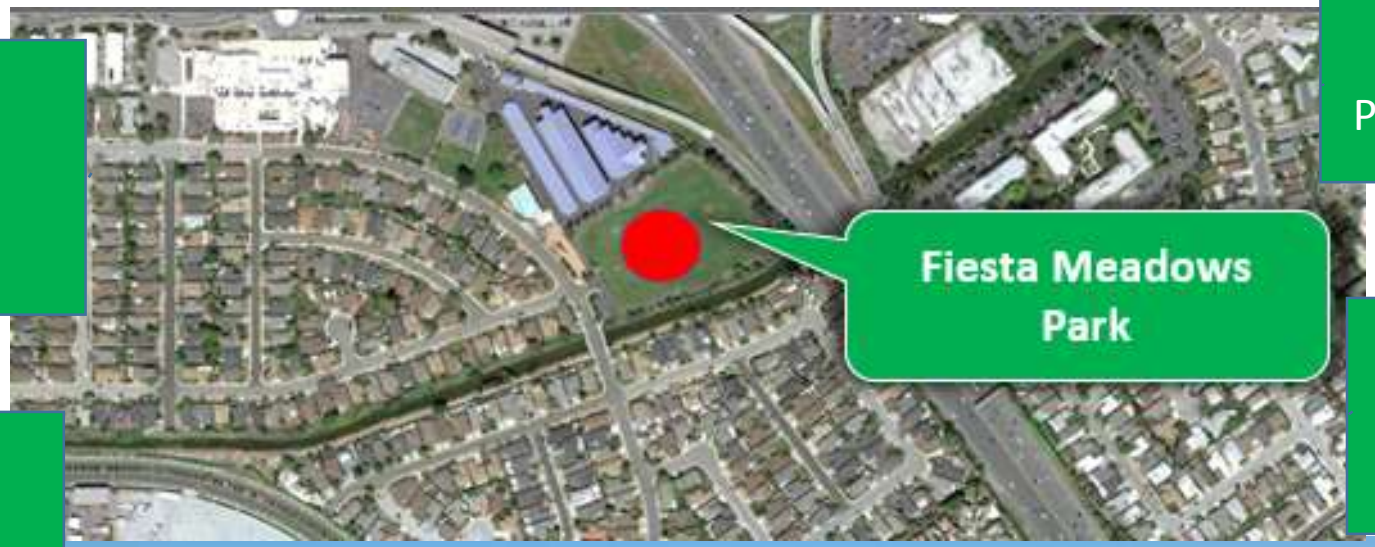
City Owned Property

Usage fees may apply

No park usage during construction

Potential impacts to residential streets.

Alternative construction access routes being investigated.



Opportunity to Redesign Parking Lot to Increase Parking

New Synthetic Turf or Grass Field can be built over storage Facility

Synthetic Turf would reduce maintenance costs and provide all-season surface

Access hatches located at edges of grass or within asphalt paved areas

Delaware Street Alignment Tank

6,300 Feet Long
12 Foot Diameter
60 Feet Deep

Tunnel will be concrete pipe or lined with concrete segments

Tunnel Boring Machine (TBM) & Special Tunneling Permit Required

Feeling vibrations from TBM operations is unlikely at the proposed depths

North End: North of Hwy 92
South End: South of 28th Ave

Deeper Excavations for TBM Entry/Exit Locations & Maintenance Access Hatches

Require Property Not Owned by City for Excavation & Access Hatch Locations

During O&M, minimal traffic impacts

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Bay Meadows Park

The City has reviewed the park dedication from Bay Meadows and concur with Wilson Meany that restrictions exist that could prohibit the location of an in-system storage basin in the Community Park at Bay Meadows.

The Program will no longer consider a basin in this location and have focused our attention and analysis on the other alternatives.

The findings & this determination will be incorporated into the Alternatives Analysis Report.

What is the difference in estimated cost between the options?

Alt	Name	Construction Cost	Additional Costs
1	Expo Parking Lot	$28.5 M	Easements, Use Fees
2	Corporation Yard	$35.7 M	Use Fees
3	Bay Meadows	-	-
4	Fiesta Meadows	$33.0 M	Potential Use Fees
5	Hillsdale Plaza & Expo	$34.5 M	Easements, Use Fees
6	Tunnel Tank	$78.2 M	Easements

- Storage tank construction costs range from $28 – $36 million
- Does not include design costs, project and construction contingency, and special site restoration
- Does not include property acquisition or use fees
- Does not include other Basin 2 and 3 pump station and pipeline projects

Questions & Feedback

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Topic 4

CEQA Process

What is CEQA?

The California Environmental Quality Act (**CEQA**) is a California statute passed in 1970, shortly after the United States federal government passed the National Environmental Policy Act (NEPA), to institute a statewide policy of **environmental protection.**

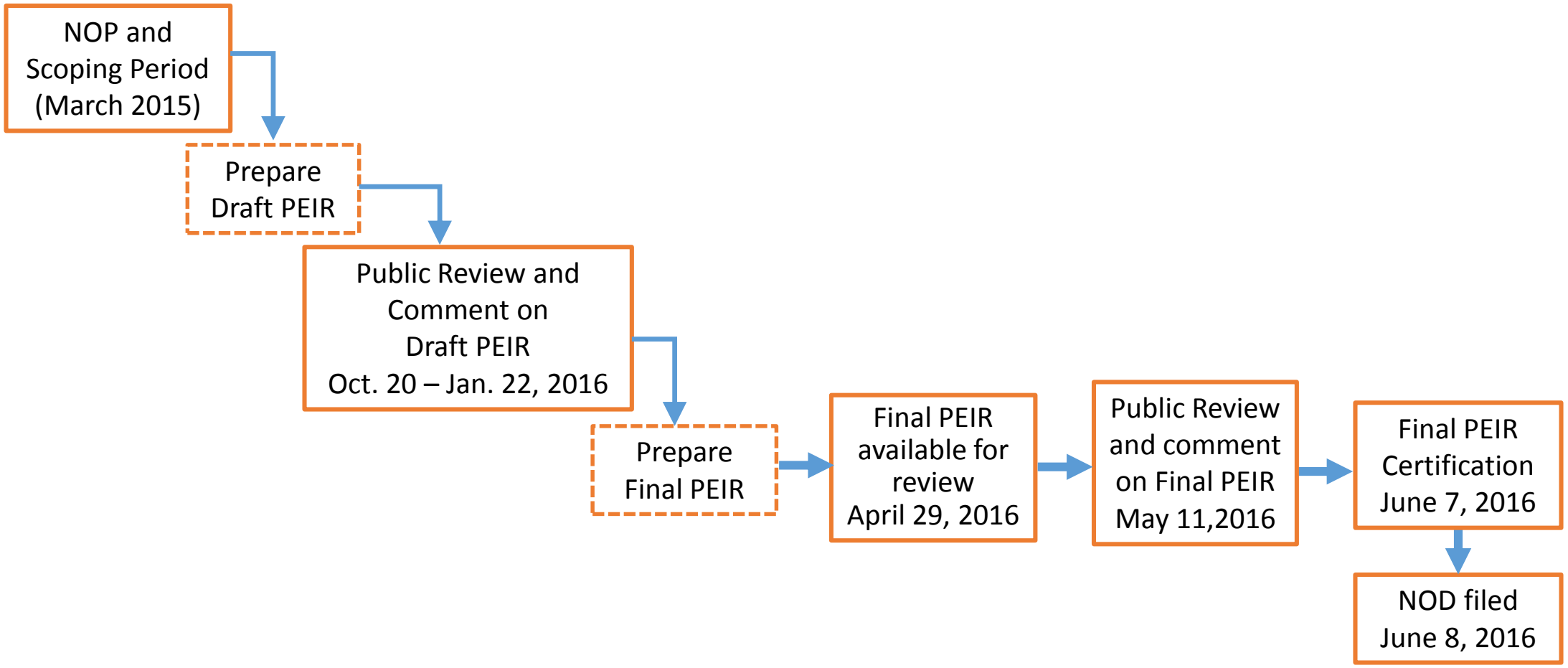
What does CEQA require?

CEQA requires state and local agencies within California to follow a protocol of analysis and public disclosure of **environmental impacts of proposed projects and adopt all feasible measures to mitigate those impacts.**

Resource Areas Evaluated

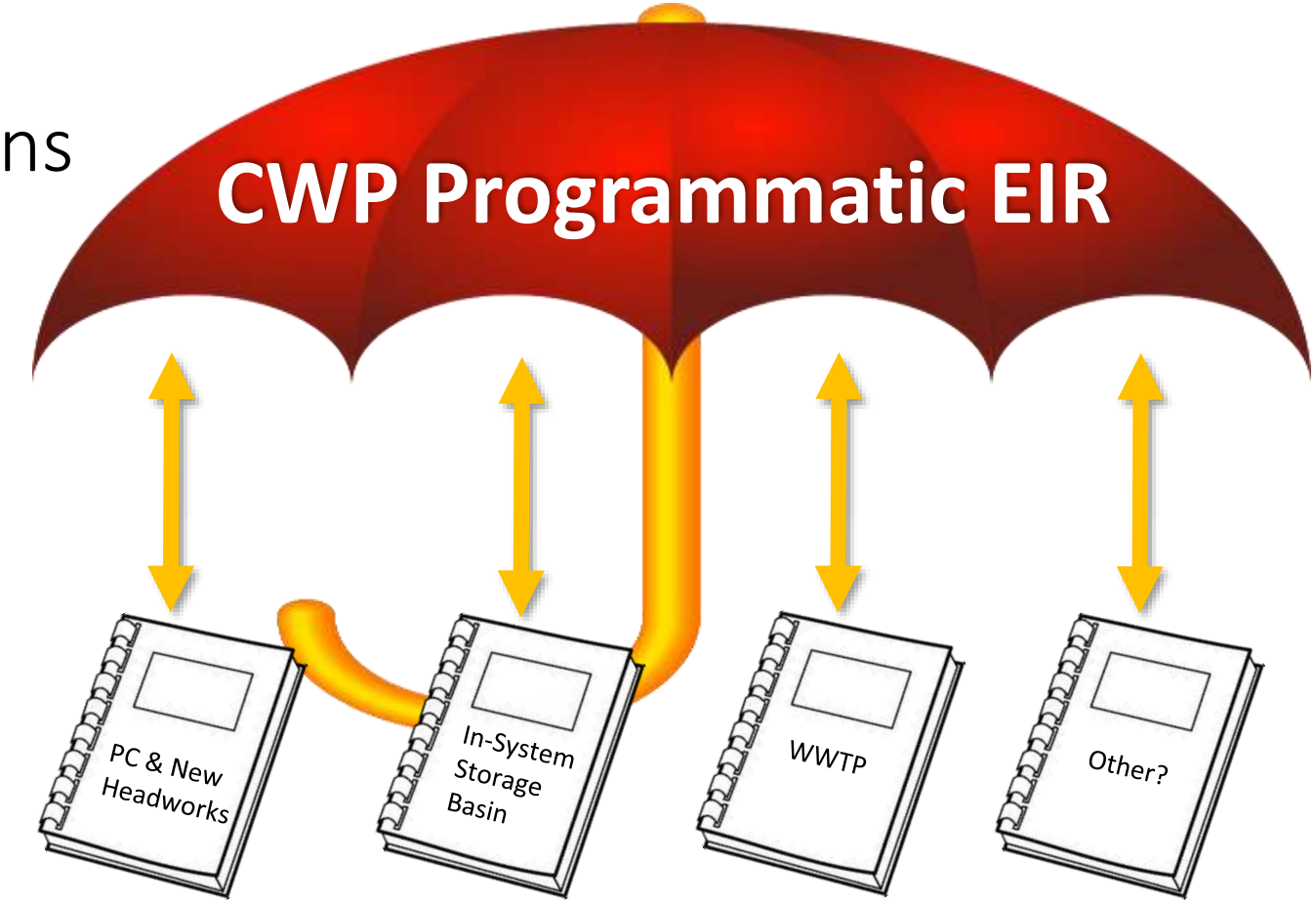
- Aesthetics
- Air Quality (including odors)
- Biological Resources
- Cultural Resources
- Geological and Soils
- Greenhouse Gases
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities
- Cumulative and Growth-inducing Impacts

Overview of PEIR CEQA Process



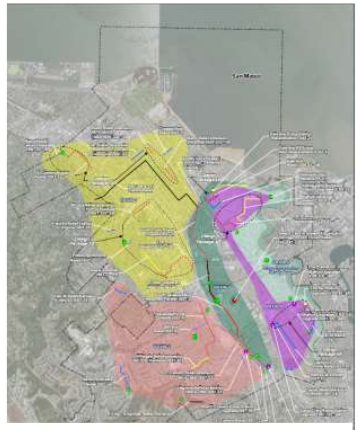
Programmatic EIR Approach

- Programmatic review used for a program or series of linked actions or projects
- PEIRs analyze broad environmental effects of a program; not all impacts can be evaluated at a detailed level
- **Future project-specific environmental review may be required**



Program Projects

- Two projects evaluated at project level of detail
  - *New Headworks Project*
  - *Primary Clarifier Replacement Project*
- New, extended, and upsized sanitary sewer relief pipeline projects
- Rehabilitation and upgrade of pump stations
- New and upgraded WWTP facilities including treatment process options
- Ancillary WWTP facilities (e.g. maintenance facilities, parking, etc.)



Bundled Collection System

Two Program Alternatives Evaluated in the PEIR

- Full Conveyance Alternative
  - Transport all wet weather flow (WWF) to treatment plant
  - Increase pipe & pump station capacities to convey 98 MGD of WWF
  - Construct larger WWTP facilities to handle the projected flows
- In-System Storage Alternative (Selected)
  - Infrequently and temporarily stores diluted wastewater upstream of WWTP during wet weather events
  - Construct underground In-System Storage basin(s)

Both Alternatives basically use the same WWTP Wastewater Management, Treatment Approaches, and Treatment Facilities

Impact Summary

- Both Full Conveyance Program and In-System Storage Program alternatives would meet all the CWP objectives
- Impacts of the two alternatives would be very similar
- With one exception (noise & vibration during construction), all impacts could be mitigated to a less than significant level

Public Comments

- Five comment letters were received on the Draft PEIR
- Oral comments from public hearings were recorded by ten individuals (one individual spoke on two separate occasions)
- A total of 187 individual comments were received.
- Primary comment topics included:
  - —*Approach to the EIR*
  - —*Program Description/Alternatives*
  - —*Aesthetics*
  - —*Odor*
  - —*Sea level rise*
  - —*Noise*
  - —*Public participation/noticing*

PEIR CEQA Process Highlights

- **Full compliance** with CEQA notifications, reviews, and requirements
- City provided over ***90 days*** of public review for Draft PEIR; ***CEQA requires minimum 45 days***
- City held **three Public Works Commission** hearings and three additional public outreach opportunities; ***CEQA requires one public hearing for an EIR***
- Distributed to **15 resource agencies**
- Addressed **over 180 comments** (written and verbal) on Draft PEIR

Final PEIR

- Prepared responses to individual comments and Master Responses that discuss the Approach to Environmental Review of CWP and Alternatives
- Only minor changes were made to the text and figures in the Draft PEIR that serve to correct, clarify, and update elements of the Draft PEIR
- The changes to the Draft PEIR did not constitute a significant change to the original text, or alter the fundamental assessment of environmental impacts
- Mitigation Monitoring or Reporting Program developed to guide implementation of mitigation measures in Final PEIR
- Final PEIR distributed on April 29, 2016

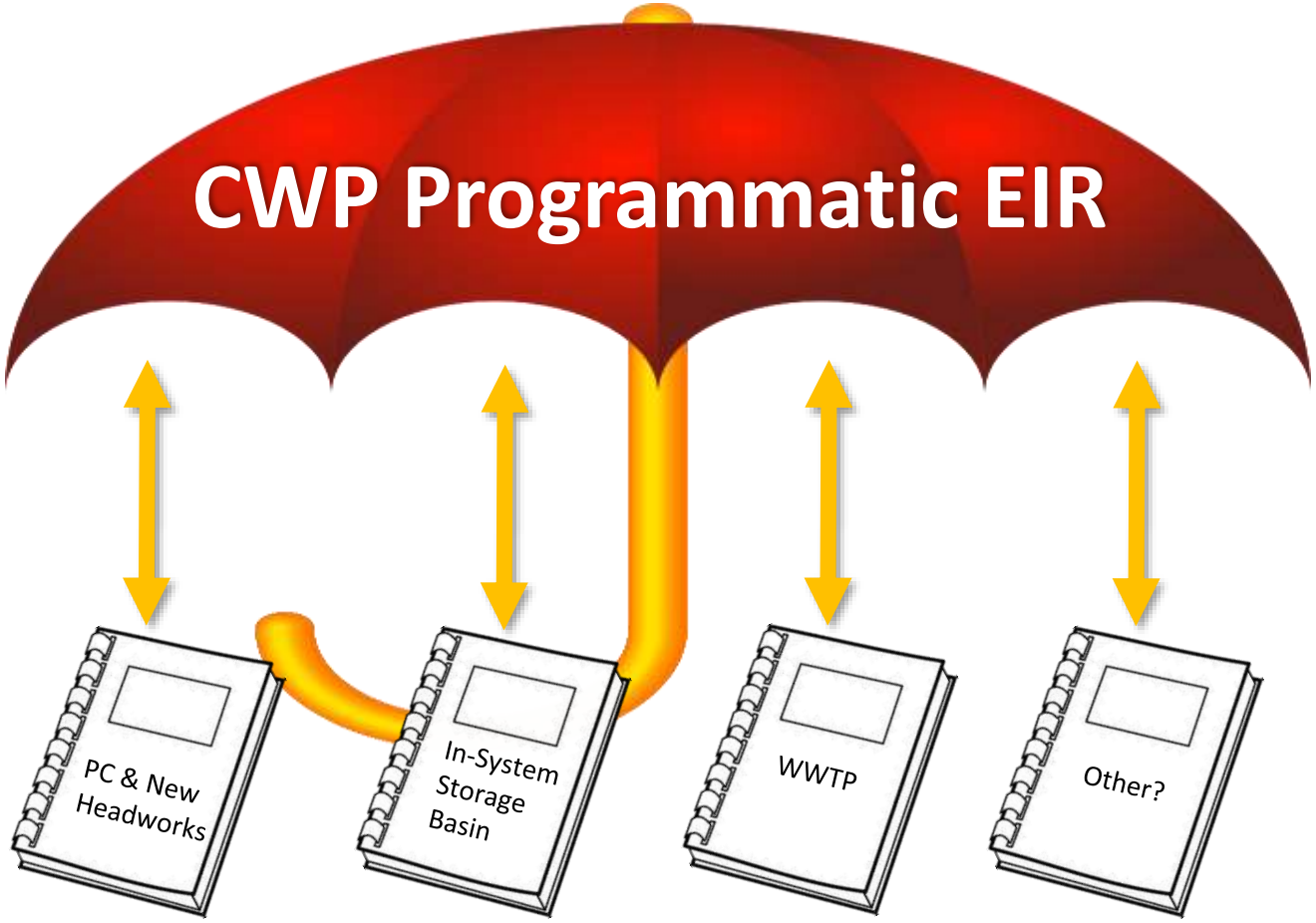
Final PEIR Approval & Certification

- Public Works Commission recommended that City Council certify the PEIR and adopt the In-System Storage Alternative

- Unanimous June 2016 City Council decisions:
  - Certify PEIR
  - Adopt In-System Storage Alternative
  - Approve Primary Clarifier and Headworks Projects
  - Adopt Mitigation Monitoring or Reporting Program (MMRP)

Future CEQA Evaluation

Prior to implementation of individual projects, each project would be evaluated in relation to the Final PEIR and ***additional CEQA evaluation may be conducted. Additional environmental permits may be required.***



Questions & Feedback

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Topic 5

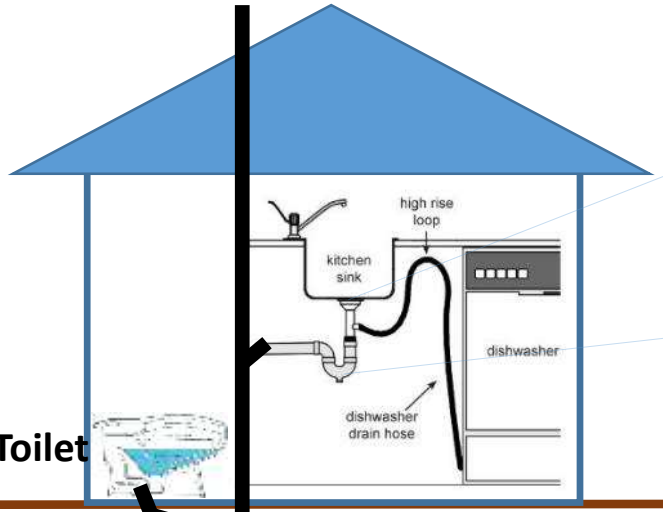
Environmental & Air Quality Mitigations

Topics – Questions to Address

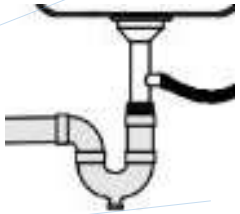
- Where do Air Emissions Occur?
- How Are Air Emissions addressed in PEIR?
- What are the next steps after PEIR?
- What are the Regulatory Trigger Levels for Controls & Human Health Risk Assessments?
- How are other items of concern addressed?
- What is the ISS Facility Air Emissions Abatement Strategy?

Air Emissions Release Points

Vent – No Controls
Emits VOCs, sewer gas & odors



Toilet



P-Trap
Prevents VOCs & Odor
Gas does penetrate the water caught in the trap

Maintenance Holes – No Controls
Emits VOCs, sewer gas & odors

Sewer Maintenance Hole

Lateral

Sewer gases (VOCs, sewer gases & odor)

Sewage

Where Air Emissions Occur During Normal & Wet Weather Operations
PEIR also Accounts for Construction Air Emissions (From Trucks, Equipment, etc.)

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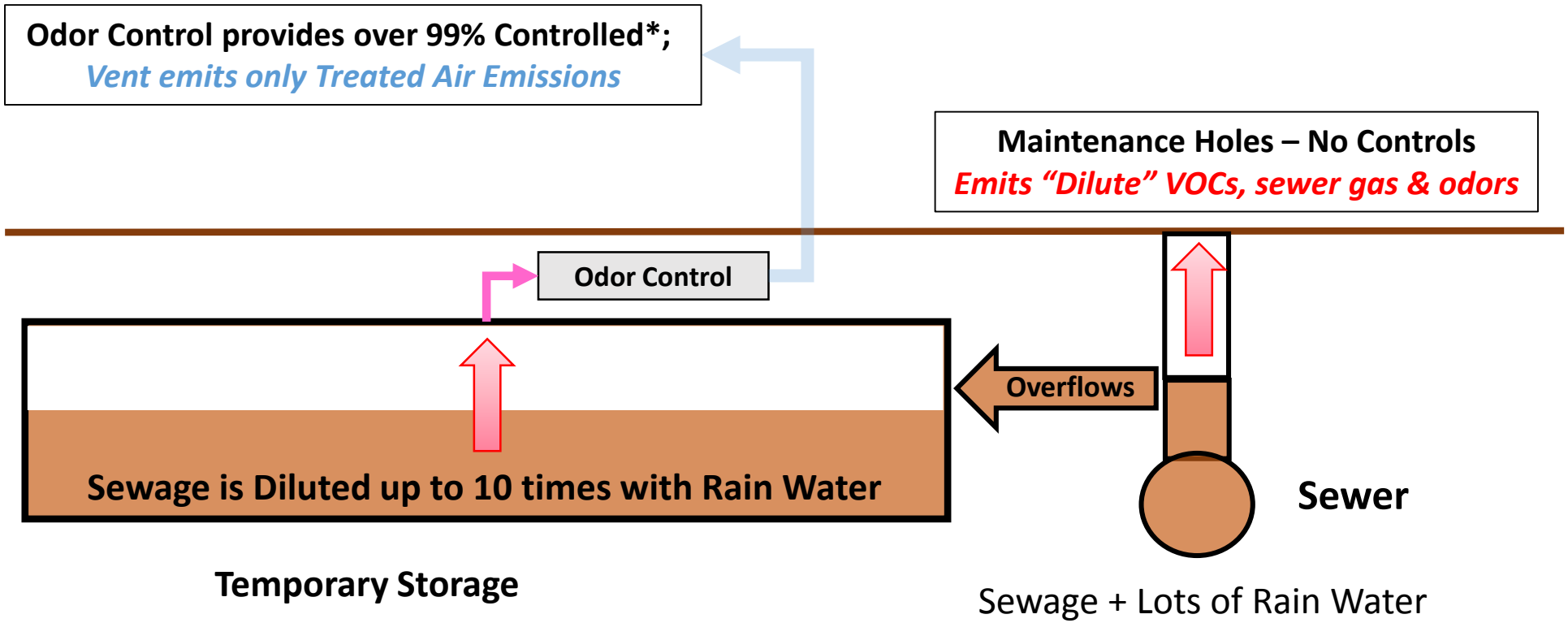
PROTECTING THE BAY FOR A SUSTAINABLE FUTURE

ISS Air Emissions Release Points

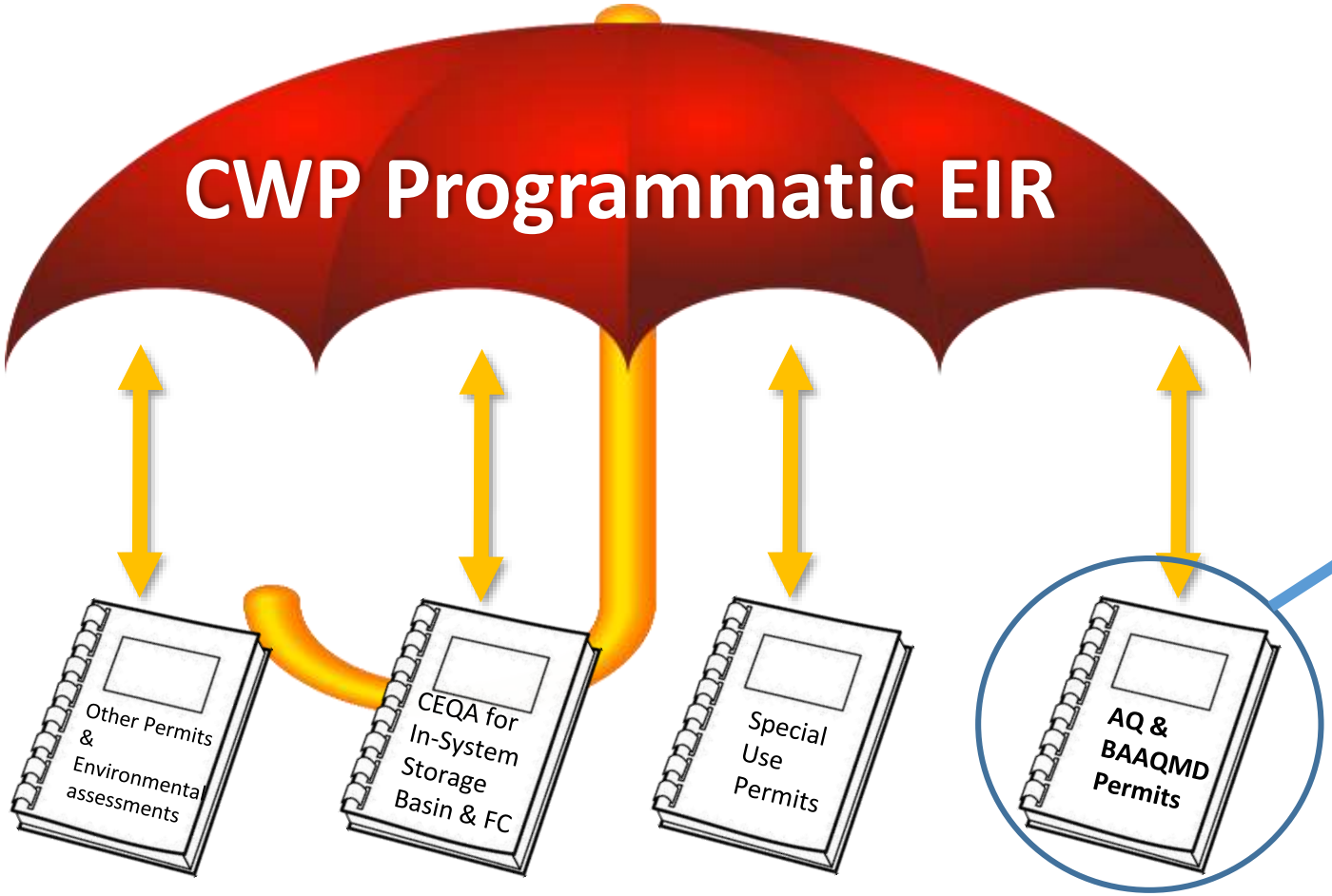


Where Air Emissions Occur During Wet Weather Operations

PEIR also Accounts for Construction Air Emissions (From Trucks, Equipment, etc.)

* = Industry Design Standard for Activated Carbon Removal

How FC & ISS Air Emissions Are Addressed in the PEIR



Next Steps

Air Emissions Management Post PEIR

1.

CEQA Project Specific Determination

Possible Additional Mitigation, Risk Assessments, and Environmental Investigations

City Applies for BAAQMD Permit To Operate

2.

BAAQMD Permit To Operate (PTO)

PTO covers Local, CA, and Federal Air Quality Laws & Regulations

(Protects Human Health & Well Being)

BAAQMD Conducts Comprehensive Screenings

3.

PTO Verification Source Testing

BAAQMD issues Authority to Construct (A/C) with Mitigation and Permit Monitoring & Compliance Conditions for Construction & Operations

Emission Source is Constructed

To Get PTO, must pass Source Testing

Regulatory Triggers for Controls, Risk Assessments and Further Environmental Investigations

Pollutant	Regulatory Trigger Amount (lb/day)	ISS Operating Worst-Case Emission (lb/day)	FC Operating Worst-Case Emissions (lb/day)
VOC – Major Source (MS) and BACT Trigger	10	< 1	<10
CO – General Conformity, MS	100, 10	0	0
NOx – General Conformity, MS	100, 10	0	0
SOx – General Conformity, MS	100, 10	0	0
PM – General Conformity	100	0	0
HAPs – MACT Trigger	20,000 per HAP and/or 50,000 Total HAPs	<1	<10
Air Toxics – Risk- Assessment Trigger for Chronic Exposure	Greater than 1 (Unit) = Risk Assessment	<1	<1
Air Toxics – Risk Assessment Trigger for Acute Exposure	Emission Rates Greater than Allowed in BAAQMD Table 2-5-1 = Risk Assessment	All Emission Rates less than allowed in BAAQMD Table 2-5-1	All Emission Rates less than allowed in BAAQMD Table 2-5-1

How Other Items Of Concern Are Addressed

Pollutant of Concern	Mitigation	Future Actions
Biotoxins – Mold & Fungi Spores	Cleaning after each use 24/7 continuous ventilation – system will be dry and out of use over 8,000 hrs/yr	If new Regulations warrant additional mitigation for these type of compounds, then mitigation will be implemented
By-Products of Construction Activities	Implement best practices for dust control Diesel emissions regulated under state air regulations	Will require sources to meet any future emission standards during construction in construction contracts as passed by CA for these types of emission sources.
Additional Chemicals not currently or pending being regulated by Federal, CA, or BAAQMD Agencies	Most Compounds of Concern are currently regulated by Air Toxics, HAPS, PM, and VOCs regulations	If a new regulation focused on these compounds of concern is passed, then will implement mitigation as required

ISS Facility Air Emissions Abatement Strategy

Technology	H2S (% Removal)	Total Odors (% Removal)	Ammonia (% Removal)	VOCs (% Removal)	Other Pollutants – PM, HAPs, Air Toxics, Vapors (% Removal)
Carbon Scrubber System and Exhaust Vent	Range is 80 to +99 ISS Application is +99	Range is 70 to +99 ISS Application is +99	Range is 50 to 90 ISS Application is 90	Range is 90 to +99 ISS Application is +99	Range is 95 to +99 ISS Application is +99

Questions & Feedback

www.cleanwaterprogramsanmateo.org

Tentative Outreach Schedule

Community Meetings
October 4th
October 6th

PW Commission Meeting
October 12th

Future Meetings
TBD

Methods to Stay Informed & Provide Input

Sign Up for Email Updates

info@cleanwaterprogramsanmateo.org

Register for Private Neighborhood Updates

www.NextDoor.com

Contact Us

www.CleanWaterProgramSanMateo.org

650-727-6870


CLEANWATERPROGRAM

Frequently Asked Questions

What is the Clean Water Program?

What is a wastewater treatment plant? How does it work?

What are the goals for the Clean Water Program?

What happens if we do not comply with regulatory requirements?

How are the Clean Water Program projects funded?

What is the City's strategy to engage and educate the public about this program?

Questions or More Information?

CLEANWATERPROGRAM

PROTECTING THE BAY FOR A SUSTAINABLE FUTURE

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