



**Orinda Water Treatment Plant
Disinfection and Chemical
Systems Safety Improvements
Projects Update**

Planning Committee

September 14, 2021

Agenda



- Background
- Traffic control measures and coordination
- Community engagement
- Contractor pre-qualification and partnering
- Temporary office and maintenance facilities
- Next steps

Projects Location & Setting



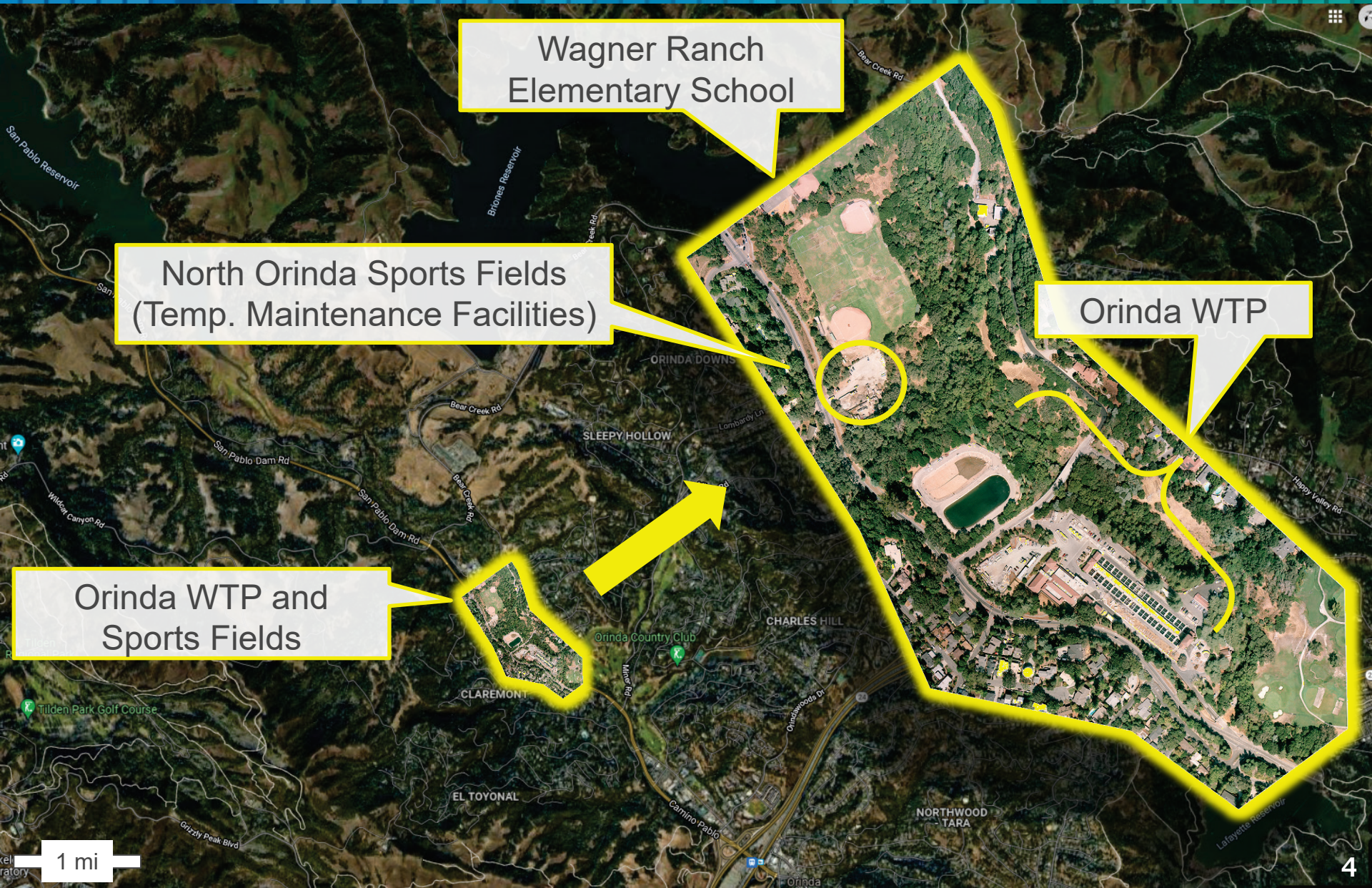
San Pablo Res.
Staging Area

Orinda WTP and
Sports Fields

25 Orinda Way
(Rental Office Space)

1 mi

Projects Location & Setting



Wagner Ranch
Elementary School

North Orinda Sports Fields
(Temp. Maintenance Facilities)

Orinda WTP

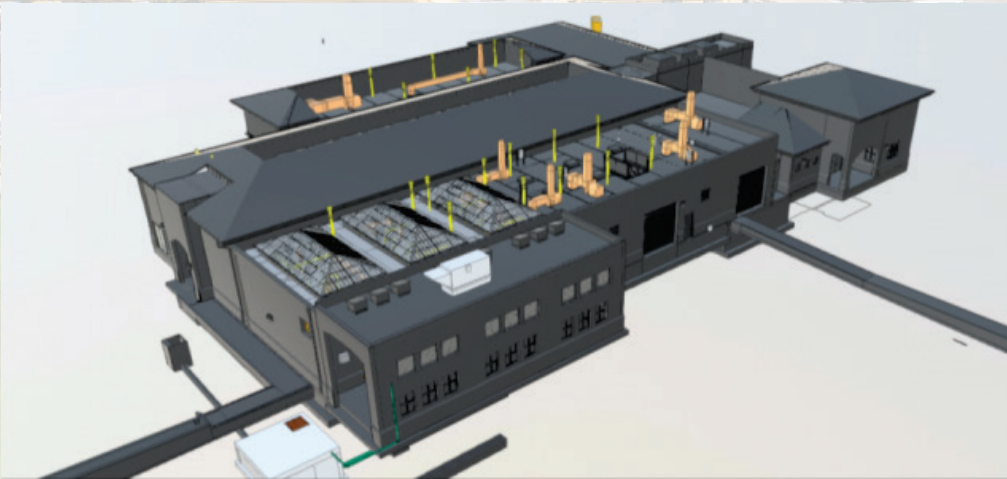
Orinda WTP and
Sports Fields

1 mi

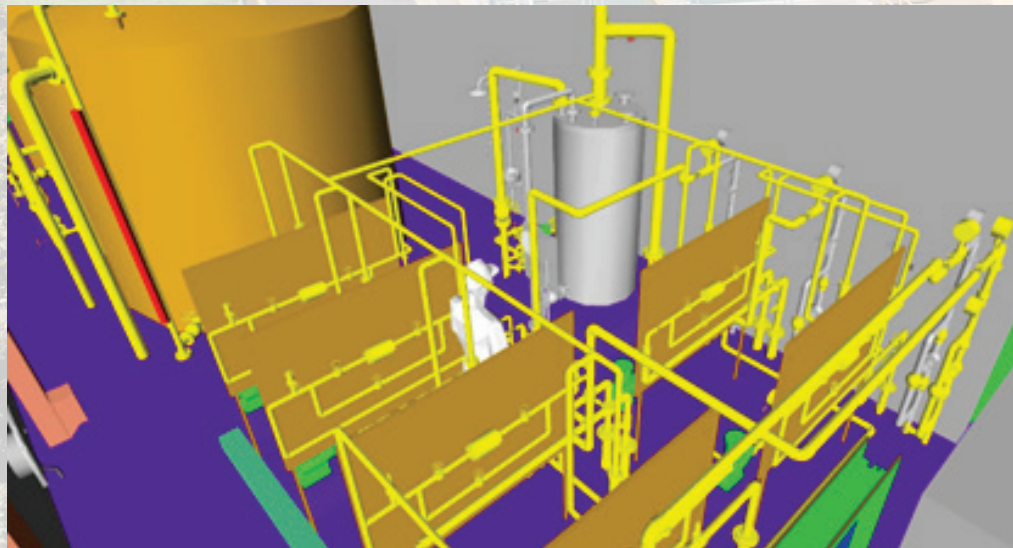
Orinda WTP Disinfection Improvements



Chemical Systems Safety Improvements



- Improve chemical systems safety
- Replace chemical storage and feed systems
- Provide temporary chemical feed facilities to keep Orinda WTP producing 24-7



Traffic Control Measures and Coordination



Contractor must meet the following:

- Limited work hours for off-haul and heavy equipment trucks
- No queueing, idling or parking on City streets
- Weekly meetings between Orinda Police Department and Contractor during heavy truck traffic (excavation & concrete)
- Flaggers, crosswalk striping, clear signage, radar feedback signs



TRUCK HOURS

Soil and Demolition Off-Haul and Heavy Equipment



Delivery Trucks

• 9:00 AM to 4:00 PM Year-Round

Concrete Trucks



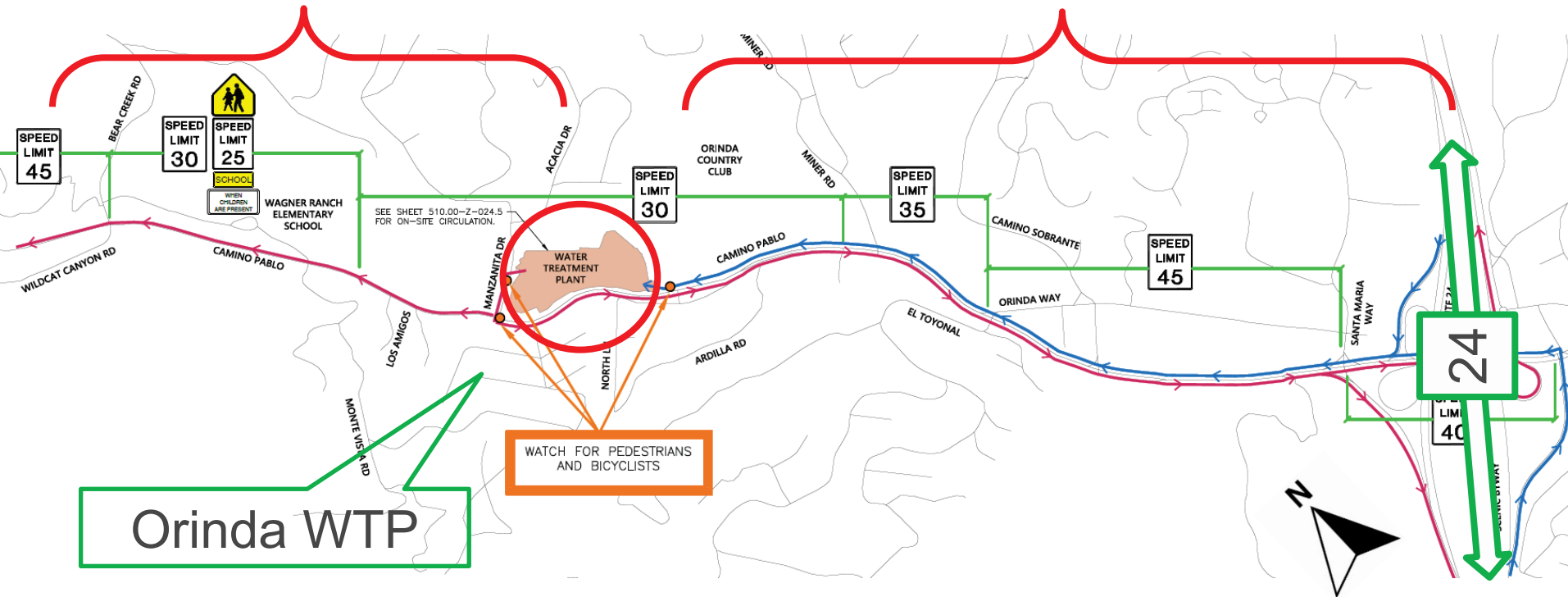
• 6:00 AM to 6:00 PM Year-Round

Traffic Control - Haul Routes



Staging and materials from San Pablo Reservoir

Heavy truck routes shown in blue (entry) and red (exit)



Other Construction Mitigations



- Landscaping work will happen early in the construction to allow time for the plants to become established
- Project sign posted at the job-site with project name and community affairs' contact information
- Dust control and monitoring for dust generating activities, covered trucks
- Noise control and monitoring

Community Engagement



- Extensive outreach
- Dedicated Project website
- Mailers, emails, social media posts, and phone calls
- Community affairs Q&A email address

Orinda Water Treatment Plant Disinfection Improvements Project

Orinda WTP Disinfection Improvements Project Final Supplemental EIR

Orinda WTP Disinfection Improvements Project Final Supplemental EIR Volume III is available below in the documents section and includes the Draft Supplemental EIR Volumes I and II.

Orinda Water Treatment Plant Disinfection Improvements Project

As part of EBMUD's Water Treatment and Transmission Improvements Program (WTTIP), EBMUD is upgrading and replacing existing facilities and constructing new facilities at the Orinda Water Treatment Plant (WTP), located at 190 Camino Pablo in the City of Orinda, California. Built in 1955, Orinda WTP is the heart of the EBMUD water distribution system, delivering water to more than 800,000 customers every day, including customers in the City of Orinda.

The Orinda WTP Disinfection Improvements Project (Project) will improve current water treatment processes by adding ultraviolet (UV) disinfection and a chlorine contact basin. Adding these disinfection improvements will reduce the formation of disinfection byproducts which form when chlorine reacts with naturally-occurring organic matter in water. The Project will provide reliable water treatment infrastructure that meets long-term operational needs and will continue to meet drinking water and environmental regulations to achieve EBMUD's Internal long-term water quality goals. The Project includes demolition of an existing maintenance building and construction of a new disinfection facility comprised of a new above-ground two-story maintenance and UV electrical (MAUVE) building with a below-grade UV structure and a below-grade chlorine contact basin (CCB), two electrical buildings, a standby generator, pipelines and vaults, and other supporting facilities. The MAUVE building with structure and the CCB would be adjacent and fully integrated facilities. Maintenance activities and associated uses previously housed in the existing maintenance building that will be demolished will be incorporated into the Project disinfection facility and grounds maintenance building with associated parking at the Orinda WTP site. The Project will also remove vegetation, install landscaping, replace existing and install new security fencing, and restore the site following construction.

Construction is expected to occur over a four and a half-year period from 2022-2026.

Workplan and Schedule

The Project is a modification of the disinfection improvements that were analyzed in EBMUD's WTTIP Environmental Impact Report (EIR), which EBMUD prepared a Supplemental EIR for the Project.

The overall workplan and schedule is as follows:

- Notice of Preparation (NOP) of Supplemental EIR Publication – August 15, 2019
- NOP Scoping Meeting #1 – August 26, 2019 at Masonic Lodge, 9 Altamira Road, Orinda
- Landscaping Review Public Meeting #2 – October 21, 2019 7:00 p.m. Orinda Masonic Lodge
- Virtual Community Meeting #3 – May 13, 2020 6:00 p.m. Presentation Recording site
- Draft Supplemental EIR Publication – July 24, 2020
- Public Meeting to Review Draft Supplemental EIR – August 20, 2020
- Final Supplemental EIR Publication – August 20, 2020 6:00 p.m.

ORINDA WATER TREATMENT PLANT
DISINFECTION IMPROVEMENTS
ORINDA, CA



ORINDA WATER TREATMENT PLANT

Disinfection and Chemical Systems Safety Improvements Project



Orinda Water Treatment Plant Disinfection Improvements Project

Notice of Public Meeting
When: Monday, October 21, 2019 at 7:00 p.m.
Where: Orinda Masonic Lodge, 9 Altamira Rd., Orinda, CA
 A future meeting will be held in early 2020 to address potential traffic impacts associated with the project.

Every day, EBMUD provides high-quality drinking water for 1.4 million customers in Alameda and Contra Costa counties. We maintain our pipelines and facilities to ensure reliable delivery around the clock.

Project Information:
 The Orinda Water Treatment Plant Disinfection Improvements Project, located at 190 Camino Pablo in Orinda, will improve water treatment processes. This project will add ultraviolet (UV) disinfection and a chlorine contact basin to reduce the formation of disinfection byproducts. The work includes demolition of a maintenance building and construction of the new disinfection facility and other supporting facilities. The project will also include removal of some vegetation, replacement of existing and installation of new security fencing, and restoration at the site following construction. Construction is expected to occur over a four-year period, from 2021-2025.

More information can be found at the project website at www.ebmud.com/orwaimprovements

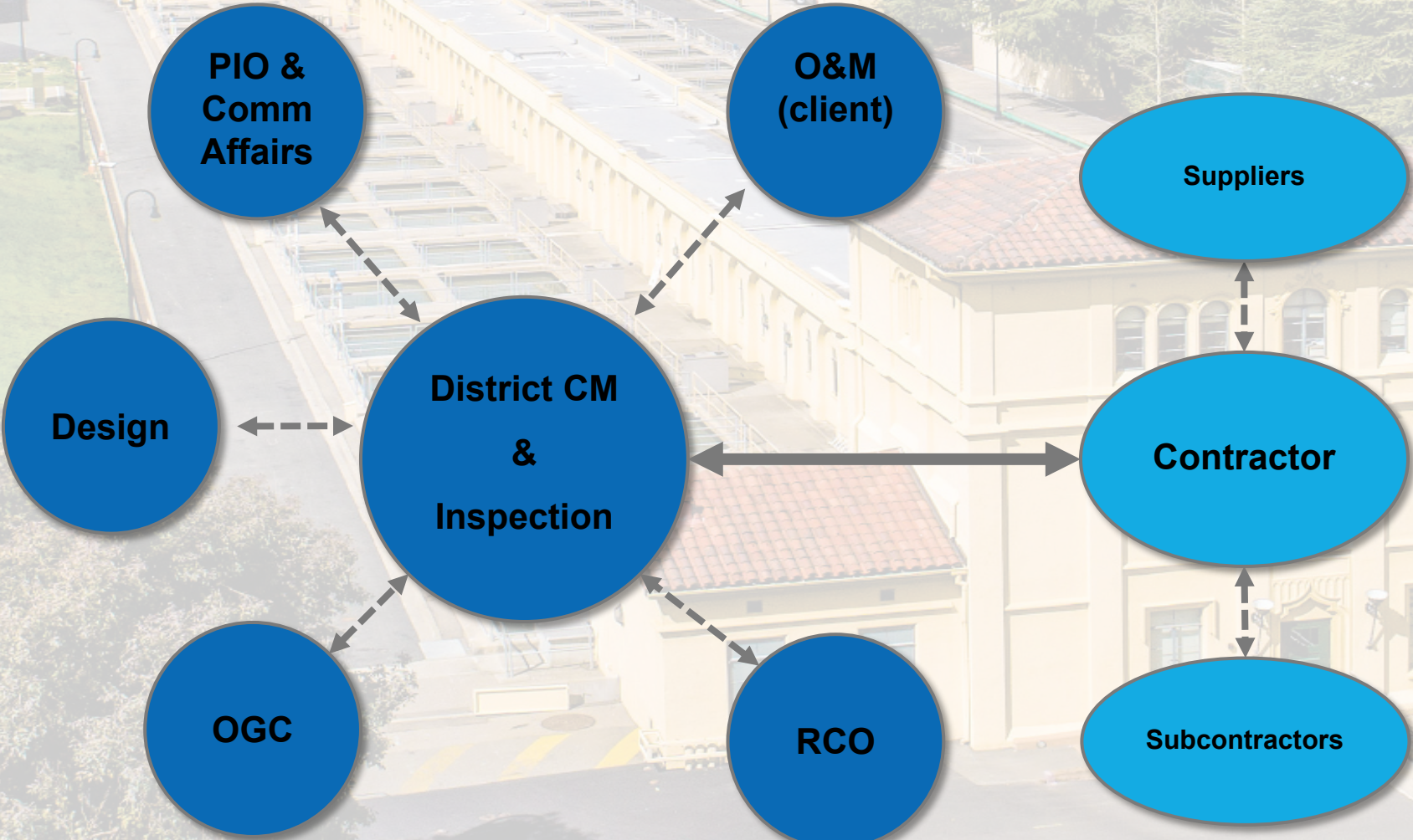


Contractor Prequalification Process



- Size and complexity of the Projects necessitates experienced and qualified contractors
- District prequalified prime contractors and specialty subcontractors for the Projects earlier this year
- Strong response from business community
 - Seven (7) general contractors prequalified
 - Nine (9) electrical subcontractors prequalified
 - Six (6) deep excavation and shoring subcontractors prequalified

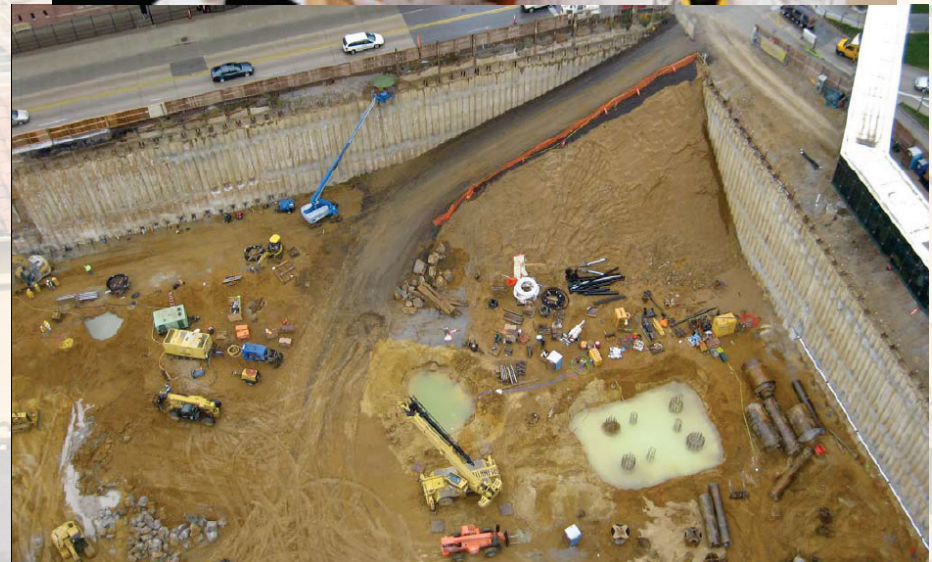
District-Contractor Business Relationships



District-Contractor Partnering Approach



- Establish business partnership
- Develop shared goals
- Deepen mutual understanding and collaboration
- Proactively identify potential challenges and develop creative solutions
- Not a substitute for contractual/legal requirements



Rental Space for Construction Staff: 25 Orinda Way Office



- Limited space at WTP
- 4,600 square foot office suite
- Used by Contractor and District staff
- Parking spaces for contractor
- Walking distance BART
- Short drive to Orinda WTP

Parking lot to be used as Contractor vanpool to encourage carpooling and mass transit



Temporary Maintenance Facility



- Orinda WTP grounds maintenance and mechanical maintenance buildings to be demolished early in project
- Temporary maintenance facility next to North Orinda Sports Fields to be used by District maintenance staff
- Sports Fields and parking area will continue to be used by community throughout Project construction

Temporary Maintenance Facility



Paving up to Sports Field fence

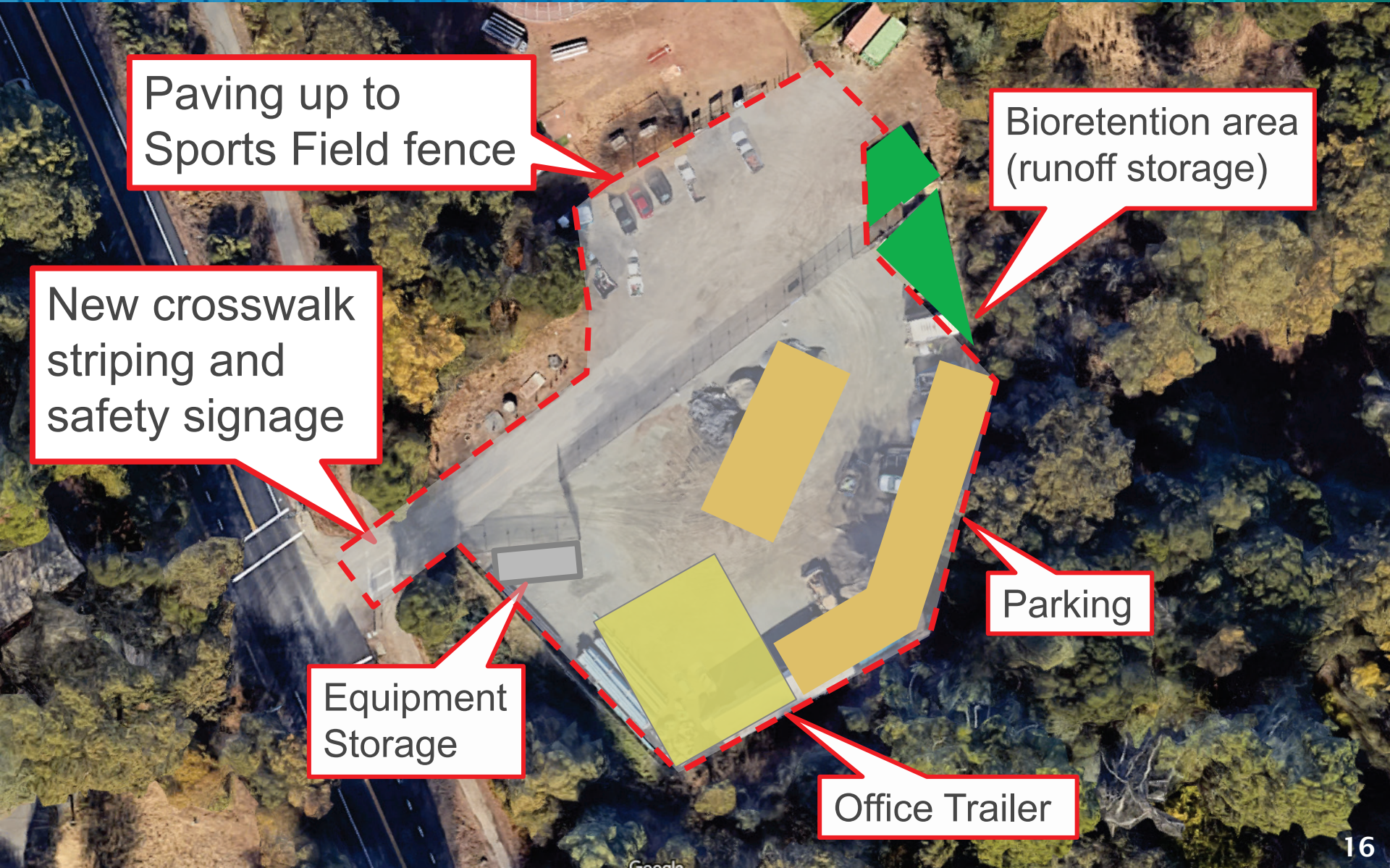
New crosswalk striping and safety signage

Bioretention area (runoff storage)

Equipment Storage

Parking

Office Trailer

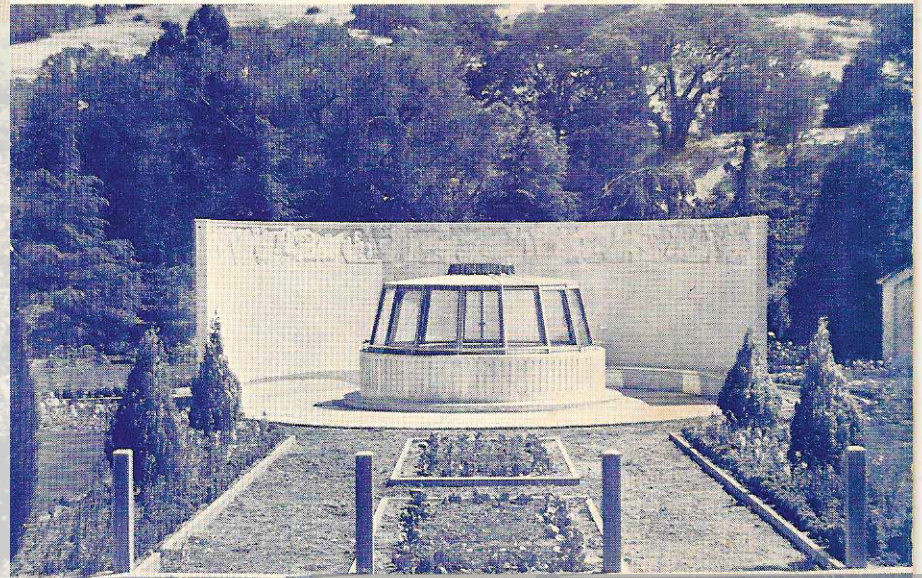
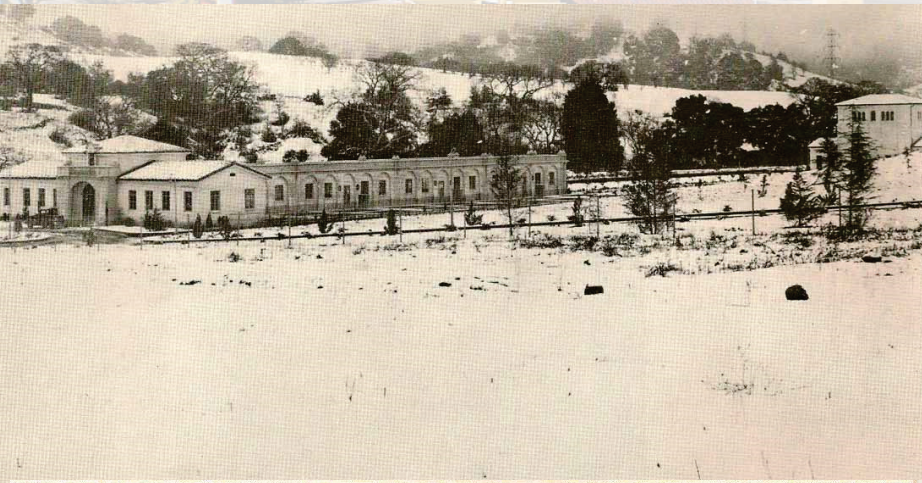


Next Steps



Date	Contract/Agreement to be Considered
September 14, 2021 (Today)	<ul style="list-style-type: none">•Rental agreement for 25 Orinda Way•Purchase of mobile office trailer for temporary maintenance facilities
October 2021	<ul style="list-style-type: none">•Contract award for Orinda Sports Fields Temporary Maintenance Facilities
December 2021	<ul style="list-style-type: none">•Contract award for Orinda WTP Disinfection Improvements and Orinda WTP Chemical Safety Improvements Projects•Engineering Services during Construction contracts with design consultants
December 2021	<ul style="list-style-type: none">•Construction Management and inspection contracts

Questions?



Orinda WTP in the Past... and Future

Water Quality Program Semi Annual Update

Planning Committee

September 14, 2021

First Six Months of 2021



- Met all state and federal drinking water regulations
- Met 97% of internal water quality goals
 - Significantly more stringent than regulatory requirements
 - 120 of 124 goals were met
 - Unmet goals associated with disinfection byproducts



Disinfection Byproducts

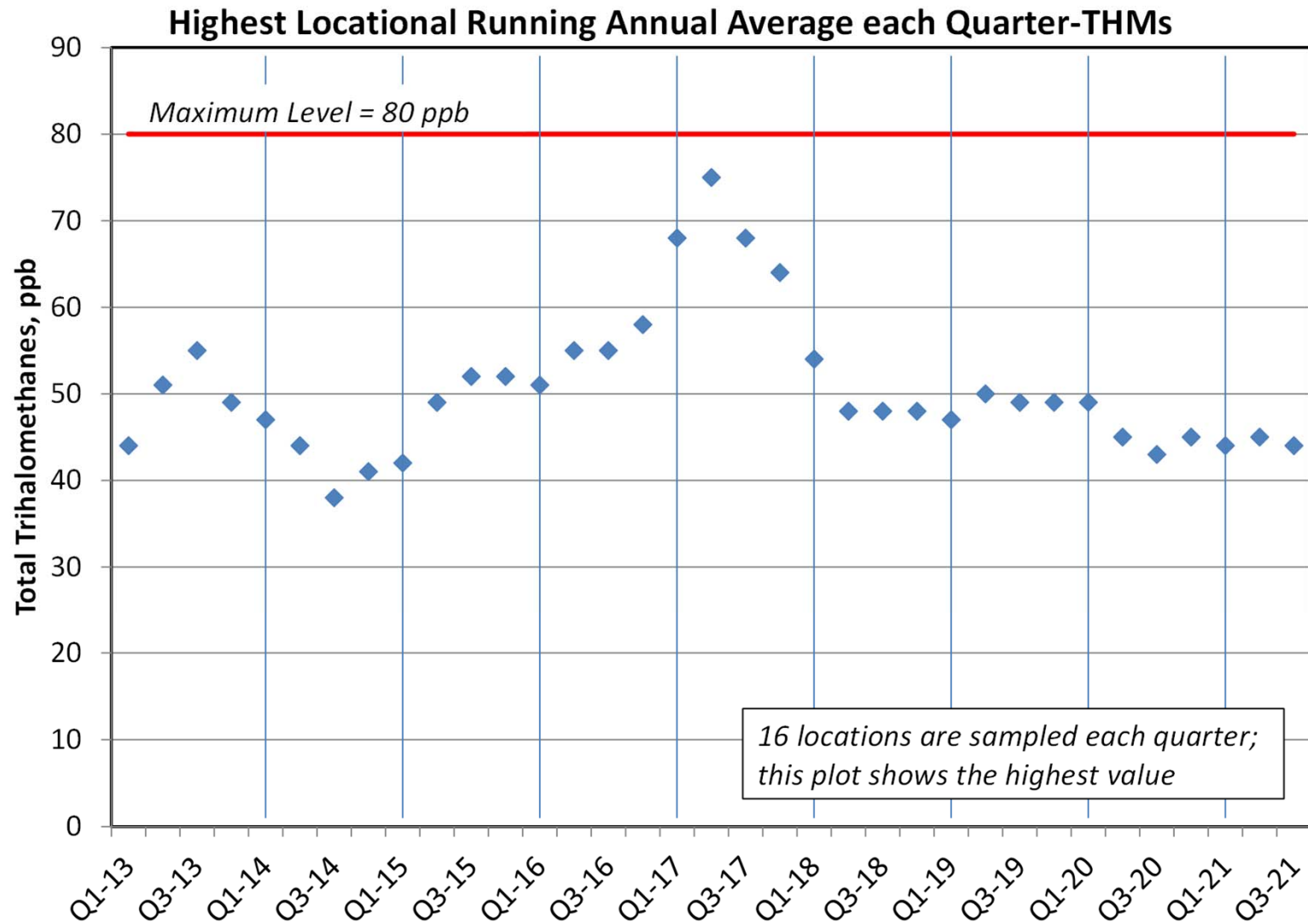


- Trihalomethanes (THMs)
 - Byproduct of chlorination process
 - 1 of 32 individual locations exceeded goal
- Haloacetic Acids (HAA5)
 - Byproduct of chlorination process
 - 3 of 32 individual locations exceeded goal
- N-nitrosodimethyl amine (NDMA)
 - Byproduct of chloramination process
 - 4 of 10 individual locations exceeded goal

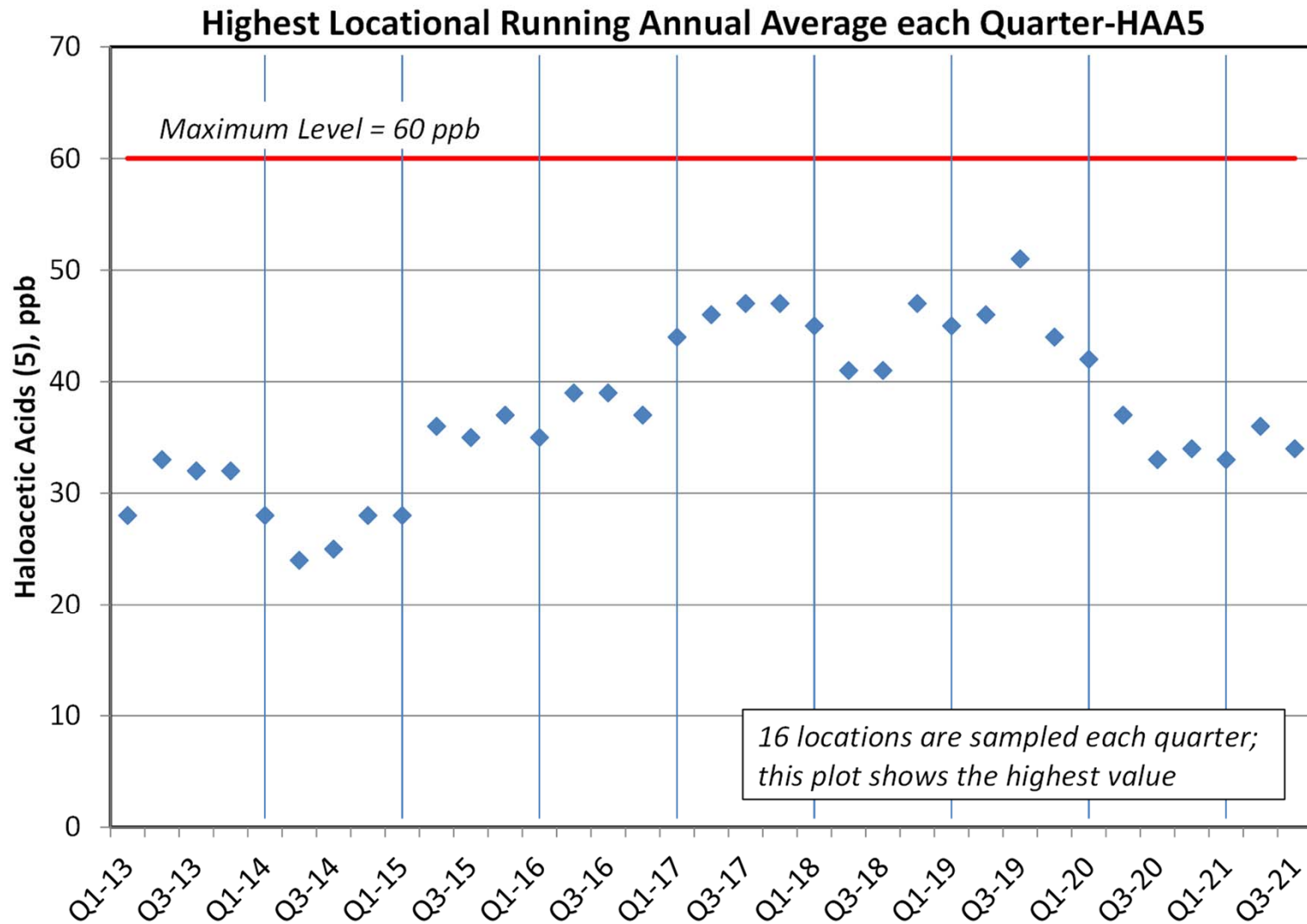
Regulated

Not Regulated

Trihalomethanes



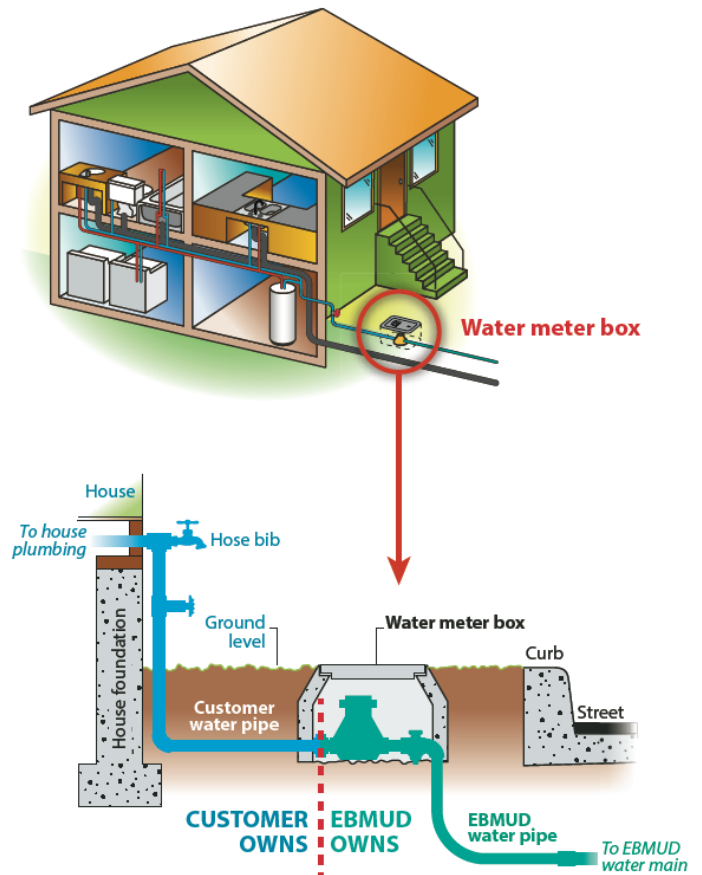
Five Haloacetic Acids (HAA5)



Lead



- More than 2,000 customers requested sampling vouchers
- Continue refining service line inventory, replace remaining lead components
- Occasionally discover lead materials, work with customers to reduce exposure while removing these materials
- Triennial Lead & Copper Rule monitoring done in 2021, results are good



Lead Regulations



- California is moving faster, and somewhat differently, than USEPA
- District activities:
 - Reviewing and commenting on proposed changes to regulations
 - Participating in stakeholder groups to provide input to regulators



Other Regulatory Actions

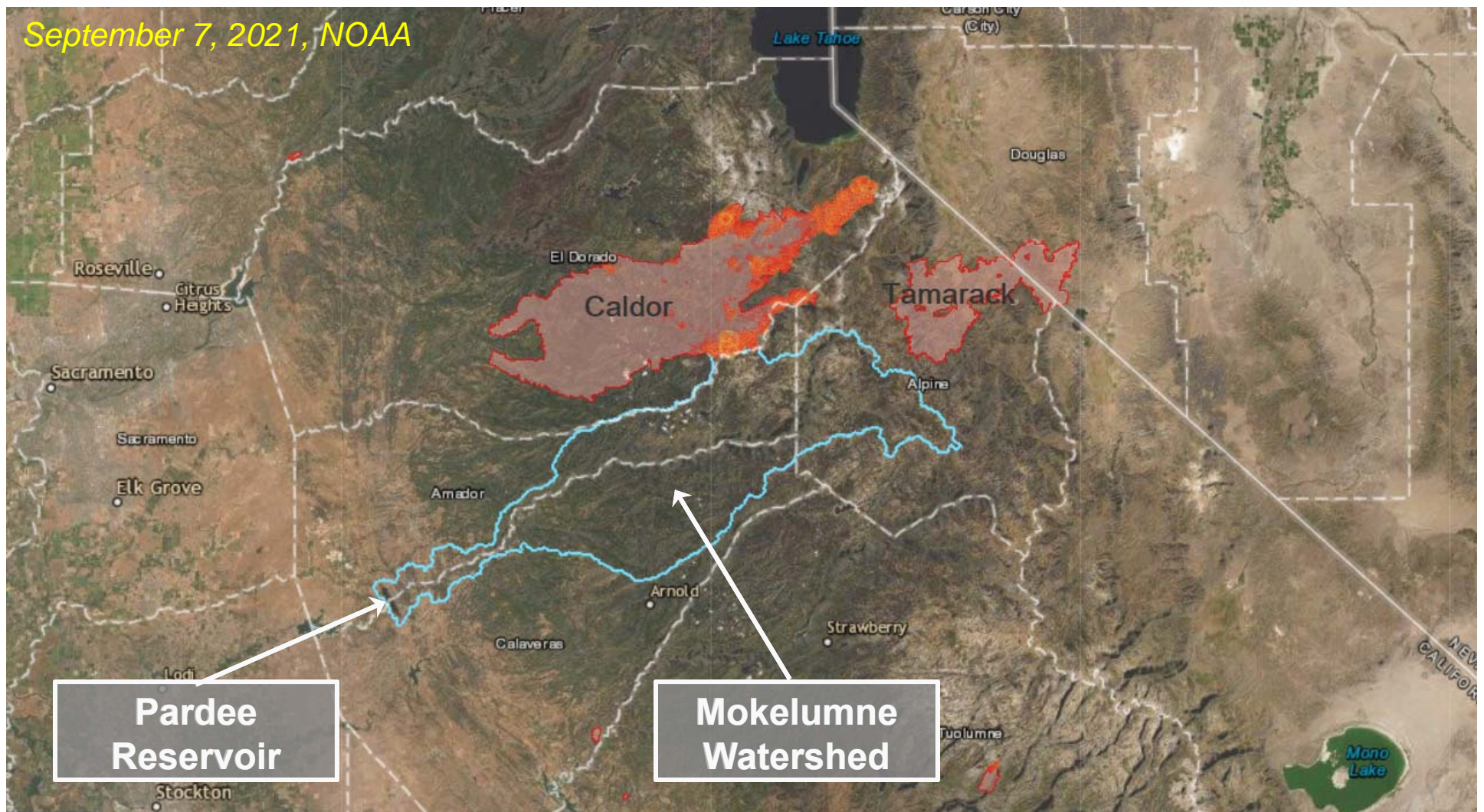


- Per- and poly-fluoroalkyl substances (PFAS)
 - State and federal regulations are being developed
 - EBMUD monitored in 2020-2021; some detected at low levels
- Revisions to microbial and disinfection byproduct rules
 - EBMUD is tracking and participating
 - Likely to take years to complete
- Microplastics (California only)
 - Analytical methods under development, monitoring will be required for all systems for four years
- Fifth Unregulated Contaminant Monitoring Rule
 - PFAS and other compounds, monitoring required in 2023-2025

Wildfire Near Watershed



September 7, 2021, NOAA



Wildfire Water Quality Impacts



- No impact in Mokelumne watershed
- Continue monitoring fire and potential impacts
- Inline plants are not equipped to treat degraded water
- Impacts can last for years
- Capital projects already started for WTP upgrades

Questions



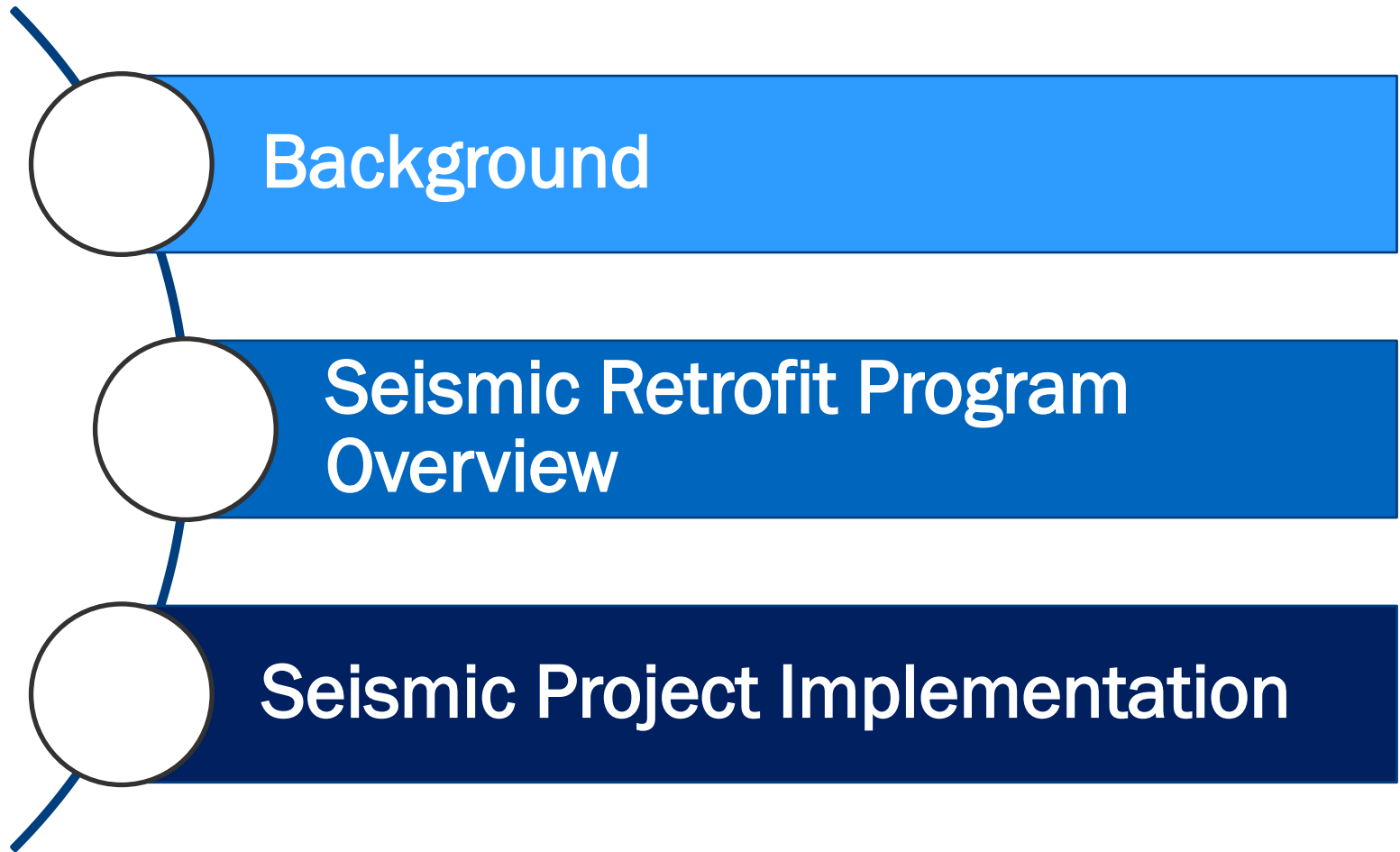
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Main Wastewater Treatment Plant Seismic Retrofit Program Update

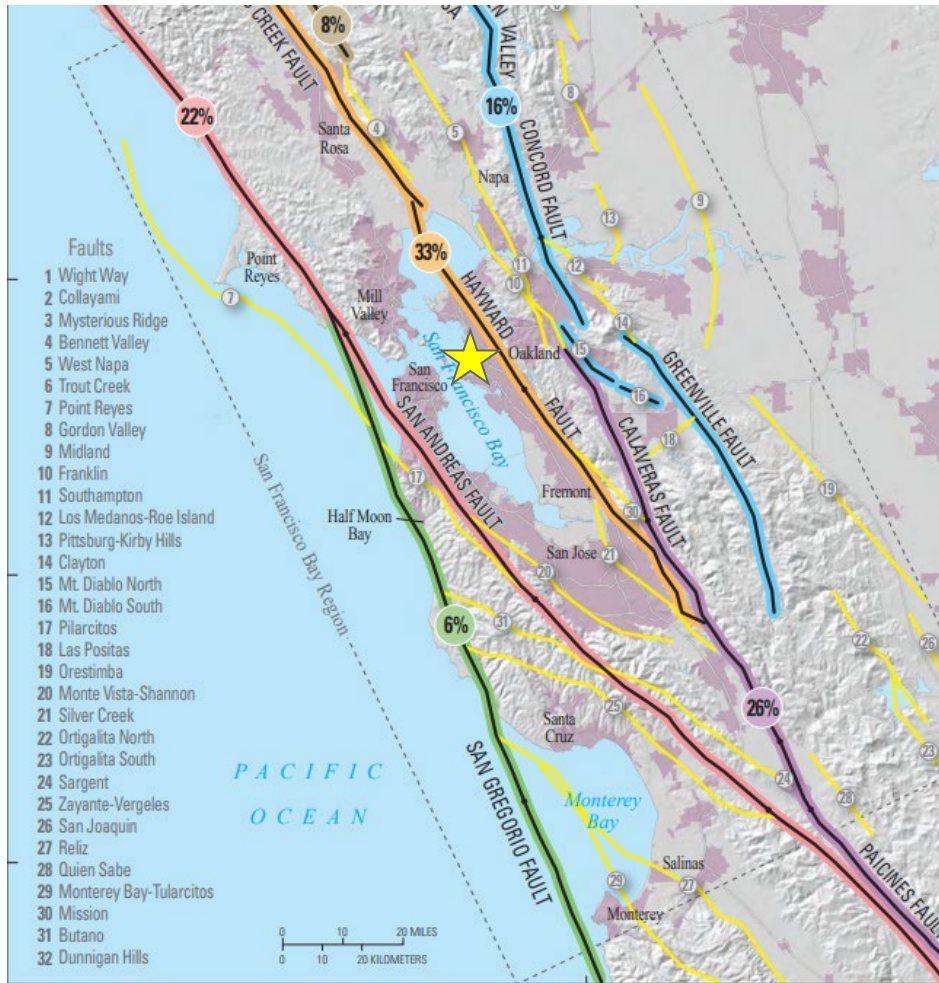
Planning Committee

September 14, 2021

Agenda



Seismic Vulnerability

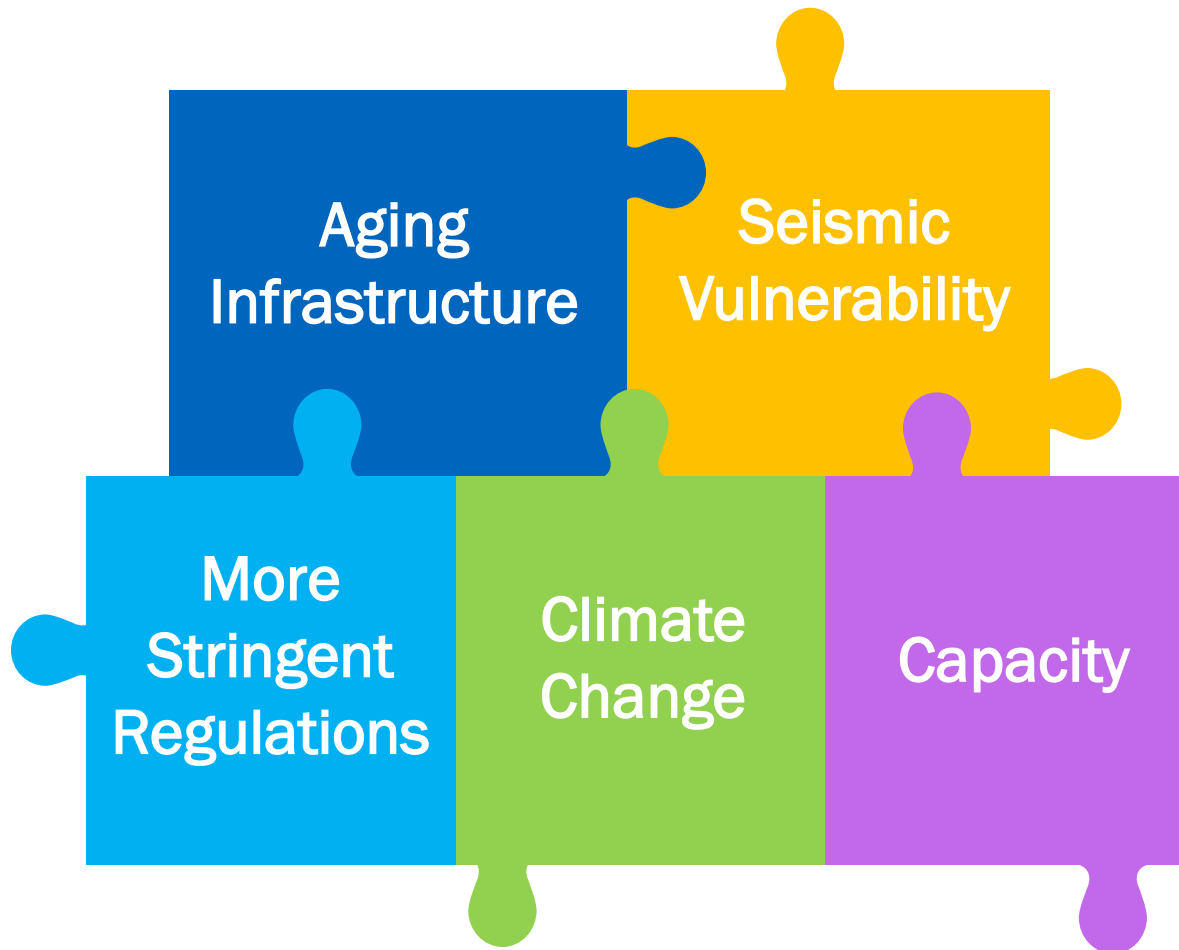


72% probability
of a $\geq 6.7M$ earthquake
from 2014 through 2043

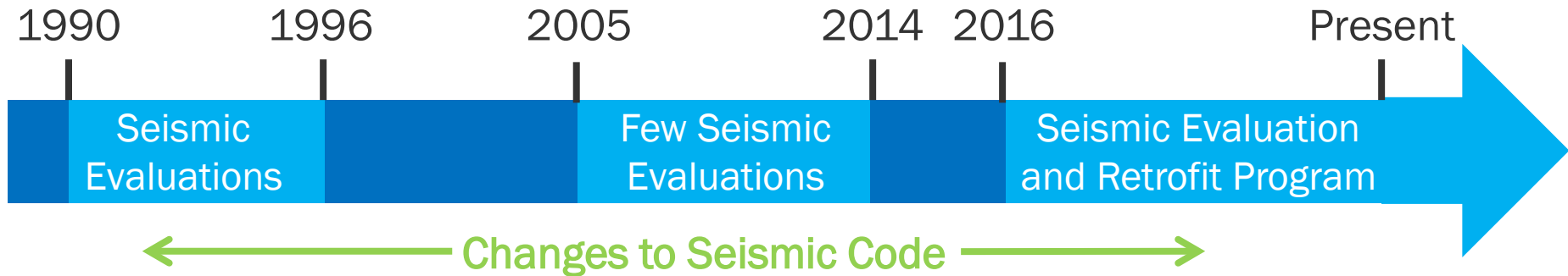
Long Term Planning



MWWTP Master Plan Drivers



Timeline of Seismic Work



KEY TAKEAWAYS

- 1** Before the current seismic program, the last comprehensive evaluation was performed 30 years ago.
- 2** Seismic code and guidelines have significantly changed since the 1990s.

Seismic Retrofit Program Goals



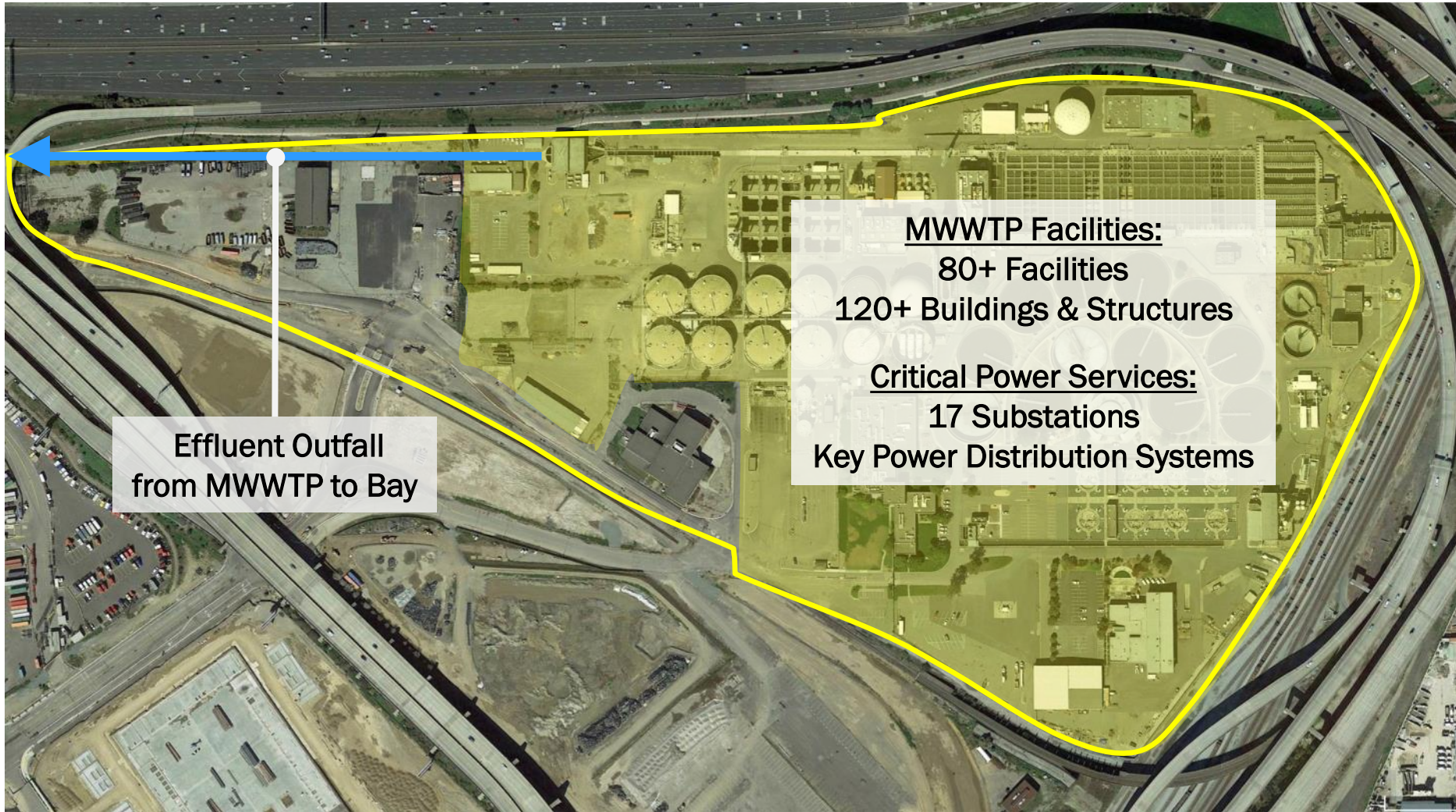
1 Evaluate, Prioritize, & Mitigate Seismic Risks

.....

2 Improve Seismic Performance

- i Improve Life Safety
- ii Reduce Operational Impacts

Scope - MWWTP Facilities



MWWTP Facilities:
80+ Facilities
120+ Buildings & Structures

Critical Power Services:
17 Substations
Key Power Distribution Systems

Effluent Outfall
from MWWTP to Bay

Scope - Outfall



Outfall Transition Structure



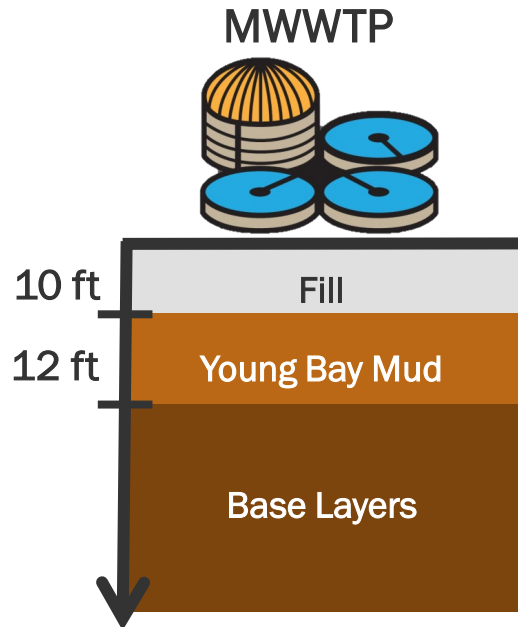
Dechlorination Facility



Land Portion of Outfall



Geotechnical Investigations

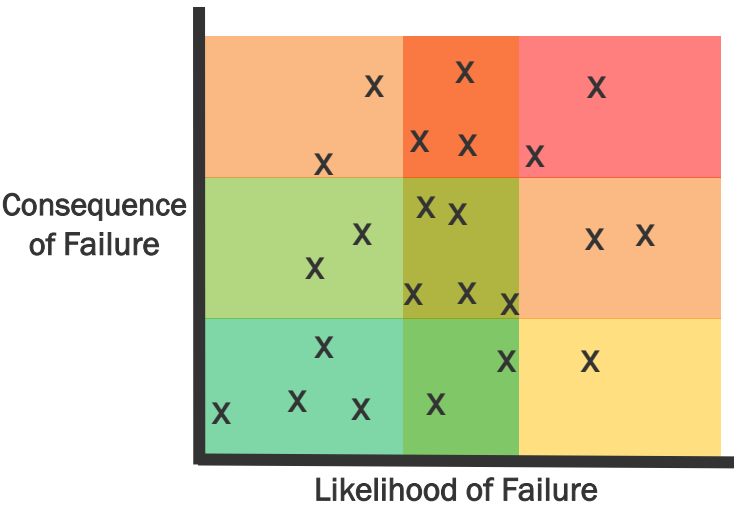


KEY TAKEAWAY

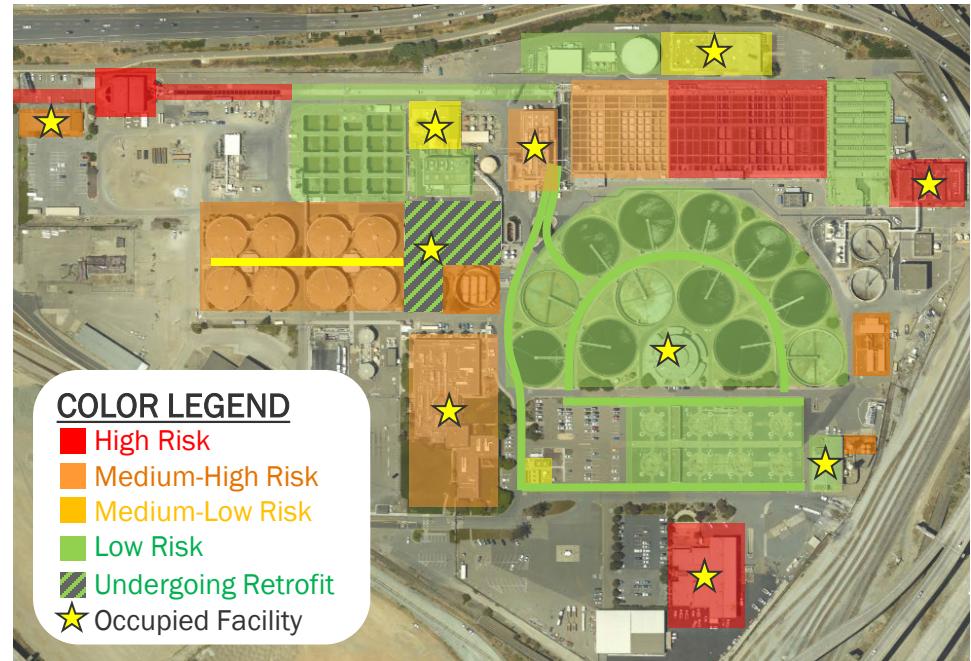
- 1 Geotechnical investigations were critical to:
 - i. Defining earthquake intensity
 - ii. Providing foundation capacities for high-risk facilities
 - iii. Evaluating liquefaction potential

Prioritization

RISK ASSESSMENT



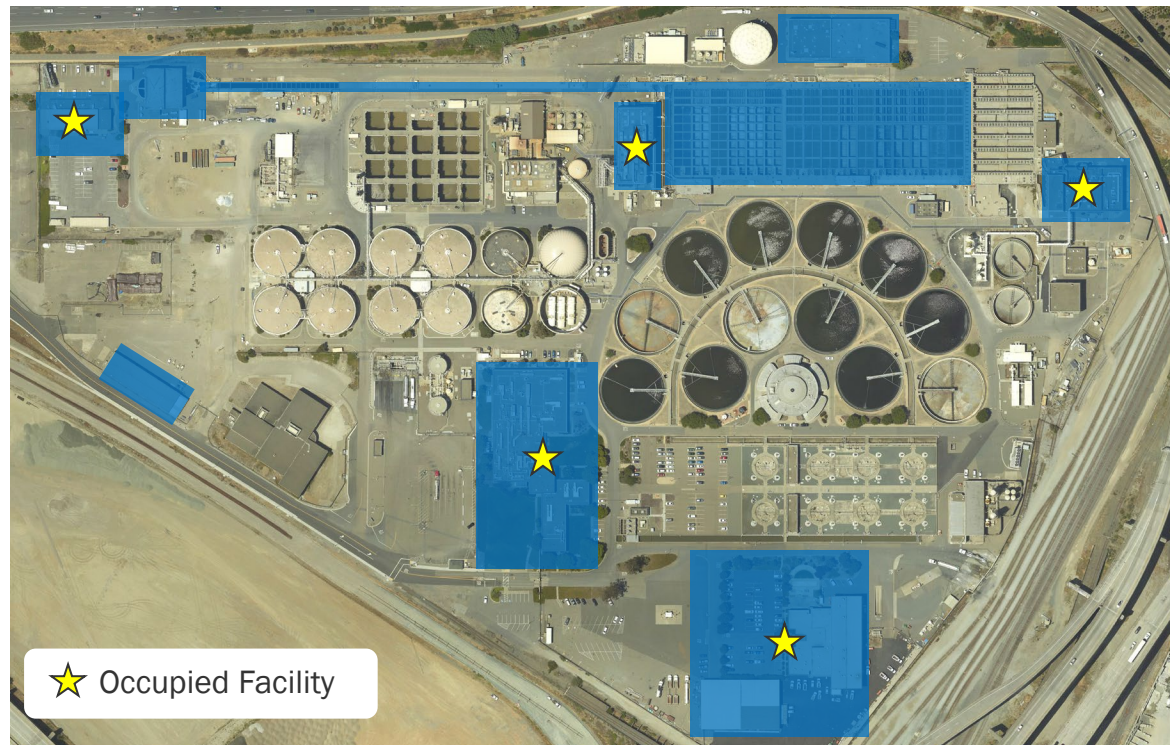
SEISMIC RISK



KEY TAKEAWAYS

- 1 The risk assessment supports prioritization.
- 2 Seismic risk varies throughout the MWWTP.

Seismic Projects in the 10-Year CIP



KEY TAKEAWAY

- 1 Seismic retrofit projects will be phased over the next 10 years.

Upcoming Seismic Retrofit Projects (FY22-FY27)



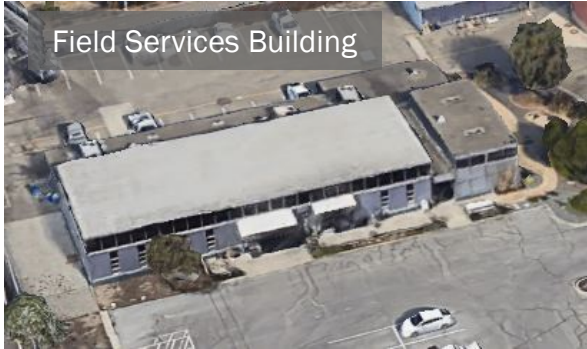
Administration & Laboratory Building



Maintenance Center



Field Services Building



Building 1084



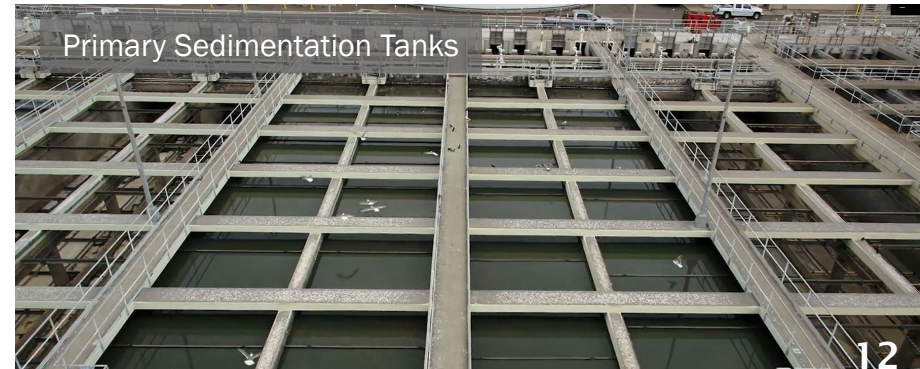
Power Distribution System



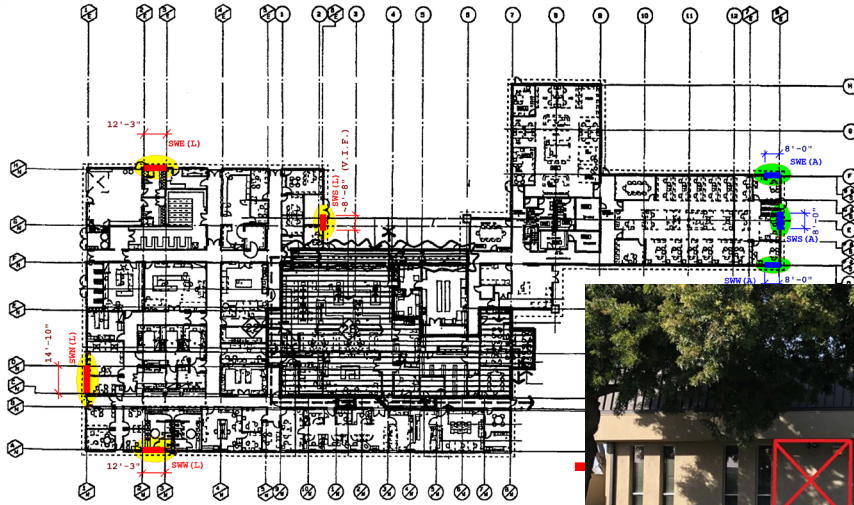
Influent Pump Station



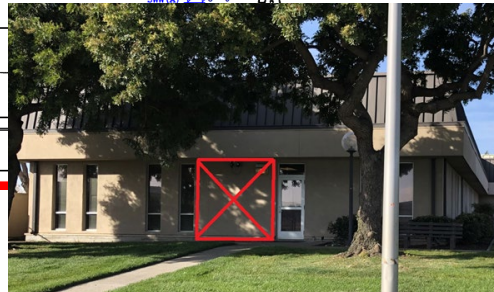
Primary Sedimentation Tanks



Administrative Facilities Seismic Retrofit Project



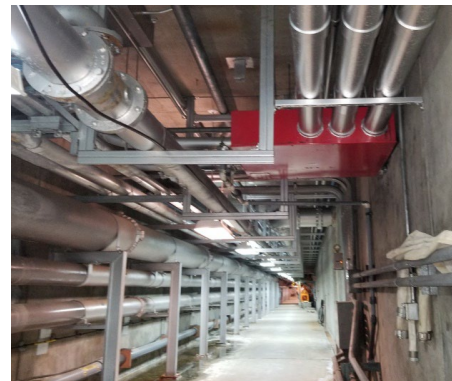
Admin/Lab Building



Field Services Building

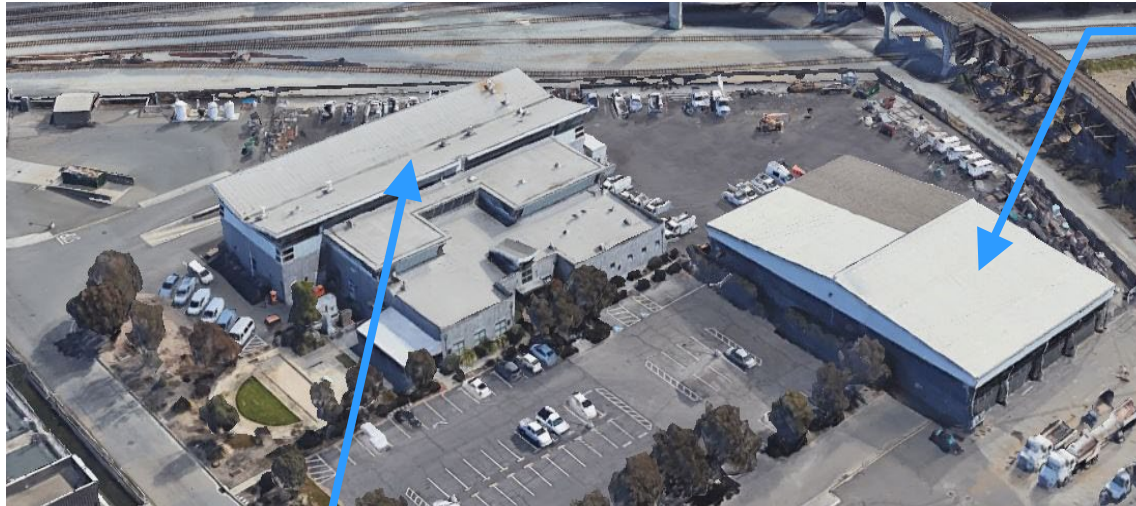


Building 1084



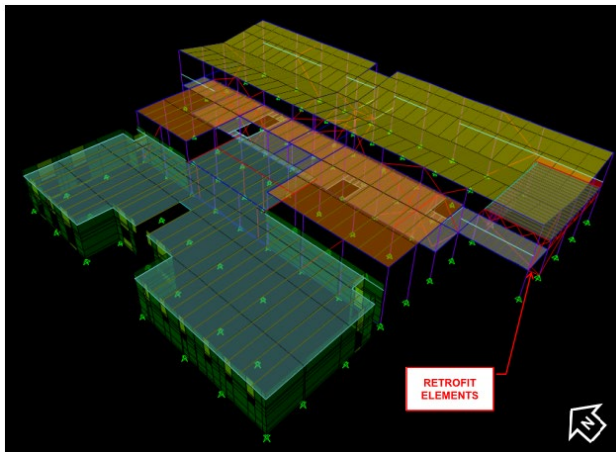
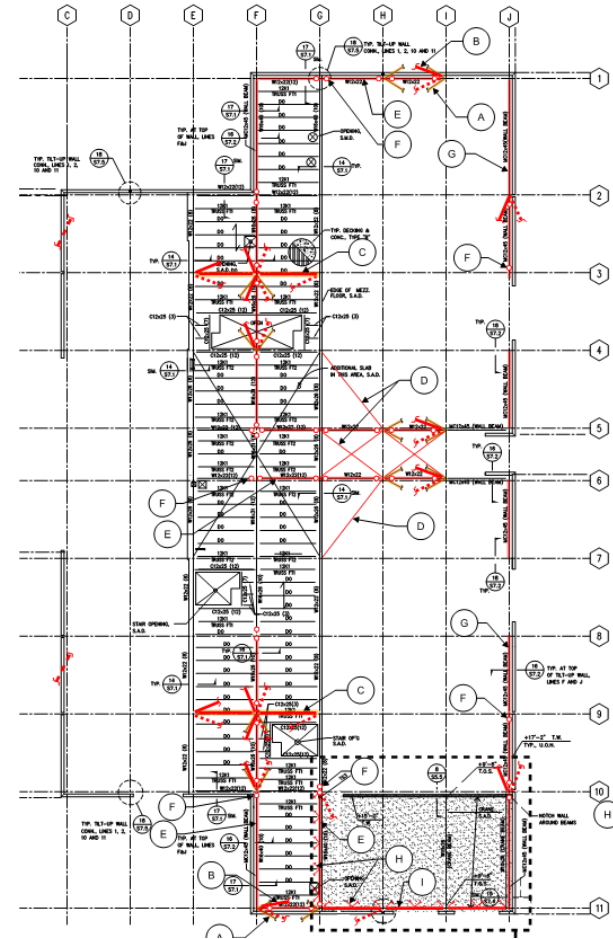
Electrical Substations &
Distribution Lines

Maintenance Center Seismic Retrofit Project

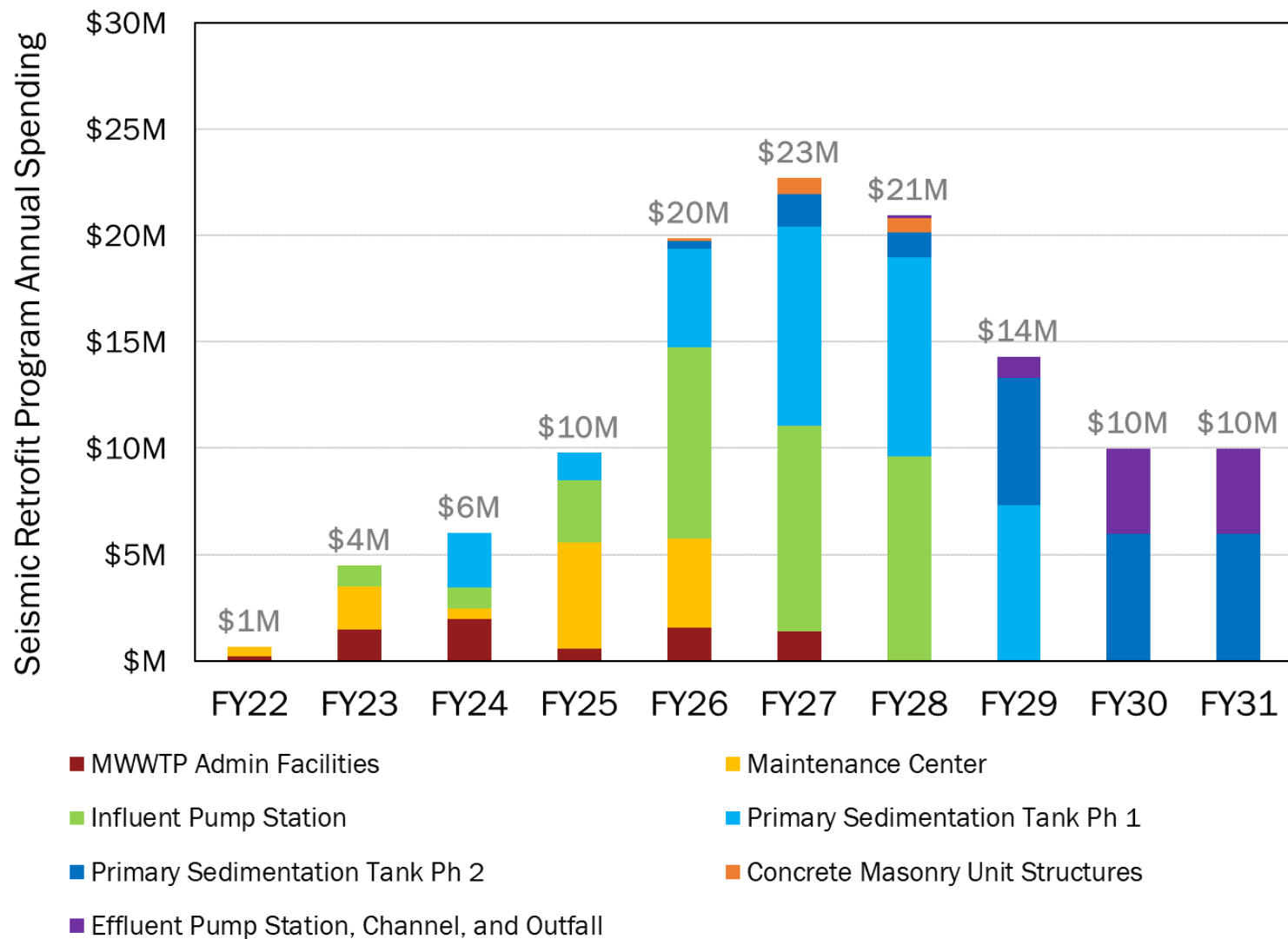


Maintenance Canopy

Maintenance Center Building



Seismic Retrofit Program Annual Spending





**Thank you!
Questions?**

Regulatory Compliance Semi-Annual Report

Planning Committee

September 14, 2021

Agenda



- Environmental Compliance
- Workplace Health and Safety
- Emergency Preparedness and Response
- Key Upcoming Activities

Environmental Compliance

Richmond Advanced Recycled Expansion



- Compliance schedule issued by West County Wastewater District for pH exceedances in 2020
- Mixing system with pH probes being installed to better control pH
- System scheduled to be operational fall 2021



Environmental Compliance

WWTP Digester Gas Releases



- Three digester gas releases
 - April 24, Digester 3, No violation issued
 - May 18, Digester 6, Notice of Violation issued
 - June 15, Digester 8, Notice to Comply issued
- Corrective actions have been taken for all three events

Environmental Compliance

Integrated Pest Management (IPM)



- Public meetings held to solicit input from stakeholders on IPM guideline document in 2019 and 2020
- Final Draft of IPM Guidelines presented to Sustainability/Energy committee in April 2021
- Final IPM guideline document posted to District website

Workplace Health and Safety

Lost Time Injury Rate (LTIR)



- Strategic Plan KPI - LTIR < 3.0
- LTIR = 2.05 as of June 30
- 17 Lost Time Injuries

Workplace Health and Safety

Lost Time Hours



- 35,282 hours in 2010
- 18,090 hours in 2020
- 49% Reduction
 - 17,192 hours
 - Equivalent to 9.5 employees back to work

Emergency Preparedness and Response



- Emergency Operations Team was activated in March 2020 and remains activated
 - COVID-19 Pandemic
 - Public Safety Power Shutoffs
 - Mokelumne Aqueduct No. 2 leak repair in Stockton

Key Upcoming Activities



- Manage the COVID-19 Pandemic
- Ongoing discussions with regulatory agencies concerning work in sites with contaminated soil
- Continue Vacuum Excavator Slurry Pilot Program

Questions



Camanche-Riverview Campground Fire Protection

Planning Committee

September 14, 2021

Agenda



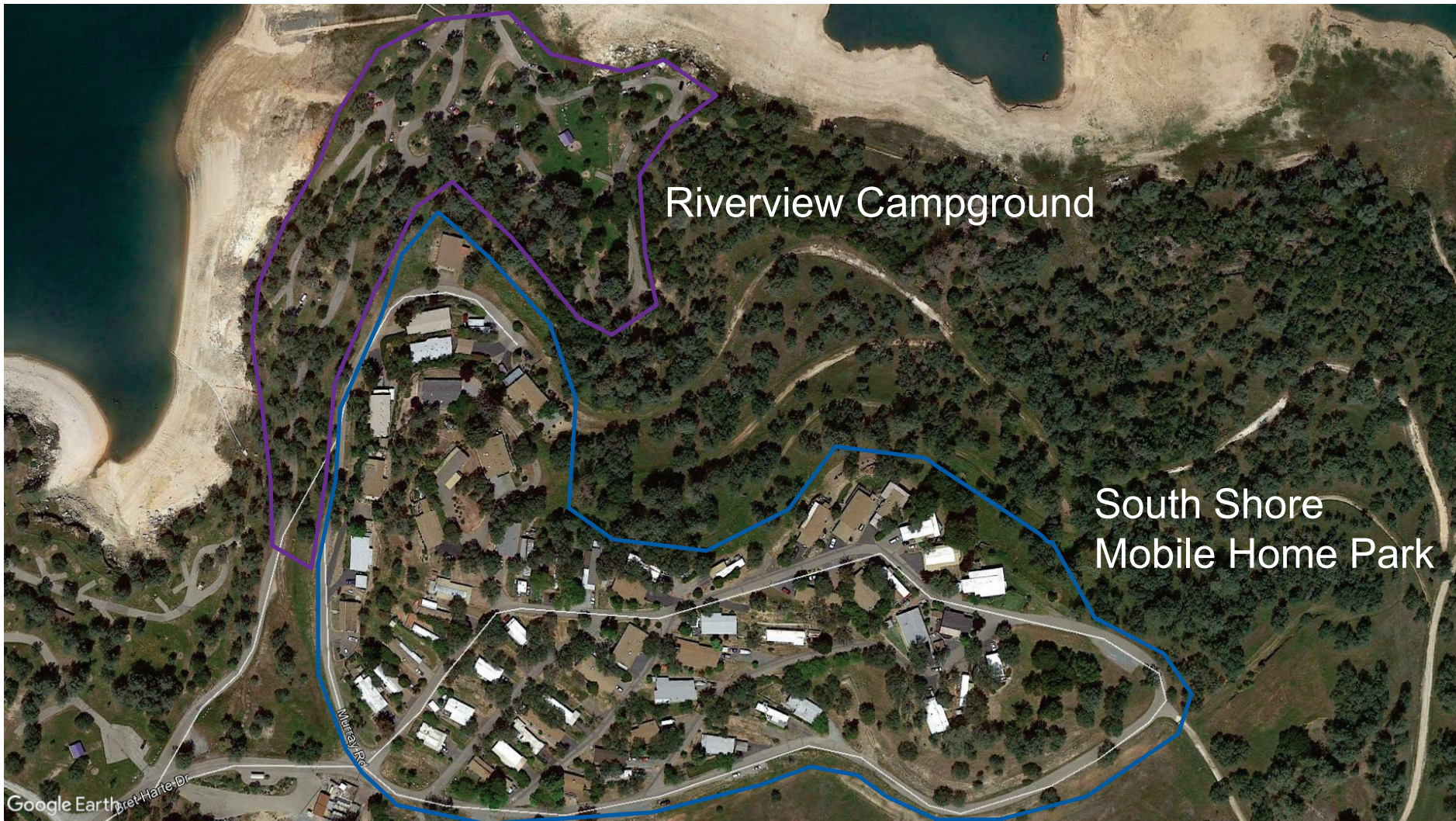
- Area Orientation
- Campground Fire Safety
- Red Flag Procedures
- Recreation Area Fire History

Area Orientation

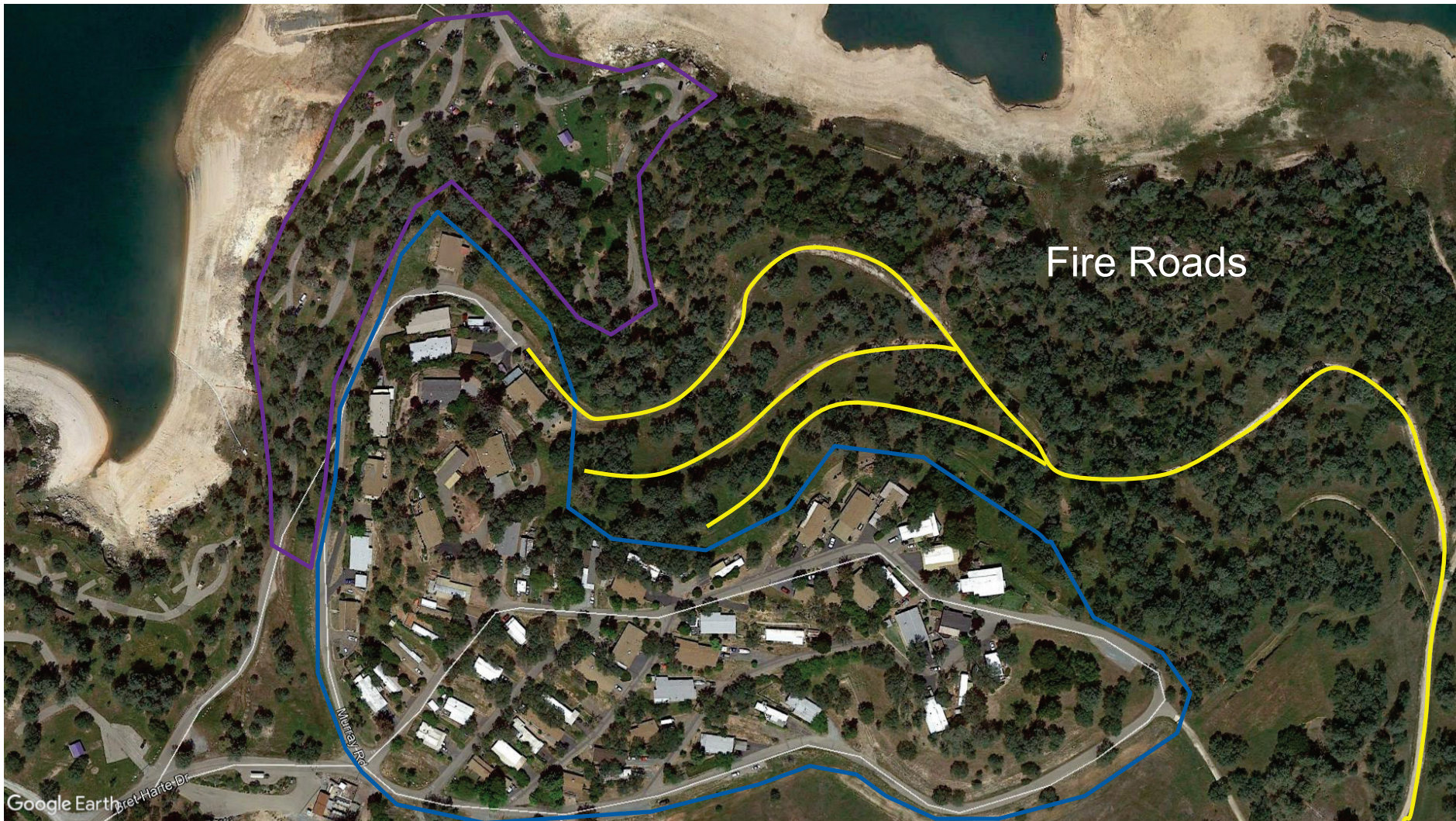
Camanche South Shore
Recreation Area



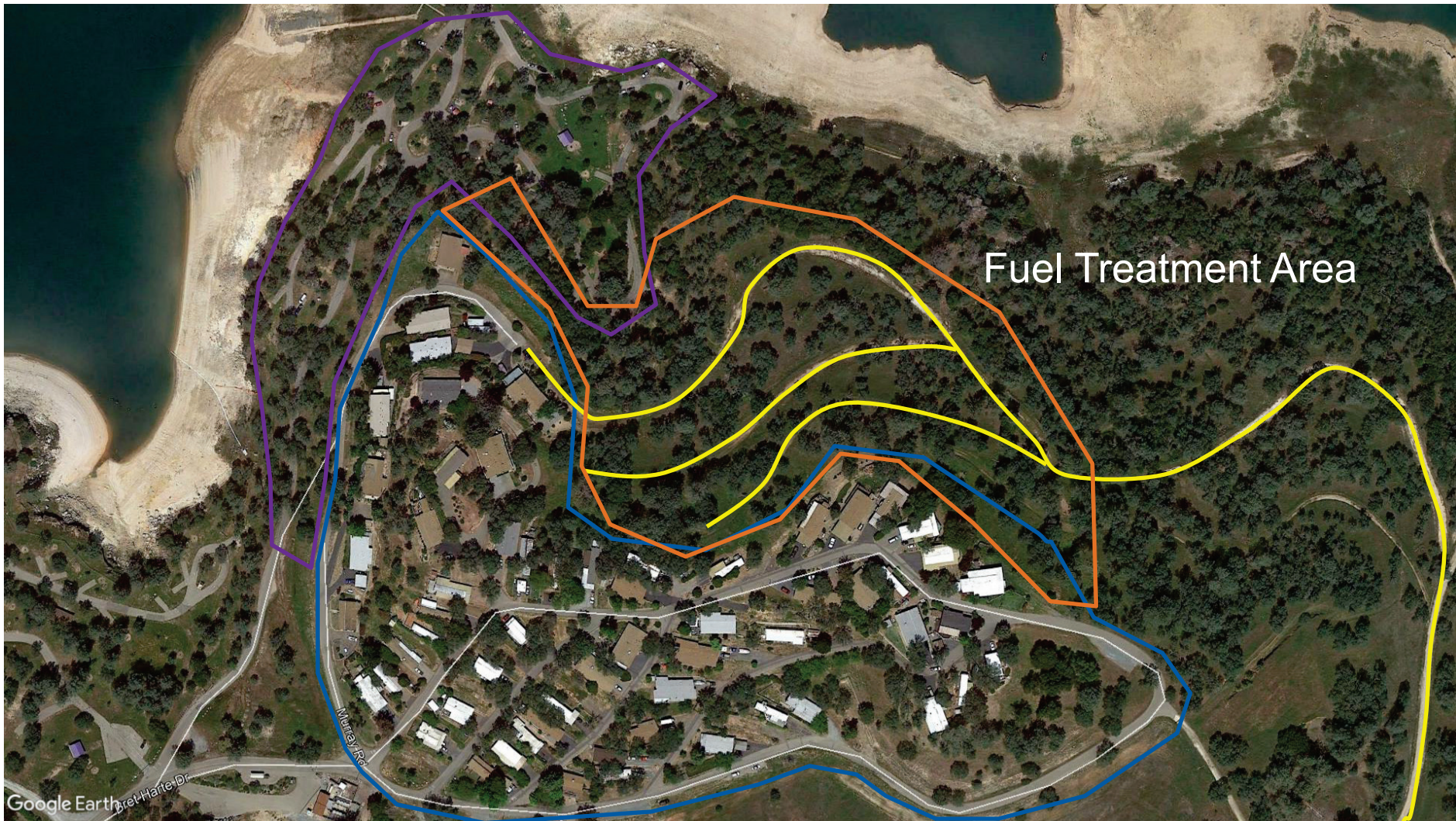
Area Orientation



Area Orientation



Area Orientation



Campground Fire Safety



Riverview Campground

Campground Fire Safety



Riverview Campsite #12

Red Flag Warning Procedures



- Campfires and barbecues prohibited
- Trails may be closed if needed
- Red Flag Warning signs posted
- Augmented Ranger patrols
- Water storage increased
- Hot work prohibited

Recreation Area Fire History



- There have been no fires in Riverview Campground caused by campfires or barbecues.
- Riverview 2015 - 0.1-acre fire caused by camper operating a generator. Camper was cited.
- Riverview/MHP 2012 - 0.1-acre fire caused by lightning.

Questions

