



Advancing Water Reuse in San Francisco

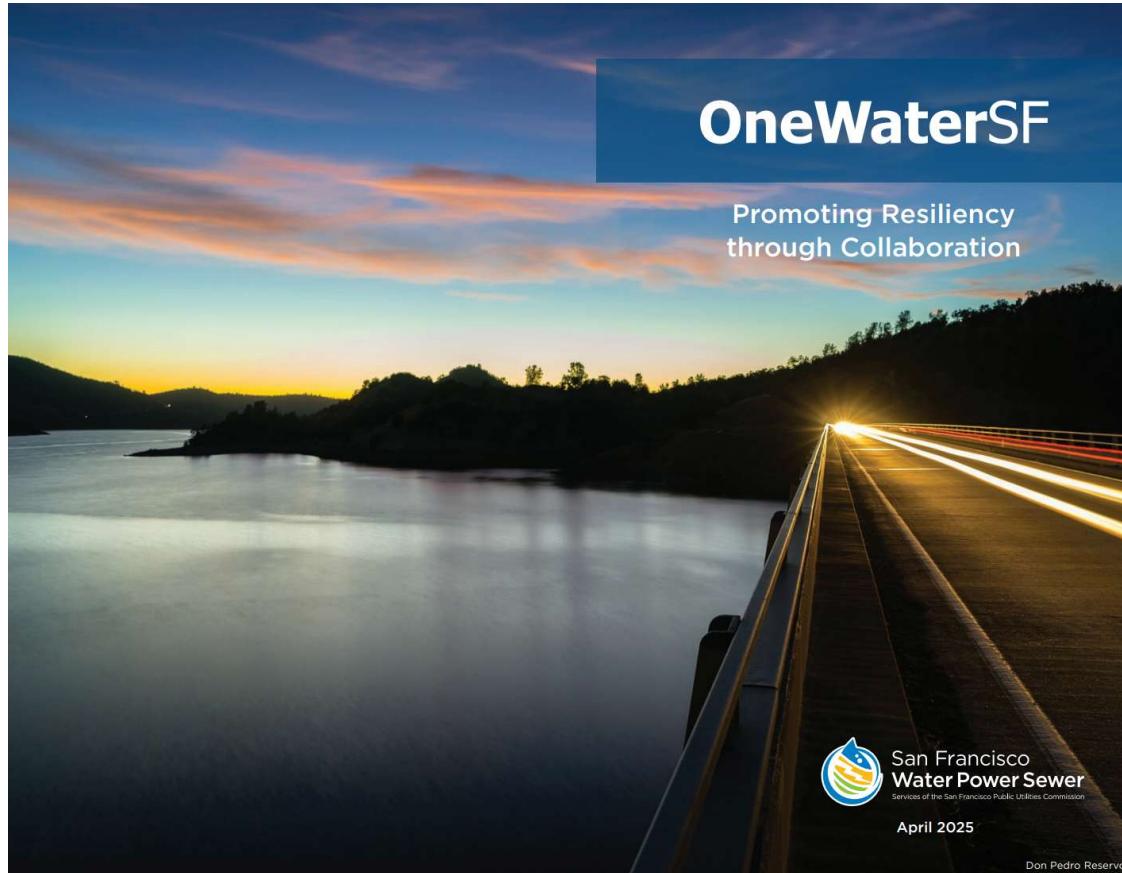
Taylor Nokhoudian
Manisha Kothari
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December 12, 2025

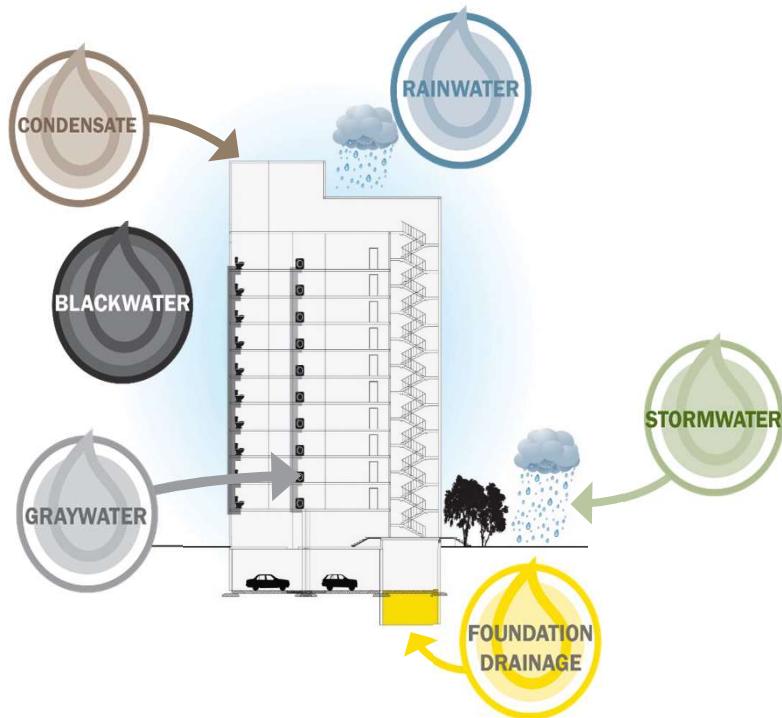




Embracing OneWater Approach in San Francisco



SF Non-potable Water Ordinance



- Requires the collection, treatment, and use of graywater and/or blackwater for non-potable uses in new buildings (rainwater not required)
- Applies to new developments 100,000 gsf or greater (building or district scale)
- Buildings that are 100% commercial to reuse all blackwater, not just graywater, onsite
- Multi-family residential and mixed-use buildings to meet clothes washing demands in addition to toilet flushing and irrigation demand



Current Program Status



- 58 operating onsite water treatment systems
- 8 operating graywater systems, 27 additional graywater underway
- 6 blackwater systems in planning
- Projected 1.55 MGD of water savings from onsite systems by 2050



525 Golden Gate Reuse Project



- Onsite wastewater treatment system undergoing new design to comply with future statewide requirements
- Incorporate a PureWater SF Direct Potable Reuse (DPR) demonstration
- Estimated completion 2028



Recycled Water Program Partnerships



- SFPUC partnership with North Coast County Water District to irrigate Sharp Park Golf Course in Pacifica with recycled water
- SFPUC partnership with Daly City to irrigate Harding Park and Fleming Golf Courses with recycled water
- Examples of successful complex, institutional agreements



Current and Upcoming Projects



- Construction of a new recycled water pipeline on Sloat Boulevard to convey advanced treated recycled water from the new Westside Recycled Water Treatment Facility to the SF Zoo
- Recycled water uses at the Zoo: irrigation, animal exhibit washdown, and animal pool filling
- Irrigation of Sunset Blvd with recycled water from Westside



Recycled Water Rules and Regs

San Francisco Public Utilities Commission
Rules and Regulations
for Users Receiving Recycled Water Service
in the City and County of San Francisco

London N. Breed, Mayor

COMMISSIONERS

Tim Paulson, President

Anthony Rivera, Vice President

Sophie Maxwell

Newsha Ajami

Kate H. Stacy

Adopted: March 26, 2024, by Commission Resolution No. 24-0076

Effective: March 26, 2024



- Multi-stakeholder process to get approval in March 2024
- Applicable for landscape irrigation and other outdoor non-potable uses
- All recycled water users will be required to obtain use permits, attend site supervisor trainings, and follow the RW Rules and Regs
- SFPUC Wastewater leading updates to incorporate rules for future truck fill users at Southeast and Treasure Island



Treasure Island Water Resource Recovery Facility

Jignesh Desai, Principal Project Manager, SFPUC

Presentation to: NORCAL WATEREUSE Meeting

December 12, 2025



Agenda

- Project Background
- Project Information
- Design Build Process
- Envision Sustainability
- Current Project Status



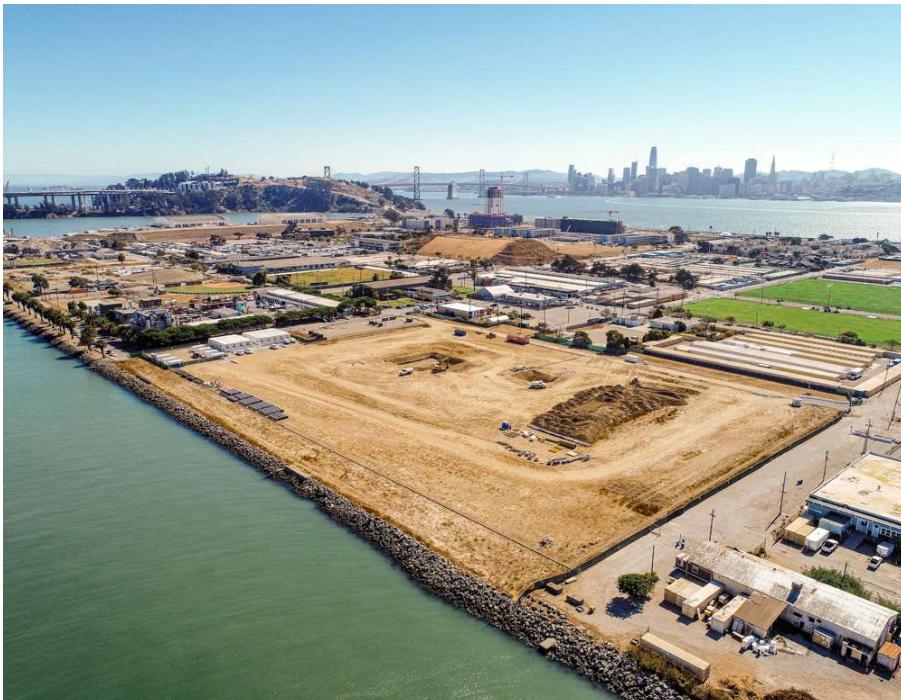
Project Background - Location

- Manmade Island built for 1939 Golden Gate International Expo
- Navy Base till 1997
- Under Stewardship of TIDA
- Existing WWTP operated by SFPUC as contractor/operator





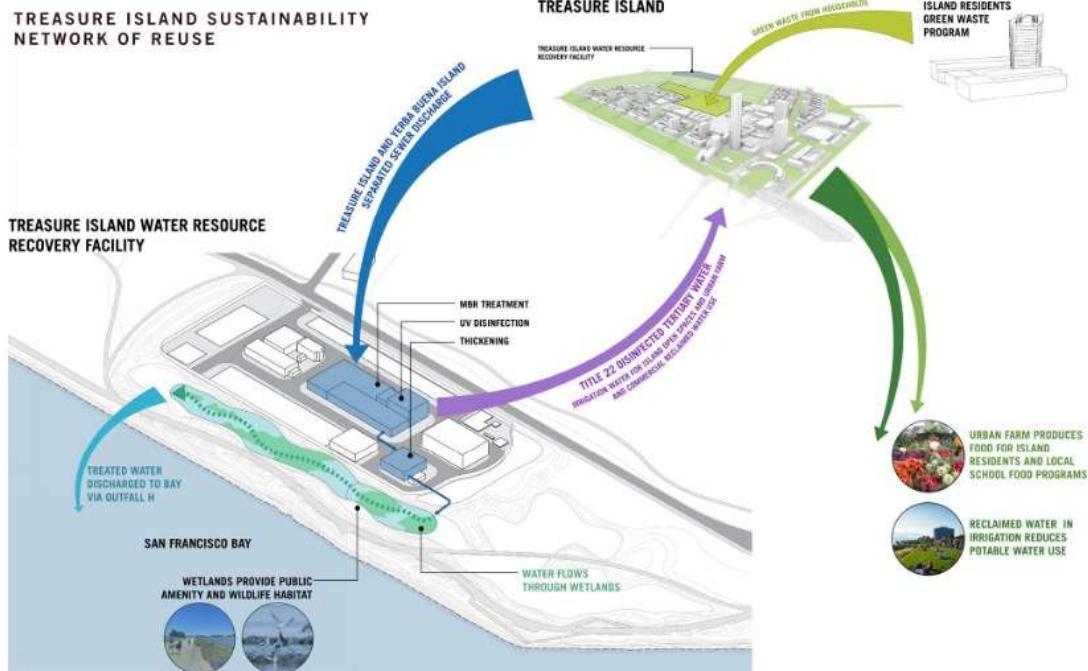
Project Background - Context



- Treasure Island/Yerba Buena Island Development – Creating New San Francisco Neighborhood
- San Francisco's Mission to Support the Growth of Affordable Housing
- San Francisco Public Utilities Commission (SFPUC) is Duty Bound to Support that Growth – Water, Power, Sewer and Stormwater
- Treasure Island Water Resource Recovery Facility (TIWRRF) is Key to Help Support That Growth by Providing a Sustainable Water Resource Facility



Project Information



TREATMENT PLANT DESIGN CAPACITY

Design Parameter	Design Value
Average Dry Weather Flow	1.3 mgd
Peak Wet Weather Flow	3.9 mgd

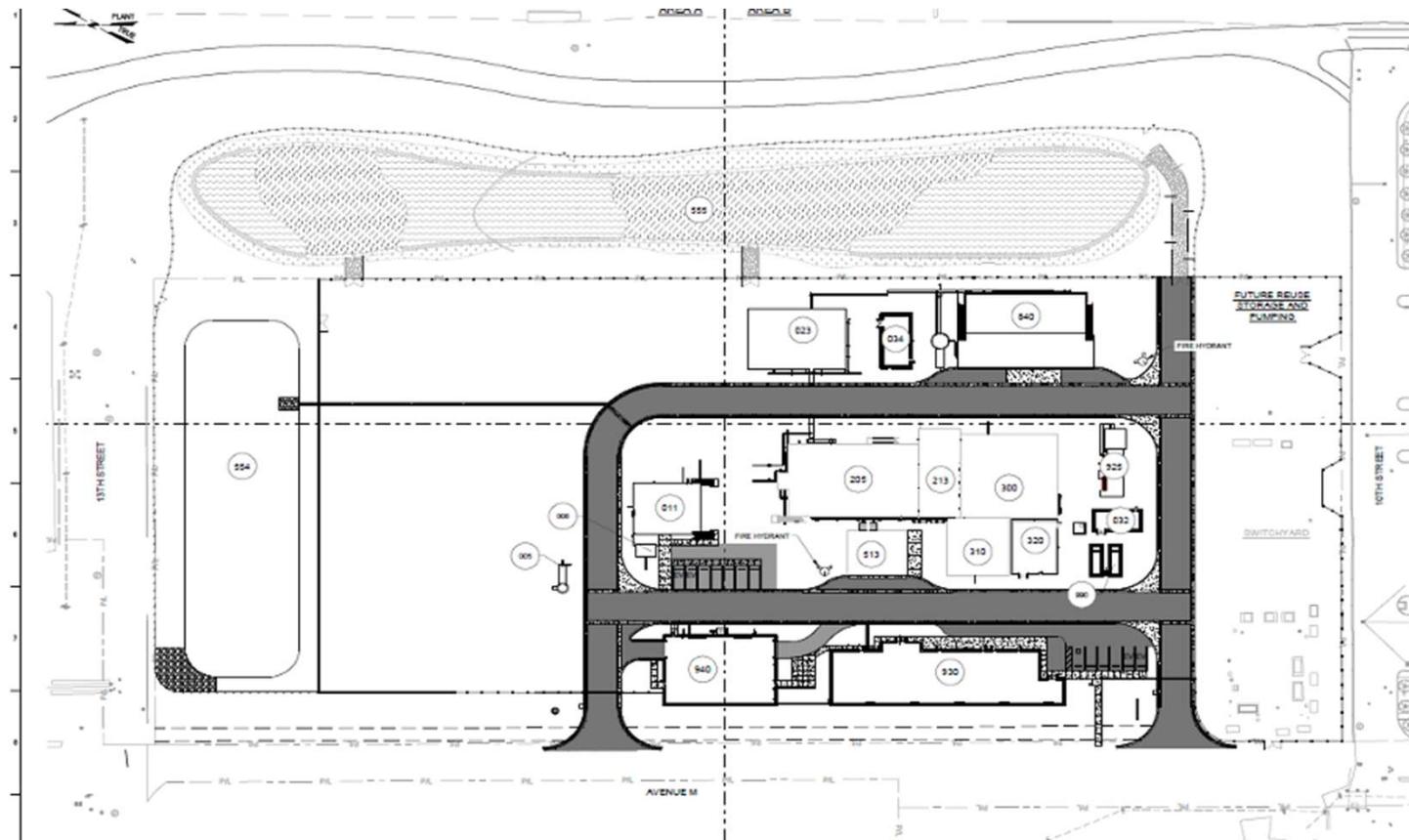
Note: Full flow designed for Title 22 disinfected tertiary treatment.

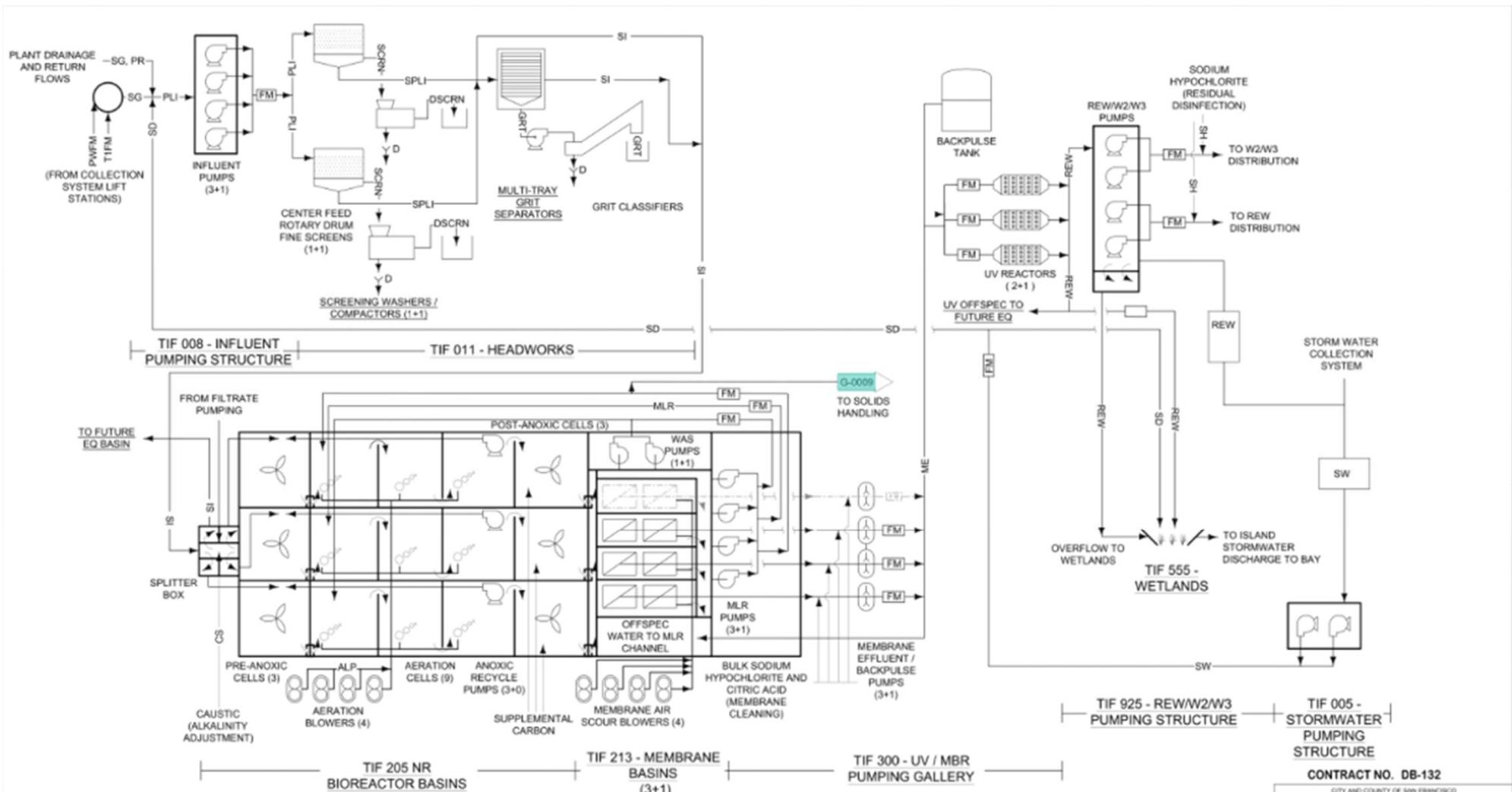
PROJECTED RECYCLED WATER DEMAND

Design Parameter	Design Value
Average Annual Demand	0.43 mgd
Peak Demand	0.98 mgd



Project Information - Process Layout







Design Build Process

- **Owner:** San Francisco Public Utilities Commission
- **Owner Advisor:** Carollo Engineers
- **Design Builder:** PCL Construction, Inc
- **Engineer:** Stantec Consulting
- **Contract:** Fixed Price Design Build
- **Schedule:** NTP Jan 2023; Substantial Completion Summer 2026





Envision Sustainability - Platinum

Overall Project Score



Category Assessment



Quality of Life

Verified, 67%

Not Pursuing, 33%



Leadership

Verified, 85%

Not Pursuing, 15%



Resource Allocation

Verified, 31%

Not Pursuing, 69%



Natural World

Verified, 70%

Not Pursuing, 30%



Climate & Resilience

Verified, 68%

Not Pursuing, 32%





Current Project Status – Start-up / Commissioning





Current Project Status



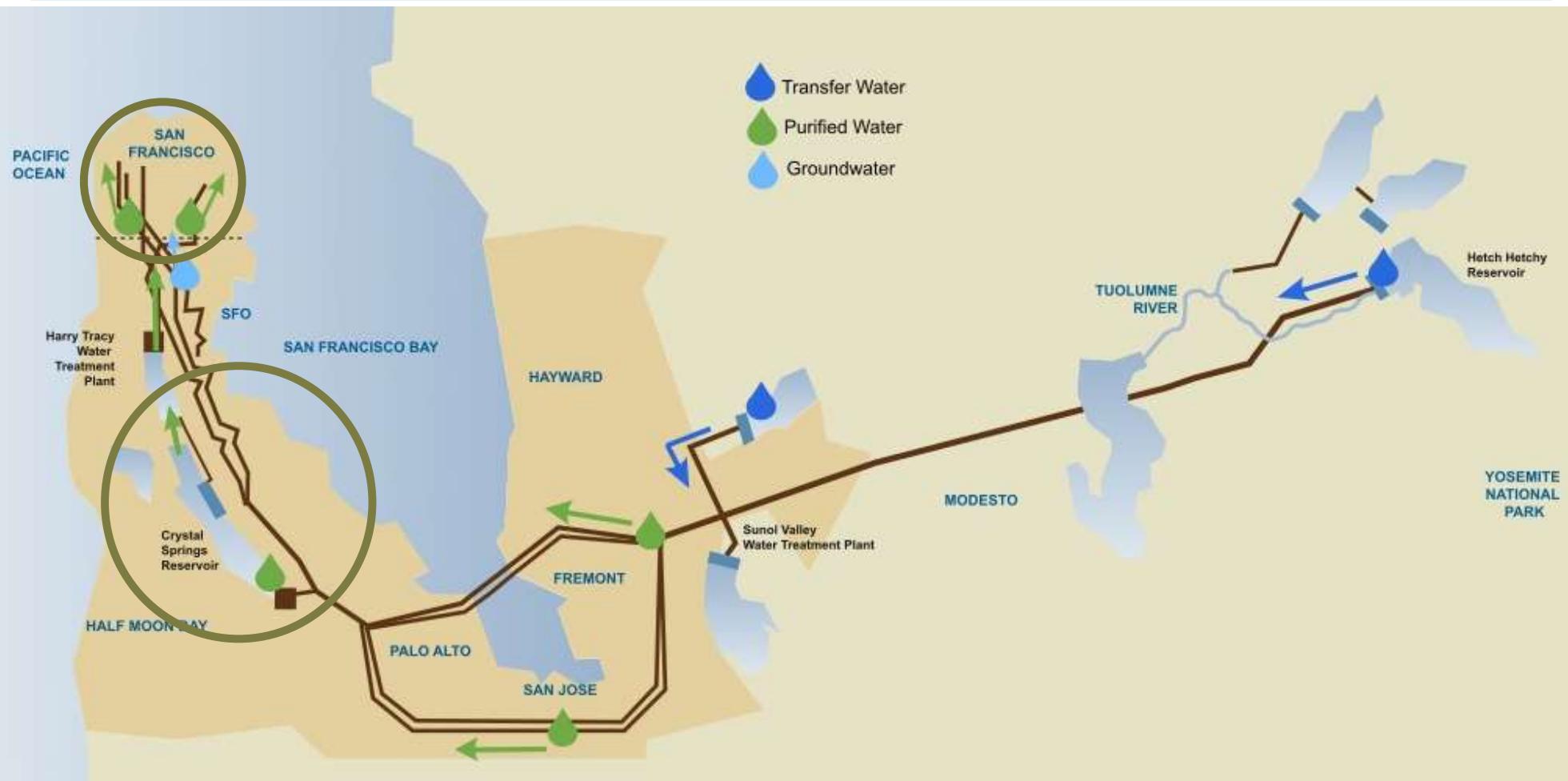


Planning for Purified Water Implementation at the SFPUC

December 12, 2025



SFPUC's Current Purified Water Projects





What is an Implementation Plan?

- A comprehensive blueprint that describes how key areas needed to bring a purified water project through the permitting, demonstration, full-scale operation phases will be addressed
- The Implementation Plan outline utilizes the following sources:
 - Current regulations
 - Feedback and information from other agencies (e.g. WateReuse DPR workshop, tours, etc)
 - Previously completed SFPUC purified water reports/feasibility studies
 - Input and best practices from within the SFPUC

Why an Implementation Plan?

- Long project development lead time
- Intra-agency participation and alignment early on in a project is crucial for success
- Purified water regulatory requirements are complex and evolving
- Continued collaboration with utilities who are also pursuing purified water projects will provide lessons learned



A “living” Implementation Plan will ensure that the SFPUC is prepared to successfully implement a purified water project

Key Components

- Project-specific
- One for IPR (surface water augmentation) and one for DPR implementation needs

Implementation Plan Sections

- I. Executive summary
- II. Outreach and acceptance
- III. Regulatory requirements
- IV. Source water
- V. Treatment and water quality
- VI. Finished water transmission and distribution
- VII. Brine management
- VIII. Other considerations

Success Requires Broad Participation

- Different departments have different insight and expertise
- The AWS Planning team is leading coordination with others
 - Purpose
 - Priorities
 - Tools
 - Methods



Status and Outlook



1. AWS team is the keeper of the Implementation Plans and continues to update and maintain them
2. Implementation Plans document feedback and buy-in along the way
3. The SFPUC is interested in coordinating best practices with others implementing IPR and DPR projects



Thank You!