



# Update on Activities at the RWF

*Treatment Plant Advisory Committee*  
**November 14, 2024**

*Mariana Chavez-Vazquez, RWF General Manager*



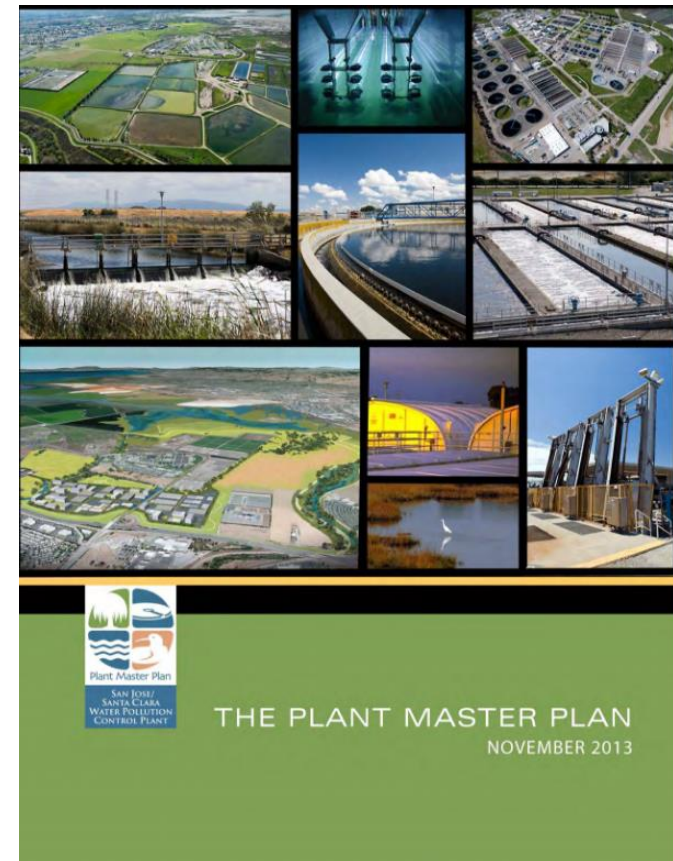
San José-  
Santa Clara  
Regional  
Wastewater  
Facility

- **2024 NPDES Permit**
- **Plant Master Plan Technical Update**
- **South San Francisco Bay Shoreline Levee Project**
- **Land Use**
- **Other Studies**

# Agenda

# Background – Plant Master Plan (Adopted in 2013)

- Provided a vision for treatment improvements and capital upgrades at the RWF through 2040.
- Major Drivers:
  - Aging infrastructure
  - Regulatory requirements at the time
  - Flows and loads
  - Preparing for sea level rise
  - Community values
- Two components:
  - Technical component – Basis of current CIP
  - Land Use component – Proposed mix of land uses on the buffer lands
- Implemented \$800M since 2014
- Multiple changes since 2013 (Cost, legislation, etc.)



# 2024 NPDES Permit

# RWF Clean Water Act Permits

- RWF is subject to multiple federal (NPDES) Clean Water Act permits
- Regional issue-specific Permits (nutrients, mercury, PCBs)
- Individual NPDES Permit governs water quality requirements for the RWF
- Permits are reissued and updated every 5 years – SFBRWQB



# Regional Nutrient Permit

- SF Bay has much higher nitrogen levels than other large urban Bays
- 2/3 of Bay's nutrients from wastewater treatment plant discharges
- Group Nutrient Permit since 2014
- 2014 and 2019 Permits did not impose effluent quality limitations
- 2019 Permit included a future target in the form of nitrogen load (6,100 kg/d)



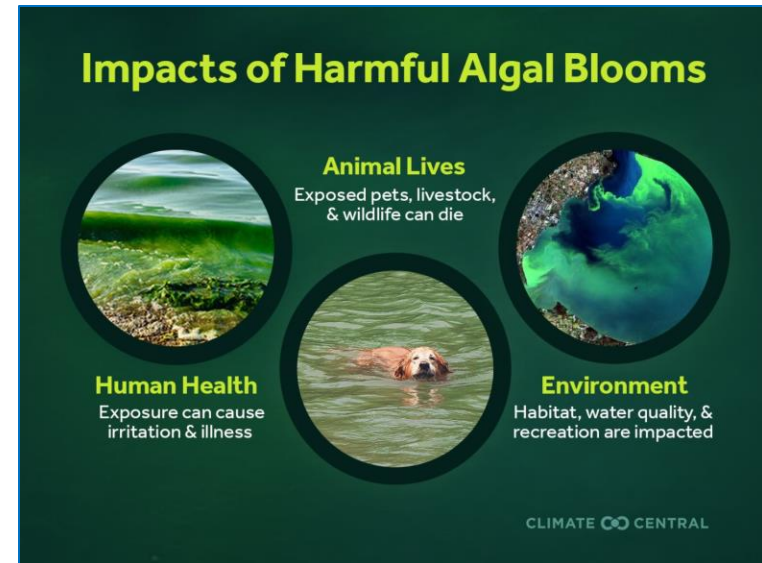
# Why Nutrients Matter

- Elevated nutrients can lead to excess algae growth
- Excess algae growth can:

Lower dissolved oxygen, suffocating fish



Elevate levels of toxin producing algae (HABs)



Despite high nutrients, San Francisco Bay has been resistant to these effects until...

# The August 2022 Red Tide

- *Heterosigma akashiwo*

- Toxic effects
- Brown or red water

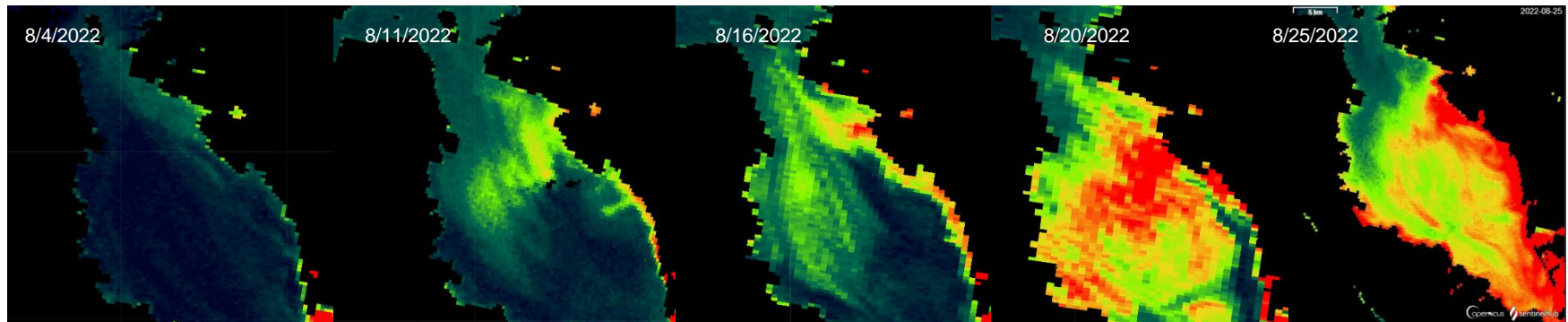


Engesmoa et al 2019



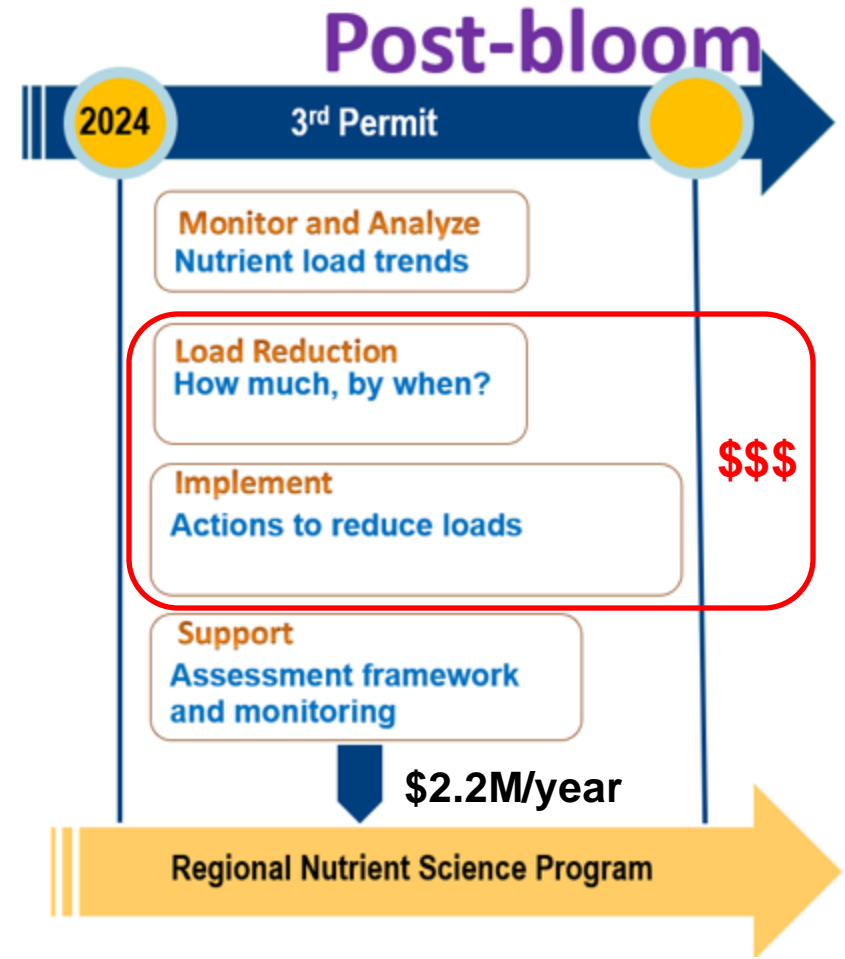
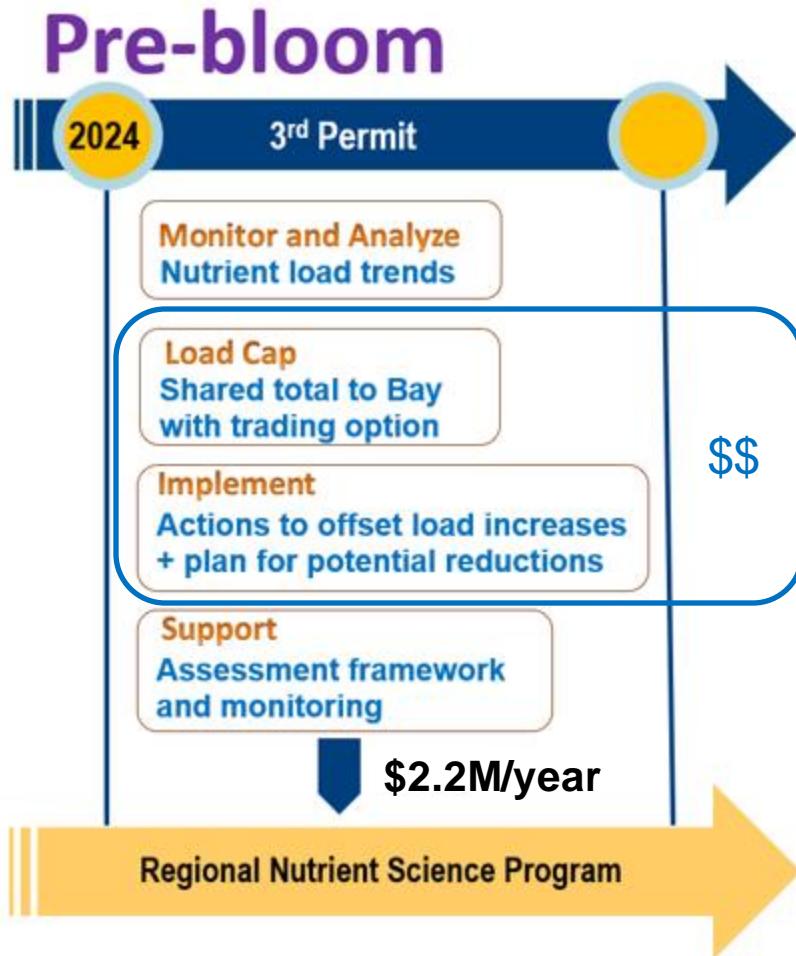
## San Francisco Chronicle

Poop and pee fueled the huge algae bloom in San Francisco Bay. Fixing the problem could cost \$14 billion





# Regulatory Consequences of Bloom



# Regulatory Consequences of Bloom

- Two dry-season nitrogen limits imposed by regulators:
  1. Interim Limit from 2024 – 2034 (current performance).
  2. Final Limit from 2035 onward (40% reduction regionally).
- **Active Permit negotiations Jan 2024 – May 2024.** Permit adopted in July 2024.

## RWF limits in first draft

Interim Limit 5,400 kg/day

Final Limit 3,700 kg/day



## RWF negotiated limits

Interim Limit **6,400 kg/day**

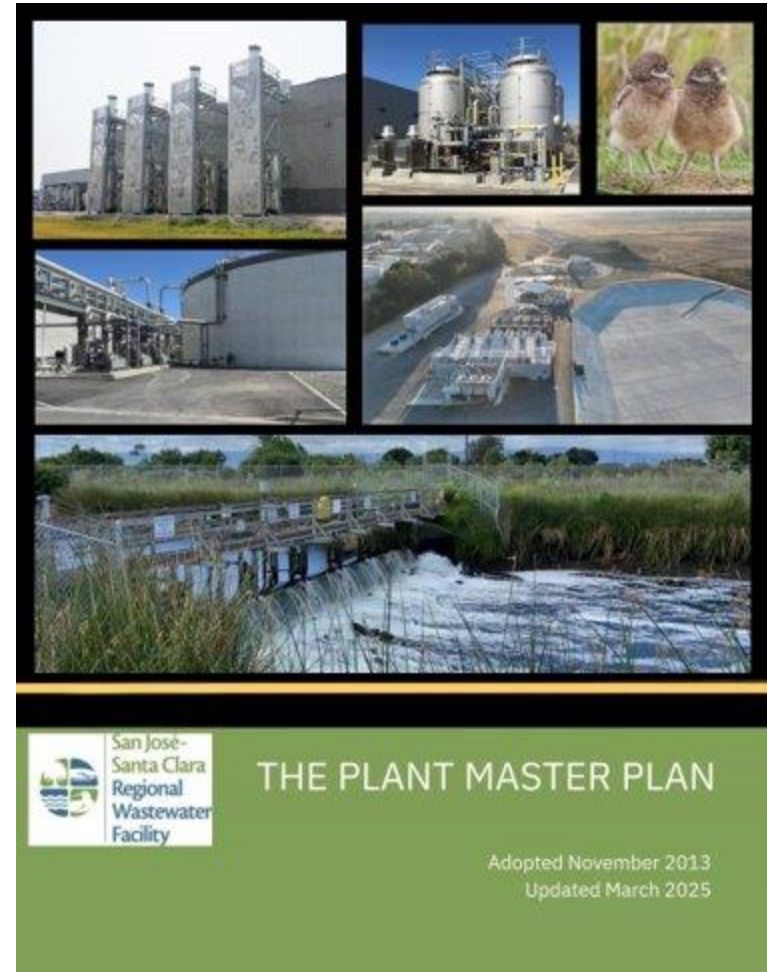
Final Limit **5,000 kg/day**

# **Plant Master Plan Technical Update**

# PMP Technical Update

Several conditions have changed since the adoption of PMP in 2013:

- New more stringent effluent limits
  - All previous planning studies used assumptions from 2019 permit (6,100 kg/d TIN)
  - Analysis is required for new limits (5,000 kg/d TIN)
- Unprecedented cost escalation
- Changes in supply chain affecting project schedules
- Need to update original assumptions of PMP
- Jacobs is supporting technical update
- Expected to be completed Spring 2025



2025 Technical Update of the Plant Master Plan –  
Draft Cover Sample

# Expected Outcomes of the Technical Update

## ■ Document Changes

- Understand the changes in regulation and site conditions since the adoption of the PMP and the impact on the project scope, cost, and schedule.

## ■ Inform Future Capital Projects

- Inform future capital projects through an updated CIP list to coordinate project development, priorities and implementation schedule.

## ■ Support Development of CIP Funding Strategies

- Support CIP to develop funding strategies for future capital projects.
- How does this affect our current funding strategy?

# **South San Francisco Bay Shoreline Levee Project**

# Shoreline Levee – USACE, Valley Water and California State Coastal Conservancy

- Reaches 1 to 3 under construction and to be finalized in 2025
- Insufficient funding for the project put design of Reaches 4 and 5 on hold
  - Closer to RWF
  - Under a Value Engineering effort to identify potential changes to project scope to reduce cost
  - A modified levee alignment may require some modifications to be completed by RWF
- San Jose, Santa Clara and Valley Water have signed an LOI to include:
  - Preliminary terms for property
  - Use of mitigation credits
  - Provision to allow Valley Water to store fill materials from regional projects (cost saving measure)
- LOI will be used to negotiate an MOU (Real State negotiating)
- To be presented to TPAC in 2025



# **Power the South Bay – Baylands Terminal and Transmission Project**



# Power the South Bay Transmission Project

- Critical project infrastructure resiliency project
- High-voltage transmission line between PG&E's Newark substation and Silicon Valley Power's Northern Receiving Station (NRS) substation (230 kV)
- Overhead lines through RWF land and transitions to underground at Zanker
- Potential new Baylands terminal adjacent to RWF Operational Area
- LS Power will construct, own and operate (on behalf of CAISO)
- Tentative construction schedule: June 2026 - October 2028
- Next steps:
  - Opportunity to comment on EIR in Spring 2025



# **Expansion of Advanced Water Purification Center**

# Advanced Water Purification Expansion

## Status of Institutional Arrangements

Agreement	Status
Staff Funding Agreement	Complete
<u>Amend existing agreements:</u>	
• Land Lease	In Progress
• O&M	Complete within 6 months
• Integration	

- Current focus is on Phase 1 demonstration facility, which can be accommodated under existing agreements for SVAWPC
- Full-scale Facility (Phase 2) will require new agreements and will not impose additional cost, risk, or liability to the Regional Wastewater Facility



# Microsoft Lightspeed Project

# Microsoft Data Center

- Location: Zanker and CA-237
- Scope: Construct two data center buildings (397,205 square feet) and associated electrical substation
- Public Improvements:
  - Zanker Road widening to Purification Center entrance
  - McCarthy Access Road Extension
  - Signalize intersection at McCarthy/Zanker
  - New utility infrastructure w/easements
- Focus for RWF:
  - Offsite utilities and Valley Water Purification Project coordination are the focus for the RWF
  - Real estate negotiating fair market value
- Target construction start date - June 2025 (estimated to take one year)
- Next steps:
  - City staff to approve easement package
  - Appraise easements

