SOQUEL CREEK WATER DISTRICT

# Special Presentation for:

Pajaro Valley Water Management Agency

**April 20, 2022**

## Presenter:

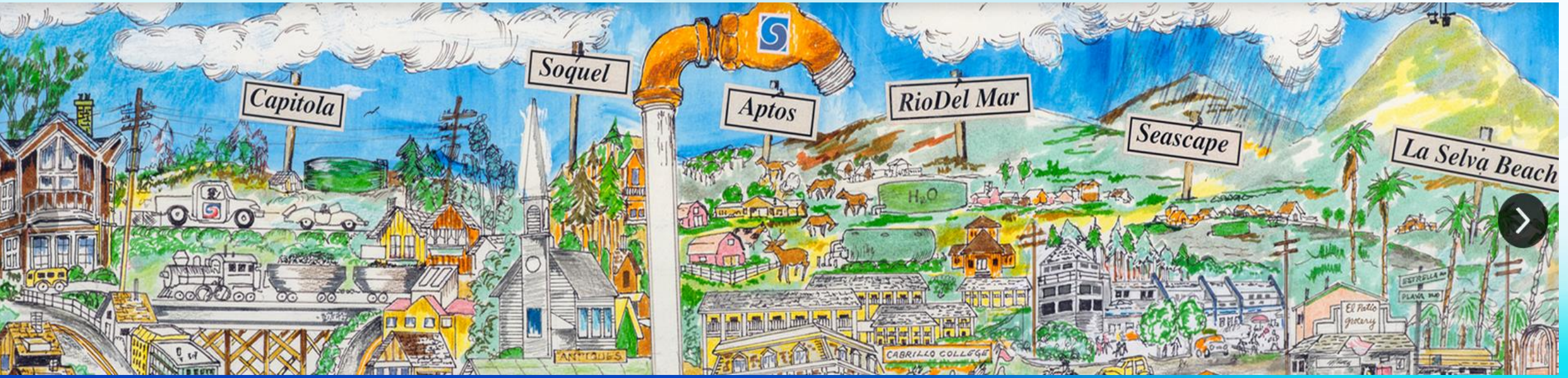
**Ron Duncan,**

***General Manager***

SoquelCreekWater.org

**Transforming Our Water For the Future**

# Bigger Picture View First



# Our Org Chart

## Elected Board of Directors

District Customers

Board of Directors

**Ron Duncan**
*General Manager*

Exec Secretary/ Board Clerk

**Shelley Flock**
*Conservation & Customer Service Field Manager*

- Staff Analyst
- Water Conservation Specialist
- CS Field Supervisor
- CS Field Worker
- CS Field Worker
- CS Field Worker

**Taj Dufour**
*Engineering Manager*

- Associate Engineer
- Associate Engineer
- Associate Engineer
- GIS Analyst
- Construction Inspector
- Engineering Tech

**Leslie Strohm**
*Finance & Business Services Manager*

- Supervising Accountant
- Account Specialist
- Account Specialist
- Customer Service Supervisor
- Customer Service Rep
- Customer Service Rep
- Customer Service Rep
- Customer Service Rep

**Traci Hart**
*Human Resources*

**Christine Mead**
*Operations & Maintenance Manager*

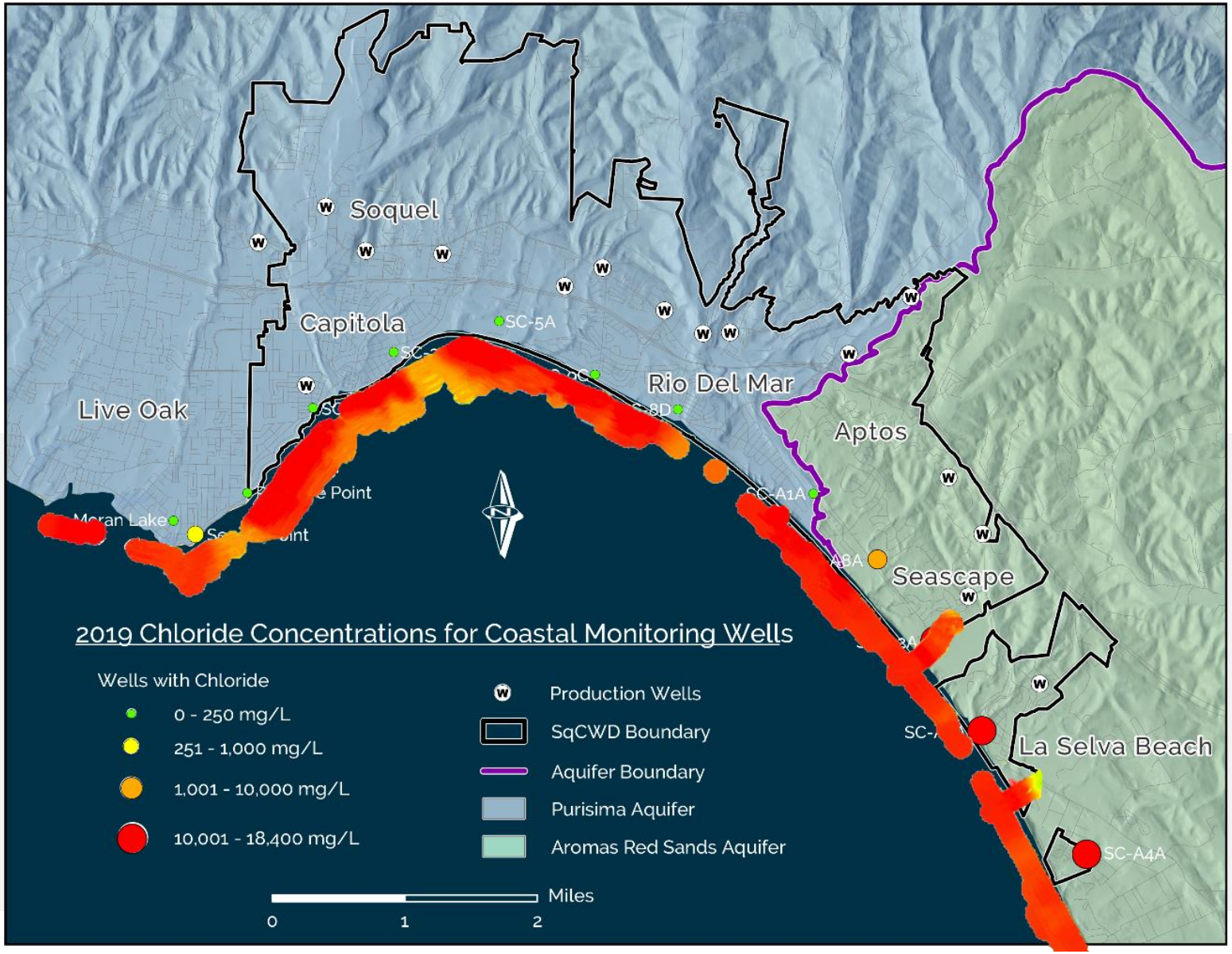
- Water Sampling Tech
- Water Quality Program Coord
- Equip/Utilities Mechanic
- Operations & Mainenance Supervisor
- Lead Water System Operator
- Water Sys Op/Inst Tech
- Water Sys Op II
- Water Sys Op II
- OP & Main Wrkr
- Lead Water Distr Operator
- Sr. Water Distr Operator
- Water Distr. Operator
- Water Distr. Operator
- Lead Water Distr Operator
- Water Distr. Operator
- Water Distr. Operator

**Melanie Mow Schumacher**
*Special Projects – Communications Manager*

- Asst. Engineer II
- Water Resources Planner
- Water Resources Planner (unfilled)
- Public Outreach Coordinator
- Communications Specialist

SOQUEL CREEK WATER DISTRICT

# Mid-County Groundwater Giant Challenge



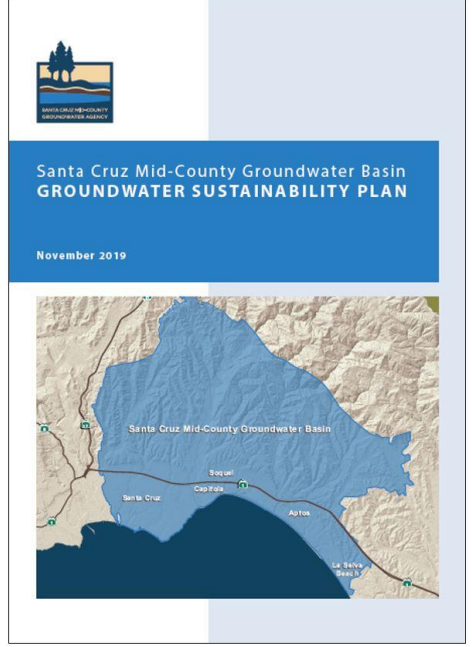
# Current Basin Status

## Two tables from our March 2022 GSP Annual Report

| Aquifer Unit Group | Minimum Threshold | Interim Milestone 2025 | WY2017-2021 | Measurable Objective | WY2021 |
|---|---|---|---|---|---|
| | Five-Year moving average Net Extraction, acre-feet per year | | | Net Extraction, acre-feet per year | |
| Aromas Red Sands and Purisima F | 1,740 | 1,930 | 2,031 | 1,680 | 2,134 |
| Purisima DEF, BC, A and AA | 2,280 | 2,110 | 2,410 | 960 | 2,532 |
| Tu | 930 | 720 | 830 | 620 | 954 |

| | |
|---|---|
| Minimum threshold not met | Measurable objective not met |
| Minimum threshold met | Measurable objective met |

Currently exceeding the pumping measurable objective by 2,360 AFY




## Current Basin Status

### Groundwater Elevation Proxies for Seawater Intrusion

| Representative Monitoring Point | Aquifer | Minimum Threshold | Measurable Objective | Interim Milestone 2025 | WY2017 | WY2018 | WY2019 | WY2020 | WY2021 |
|---|---|---|---|---|---|---|---|---|---|
| | | Groundwater Elevation, feet above mean sea level | | | Annual Minimum of Five-Year Moving Average Groundwater Elevation, feet above mean sea level | | | | |
| SC-A3A | Aromas | 3 | 4 | 3 | 2.9 | 2.9 | 2.9 | 2.9 | 3.1 |
| SC-A1B | Purisima F | 3 | 5 | 3 | 7.4 | 7.5 | 7.5 | 7.5 | 7.4 |
| SC-A8A | Purisima F | 6 | 7 | 4.5 | 5.3 | 5.3 | 5.4 | 5.3 | 5.0 |
| SC-A2RA | Purisima F | 3 | 4 | 3 | 3.8 | 4.5 | 5.7 | 6.5 | 6.6 |
| SC-8RD | Purisima DEF | 10 | 11 | 10 | 7.5 | 9.4 | 10.1 | 12.6 | 13.9 |
| SC-9RC | Purisima BC | 10 | 11 | 4.6 | -1.6 | 2.2 | 5.2 | 8.9 | 9.6 |
| SC-8RB | Purisima BC | 19 | 20 | 8.4 | -2.4 | 0.2 | 2.7 | 5.8 | 5.2 |
| SC-5RA | Purisima A | 13 | 15 | 13 | 6.3 | 7.8 | 8.5 | 9.3 | 10.2 |
| SC-3RA | Purisima A | 10 | 12 | 10 | 8.8 | 9.6 | 10.6 | 11.7 | 11.5 |
| SC-1A | Purisima A | 4 | 6 | 4 | 9.6 | 9.5 | 9.5 | 9.7 | 10.4 |
| Moran Lake Medium | Purisima A | 5 | 6.8 | 5 | 5.5 | 5.6 | 5.6 | 5.9 | 6.2 |
| Soquel Point Medium | Purisima A | 6 | 7.1 | 6 | 5.1 | 5.2 | 5.3 | 5.7 | 5.9 |
| Pleasure Point Medium | Purisima A | 6.1 | 6.5 | 6.1 | 6.5 | 6.8 | 7.1 | 7.9 | 9.3 |
| Moran Lake Deep | Purisima AA | 6.7 | 16 | 6.7 | 6.2 | 6.4 | 6.5 | 6.8 | 7.0 |
| Soquel Point Deep | Purisima AA | 7.5 | 16 | 7.5 | 5.8 | 5.9 | 6.0 | 6.3 | 6.8 |
| Pleasure Point Deep | Purisima AA | 7.7 | 16 | 7.7 | 7.4 | 7.8 | 8.2 | 8.7 | 10.1 |
| SC-13A | Tu | 17.2 | 19 | 8.3 | not previously measured | | 17.1 | 18.3 | 15.1 |

| | |
|---|---|
| Minimum threshold not met | 7 |
| Minimum threshold achieved but measurable objective not met | 5 |
| Measurable objective met | 5 |

12 out of 17 of our measurable objectives are NOT met

Source: Santa Cruz Mid-County Basin Water Year 2021 Annual Report, Published Feb./March 2022 on MGA website https://www.midcountygroundwater.org/

12 out of 17 of our measurable objectives in monitoring wells are not met

Source: Santa Cruz Mid-County Basin Water Year 2021 Annual Report, Published Feb./March 2022 on MGA website https://www.midcountygroundwater.org/

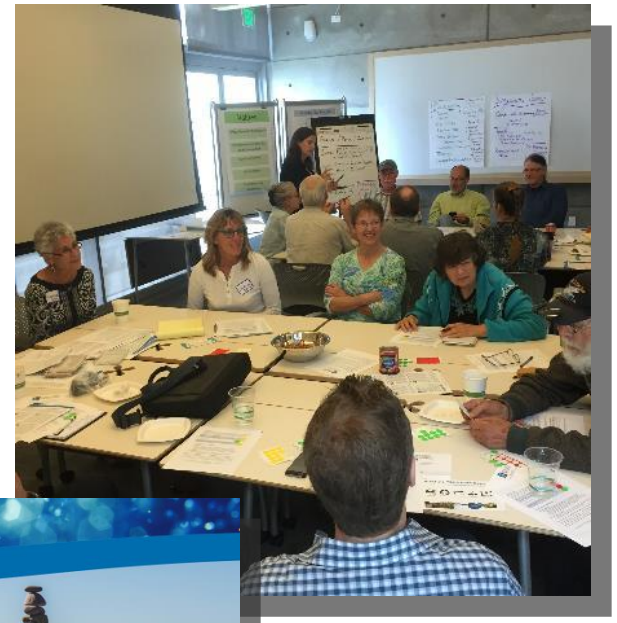
AFY = acre-feet per year  GSP = Groundwater Sustainable Report

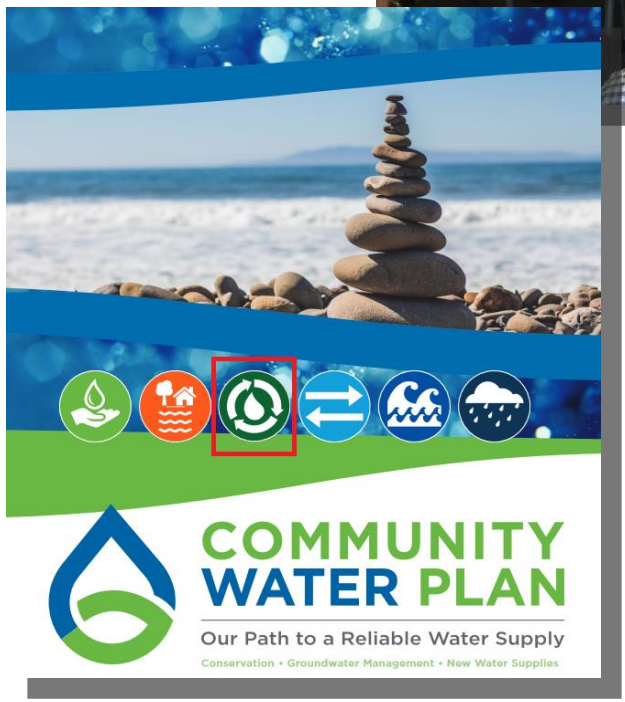
# Our Primary Solutions

Conservation + Groundwater Management + New Supplies

- Use Water Efficiently
- Adaptive with Groundwater Management
- Develop New Supplies
  - Pure Water Soquel- constructing
  - Excess River Water Purchases, when available - piloting
  - Storm Water Capture- evaluated, not much success

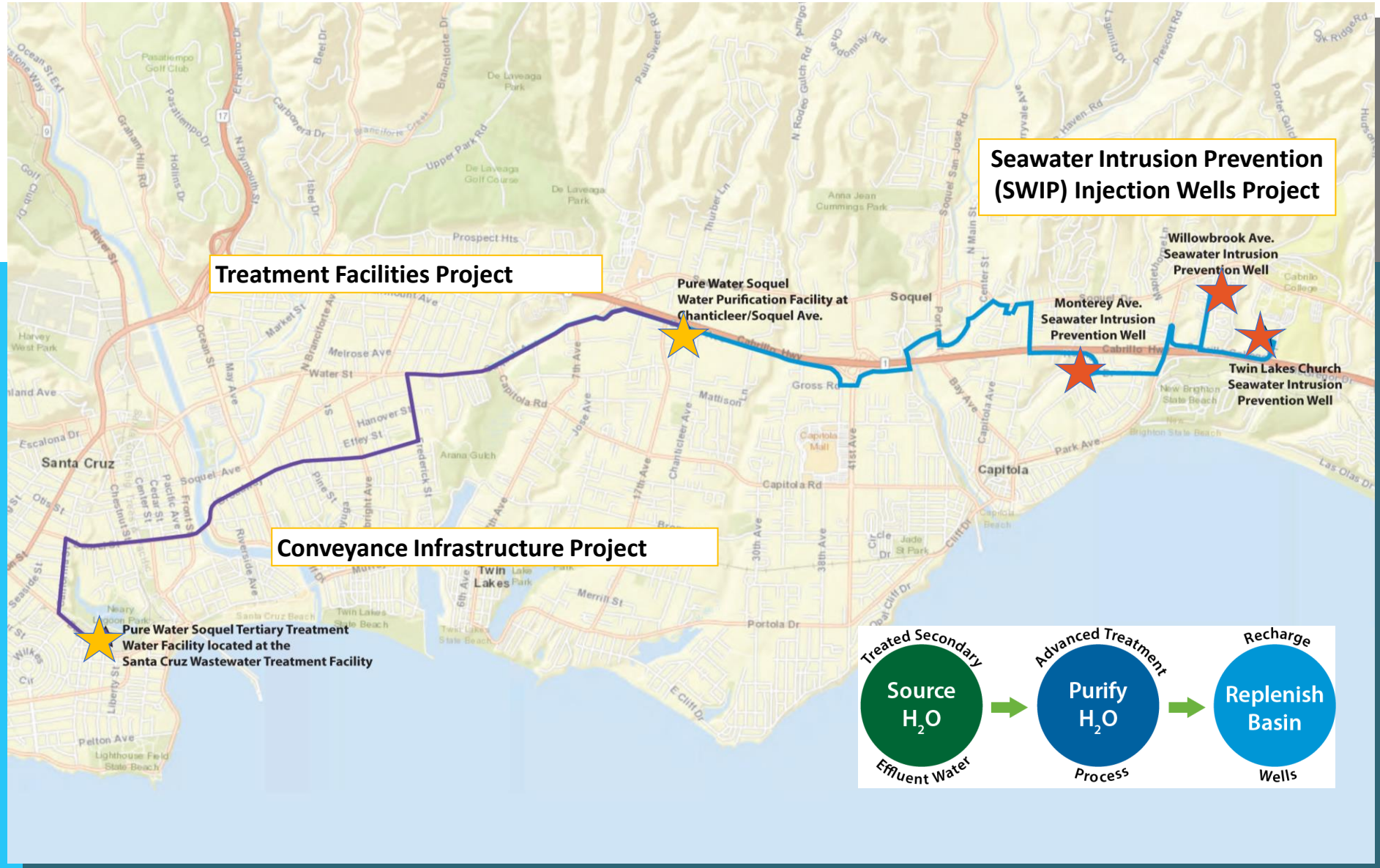
## Process Matters





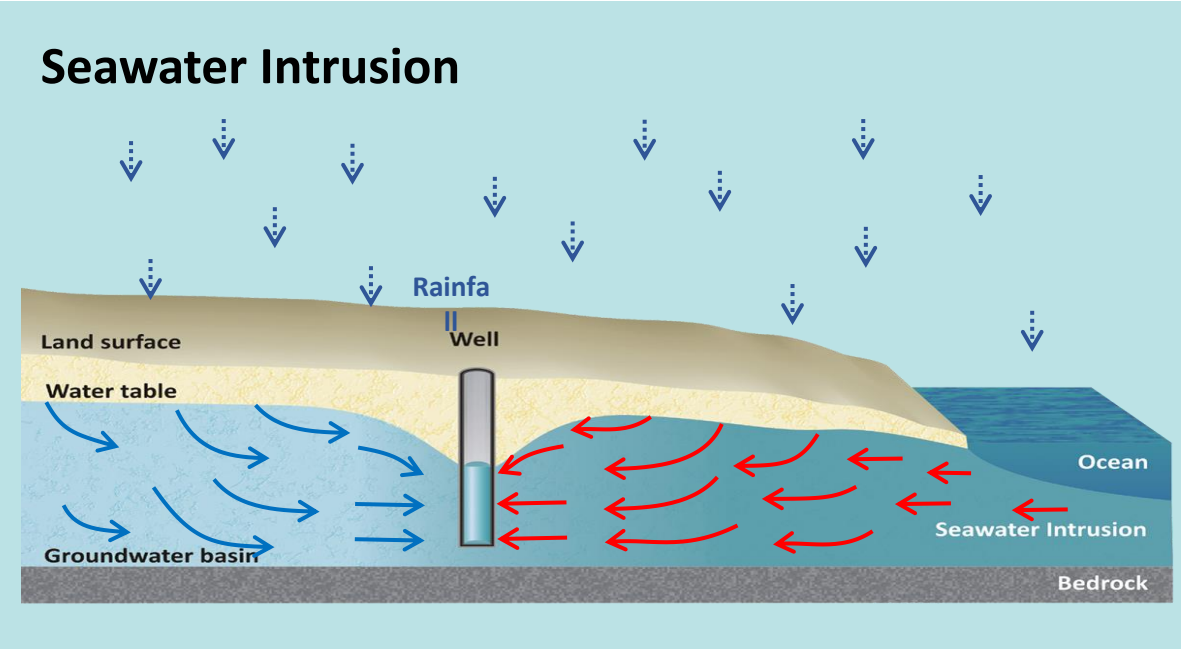
# Project Overview and Project Locations

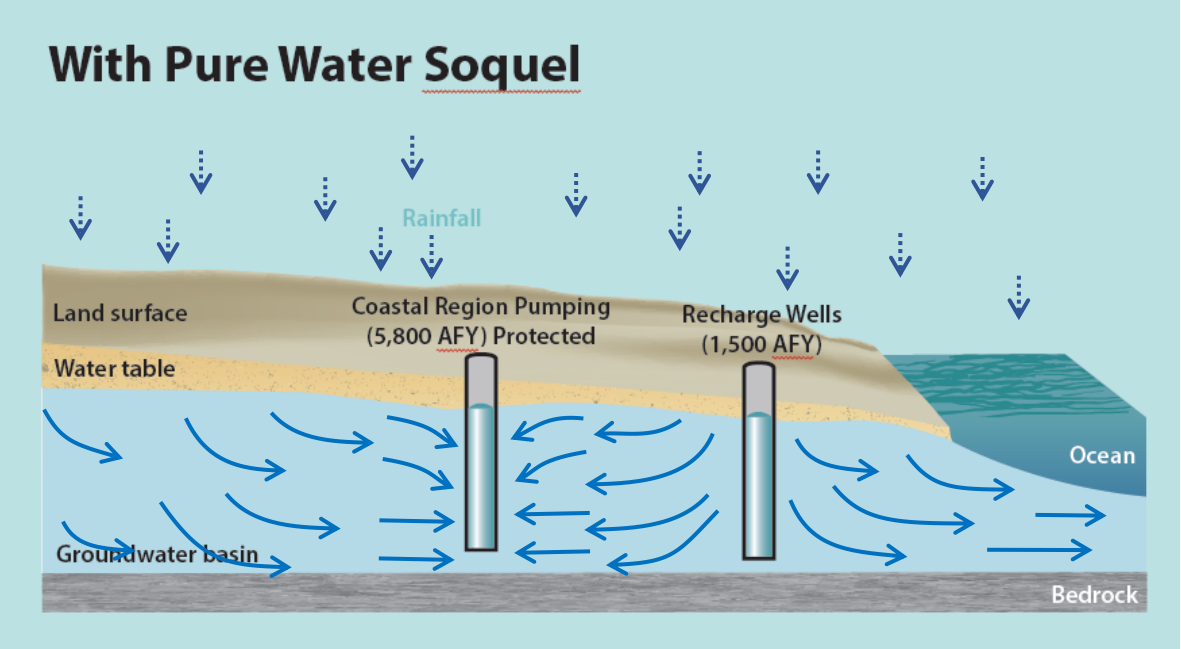
PUREWater Soquel
Water Transformed



# How the Project will Prevent Further Seawater Intrusion

When purified water is stored in the basin through recharge wells, it creates a barrier to prevent seawater contamination from reaching our production wells.



# Project Benefits – aligned with community values

**Reduces Discharge into the Ocean by 25%**

**Uses Green Energy**

**Provides a Seawater Intrusion Barrier**

**Promotes Economic Vitality**

**Reliable and Drought-Proof Water Supply**

**Produces High Quality Water**

**Can be Accomplished Soon**

**Can be Scaled-Up**

# Based on Community Input

Support **investment in infrastructure** to ensure a safe, reliable water supply

Support taking **strong action now** to address the issues of over-drafting and seawater contamination of the local groundwater

Are **comfortable** with **Pure Water Soquel**

SqCWD Phone and On-Line Survey, January 2020, performed by FM3

# Agency Collaboration & Community Support

Grant Funders, funding and support from the best in the state and the federal level. They believe in us and the project.

CALIFORNIA DEPARTMENT OF
WATER RESOURCES

# Regional Benefits

Pure Water Soquel

- Produces 1,500 acre-feet of water per year that provides 5,800 acre-feet per year benefits
- Serves 92,130 people (broader coastal region)
- Project can expand to double capacity (Expansion requires additional CEQA and other approvals)

**$903M**
**Total Economic Benefit**

RESIDENTIAL BUSINESS ENVIRONMENTAL

# Without Pure Water Soquel

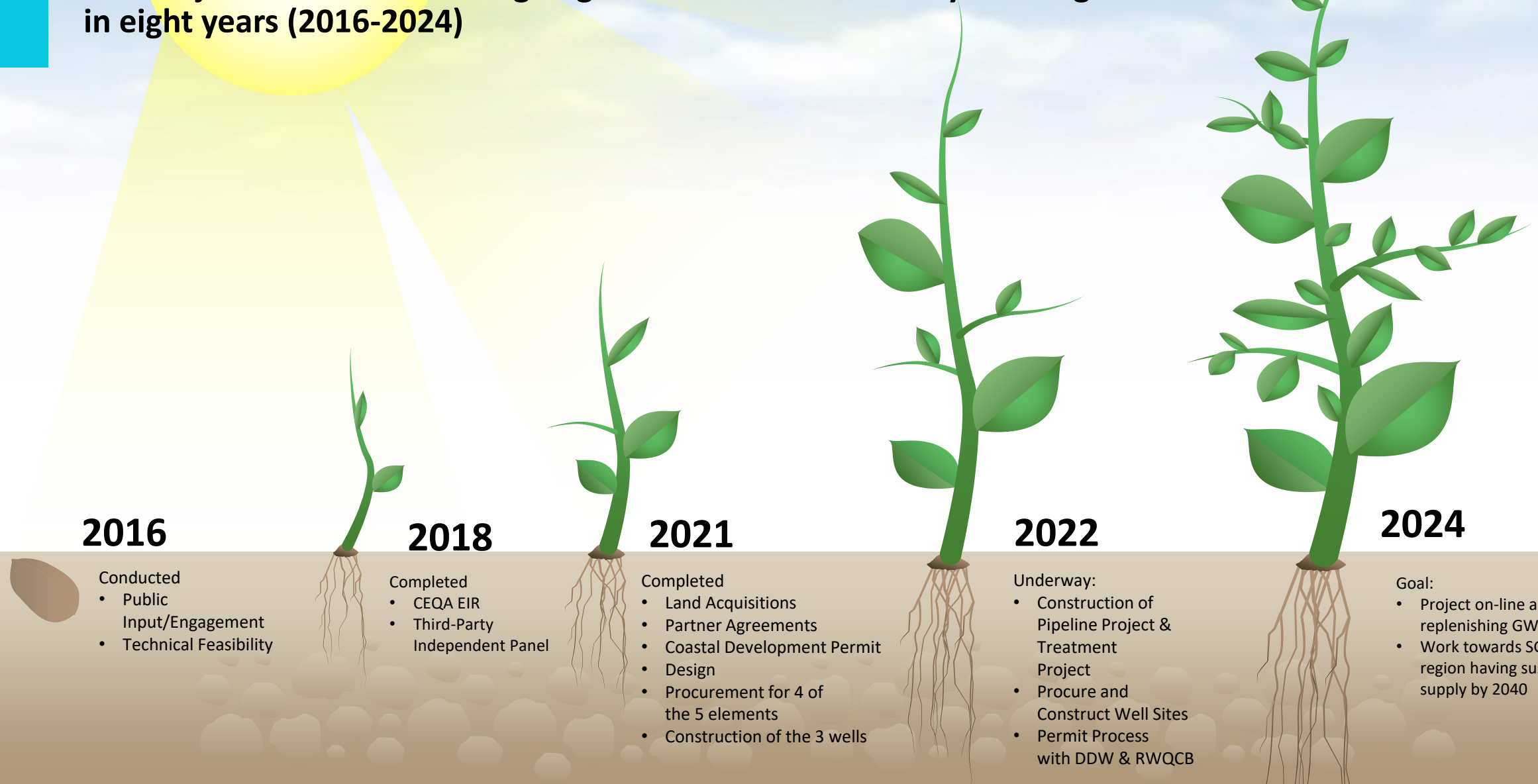
**HIGHER COST OF WATER TO CUSTOMERS**

**725 JOB LOSSES**

**2,100 LESS HOMES BUILT**

# Pure Water Soquel Consistently Makes Progress

**The Project remains on-track going from technical feasibility to being on-line in eight years (2016-2024)**



## 2016

Conducted
- Public Input/Engagement
- Technical Feasibility

## 2018

Completed
- CEQA EIR
- Third-Party Independent Panel

## 2021

Completed
- Land Acquisitions
- Partner Agreements
- Coastal Development Permit
- Design
- Procurement for 4 of the 5 elements
- Construction of the 3 wells

## 2022

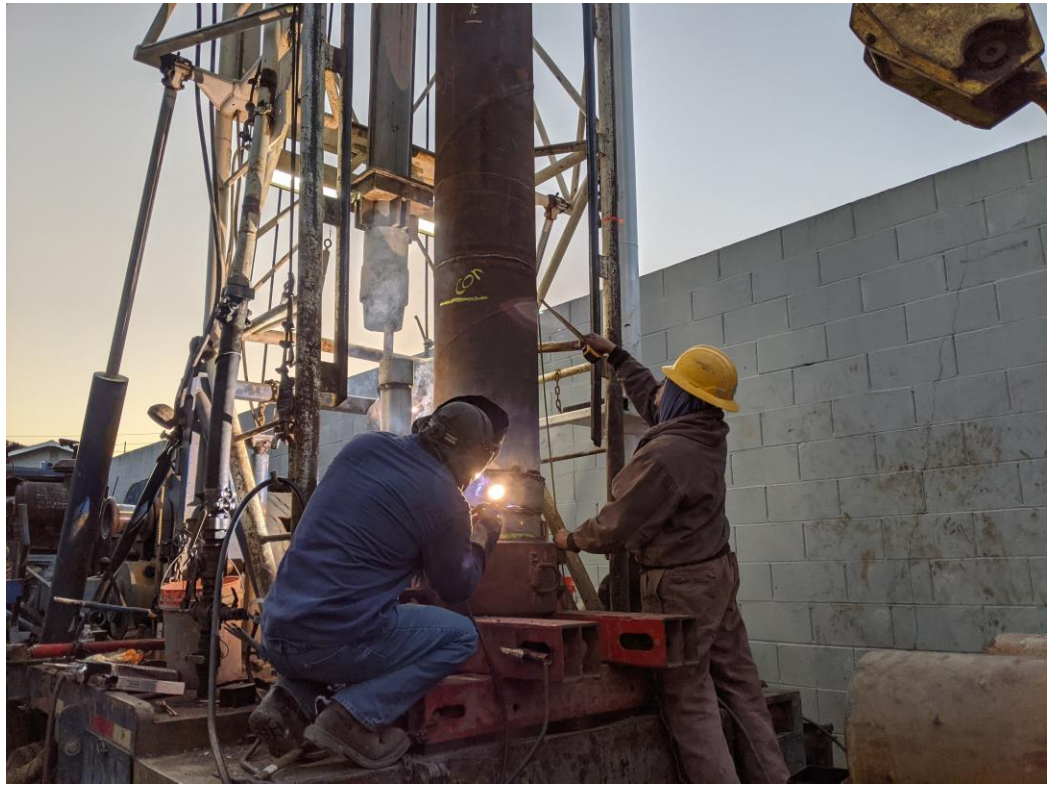
Underway:
- Construction of Pipeline Project & Treatment Project
- Procure and Construct Well Sites
- Permit Process with DDW & RWQCB

## 2024

Goal:
- Project on-line and replenishing GW Basin 3-001
- Work towards SGMA mandate of region having sustainable water supply by 2040

# In 2022… It's Construction

**Seawater Intrusion and Prevention Wells and Monitoring Wells Construction**
in Capitola and Aptos



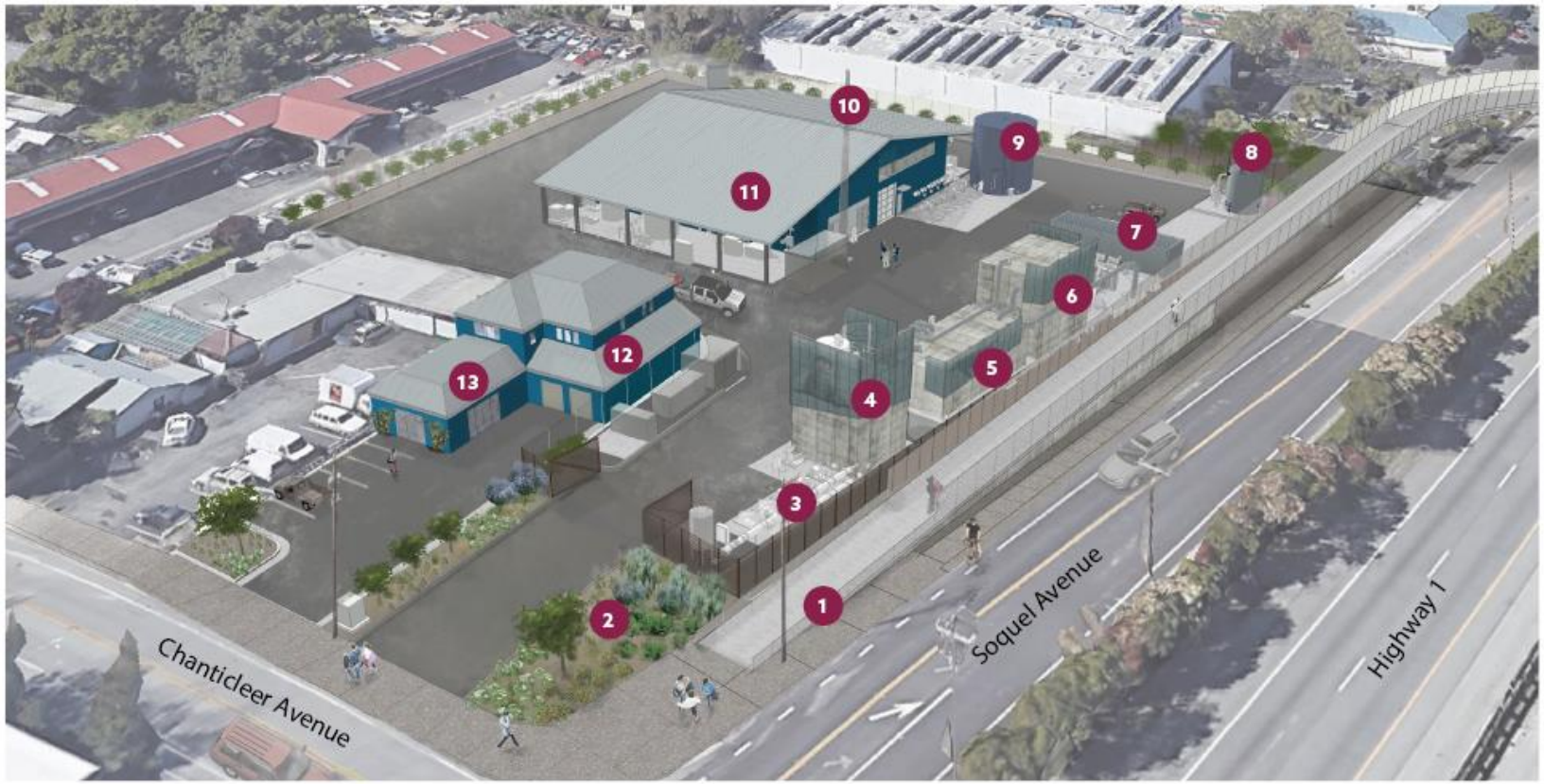
**Pipeline Installation**
in Santa Cruz, Live Oak, Soquel, Capitola, Aptos

# …and More Construction

**Water Purification Center Groundbreaking • Dec 10, 2021**

# Advanced Water Purification Center at Chanticleer Ave.

PUREWater Soquel
Water Transformed




1. Bike/Pedestrian Bridge (by others)
2. Demonstration Garden
3. Purified Water Pump Station
4. Purified Water Tank and Decarb Unit
5. Reverse Osmosis Concentrate Wet Well
6. Microfiltration (MF) Feed Tank
7. Ozone System
8. Neutralization Tank
9. Reverse Osmosis Tank
10. Communications Pole
11. MF, RO, Ultraviolet Light with Advanced Oxidation (UV/AOP) Building
12. Operations Offices and Lab
13. Education Center

SOQUEL CREEK WATER DISTRICT

# THANK YOU!

**Ron Duncan**
*General Manager*
*RonD@soquelcreekwater.org*