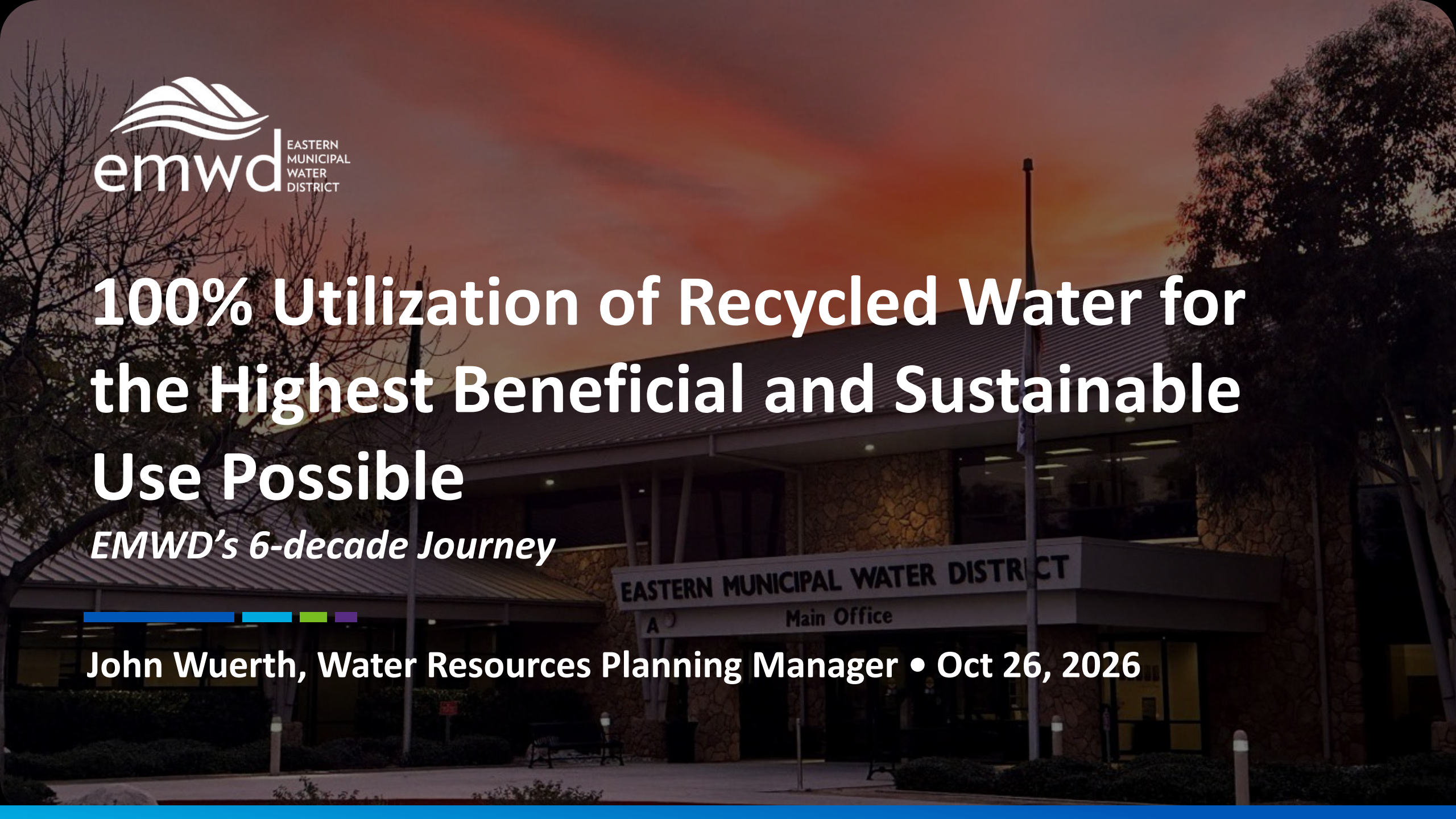



# 100% Utilization of Recycled Water for the Highest Beneficial and Sustainable Use Possible

*EMWD's 6-decade Journey*

John Wuerth, Water Resources Planning Manager • Oct 26, 2026

# EMWD Overview

ESTABLISHED IN
1950

SERVES:
WATER / WASTEWATER / RECYCLED

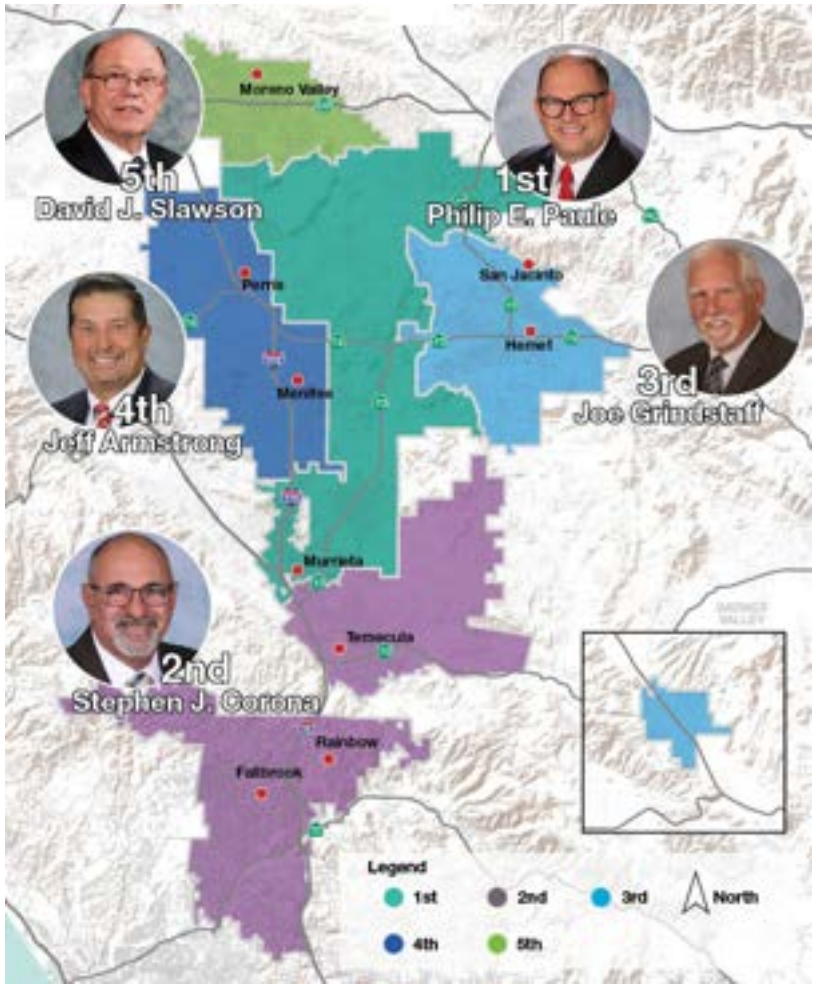
WHOLESALE & RETAIL

POPULATION OF APPROXIMATELY:
1,000,000

682
SQUARE MILE
SERVICE AREA

APPROXIMATELY
44%
CURRENTLY
BUILT OUT

ONE OF THE 26 member agencies of The Metropolitan Water District of Southern California



# Recycled Water History

- **1960's:** Began treatment – effluent disposed through on-site percolation & evaporation ponds
- **1966:** Began marketing effluent to local farmers
- **1991:** USBOR funding to develop a backbone transmission / storage system
- **2003:** Initial system pressurization
- **2005:** Mandatory Use Policy
- **2008:** ARRA funding for stabilization projects













# Agricultural Demand

- First and longest customer – 60 years and counting
- Key partners – from disposal to economic growth and GW management
- Challenges:
  - Adapting to changing customer base and system level of service
  - Managing annual and seasonal demands
  - Maintaining costs competitive with groundwater pumping



| | | |
|---|---|---|
| Alfalfa | Melons | Sudan Grass |
| Potatoes | Corn Silage | Beans |
| Bok Choy | Carrots | Wheat and Barley |
| Onions | Pumpkins | Black-eyed Peas |
| Mint | Rye Grass | Oats |






*Former EMWD Board member*
*Randy Record*



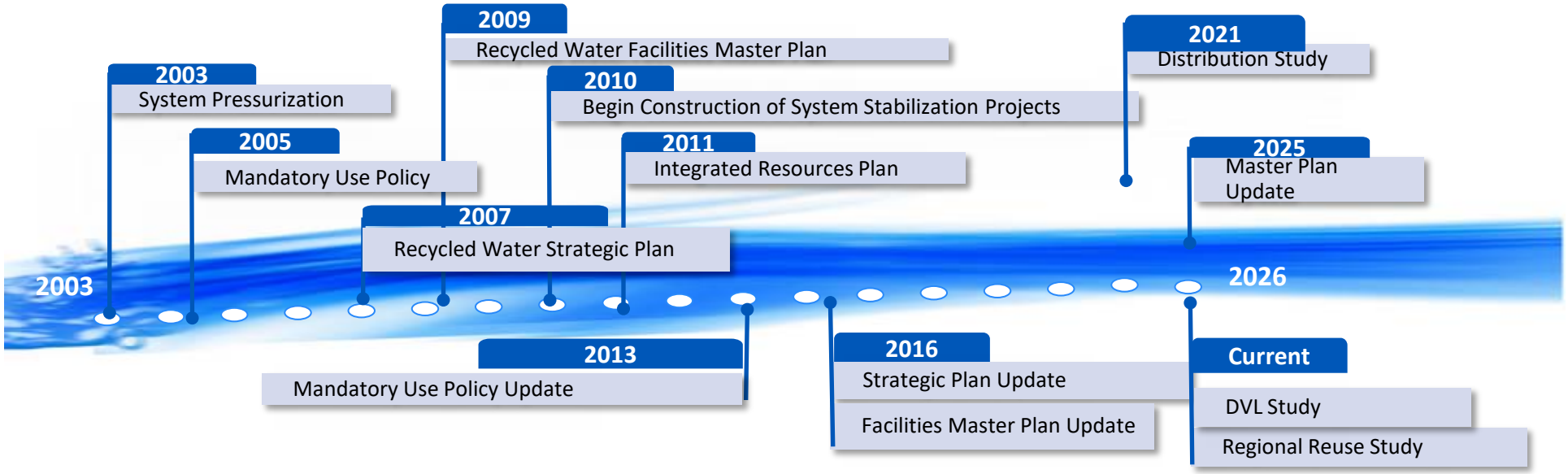
*2012 WateReuse Customer of the Year*
*Bruce Scott*

# Strategic Shift for the Recycled Water Program

| 2007 EMWD Strategic Plan | 2009 RW Strategic Plan | 2011 Integrated Resources Plan | 2016 RW Strategic Plan | 2025 RW Master Plan Update |
|---|---|---|---|---|
| • Move "Recycling" from Wastewater Collection to Water Supply & Reliability | • Achieve Zero Discharge<br>• Maximize Potable Water Offset<br>• Minimize Cost<br>• Optimize Salt Balance | • RW included with all other supplies<br>• Focus on local resources<br>• Identified Indirect Potable Reuse as high value objective | • Maximize beneficial use<br>• Minimize net costs to ratepayers<br>• Maximize Implementation<br>• Support regional groundwater sustainability | • Added "Collaborate on Regional Reuse Opportunities"<br>• Refined regulatory engagement |

- Increased priority by moving from wastewater to water supply
- Established ambitious goals that have guided initiatives
- Basis and roadmap for supporting priorities and investments
- Key investments – infrastructure to increase level of service to support landscape
- Continually adapting as conditions change

# Key Supporting Initiatives – Last 2+ Decades




***RW System Evolution***

Gravity → Pressurized → Stabilized

***RW Program Development / Evolution***

Policy → Stakeholder → Processes → Guidelines → Adapting

# Challenges

Doing the work while developing the program



System Pressurization & Stabilization

Strategic, Facilities, Operations Plans

RW Irrigation Guidelines, Plan Check & Inspection

Shifting Customer Base

Mandatory Use Enforcement

Level of Service Requirements

Stakeholder Coordination

High Priority and Visibility



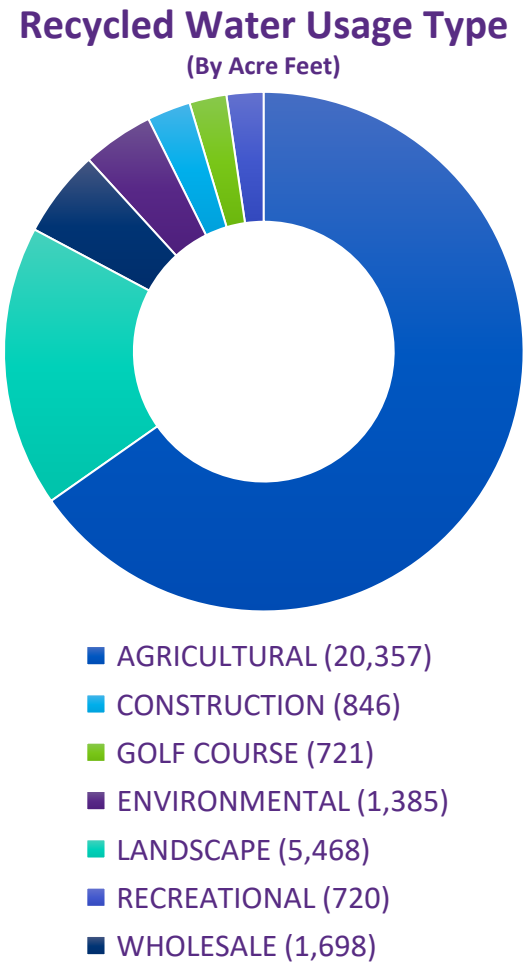
Multiple Concurrent Initiatives

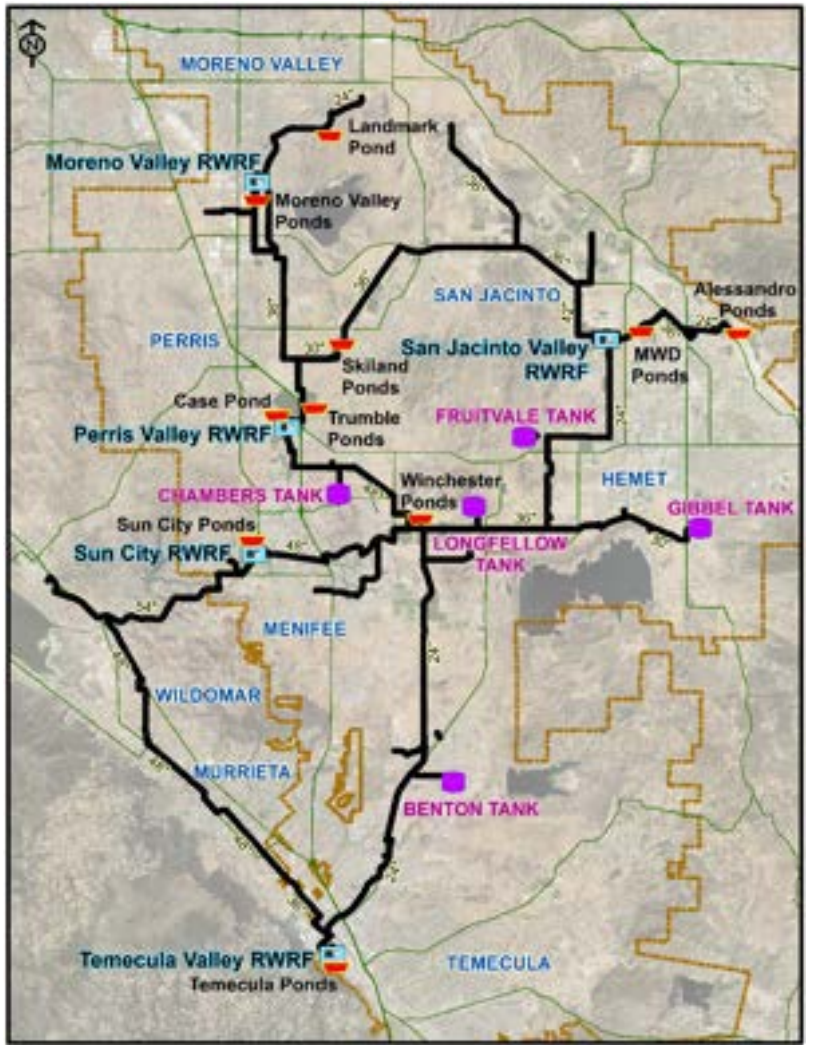


Typical day in the office

# EMWD's Recycled Water System Today

- Over $300 million in investments
- Nearly 300 miles of pipeline
- 7,500 AF of seasonal storage
- Four pressure zones 19.5 MG of elevated storage
- Customers served
  - Approx 10,000 acres of agricultural
  - 113 parks / 30 schools
  - 200-plus miles of streetscape
  - CDF&W – Environmental



# Recycled Water Landscape Program

- Focus on “common area” landscape
- Stable, predictable and high value “crop”
- Maintains recreational areas for our community
- Supports acceptance of recycled water use
- Targeted growth opportunities :
  - Mandatory Use for new development
  - Retrofit existing potable water landscape
- Approximately 14,000 AFY planned expansion

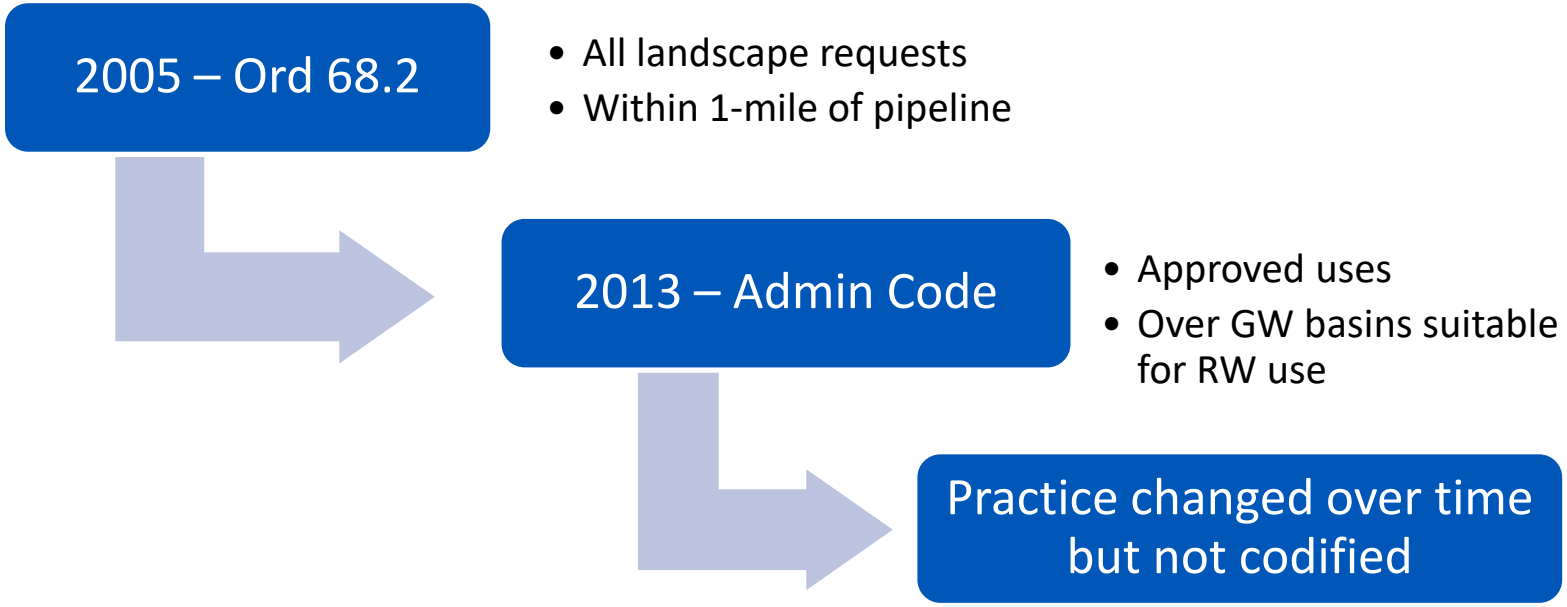









# Evolution of Mandatory Use Policy




Criteria applied to potential sites including:

- Amount of usage
- Proximity to pipelines
- Type of use

Challenges:

- Overly broad requirements for development
- Inconsistent conditioning criteria / requirements
- Lack of equity in cost sharing
- Significant land use agency and developer “push back”

# Current Mandatory Use Policy – Implemented 2021

Required Reuse Area (RRA)

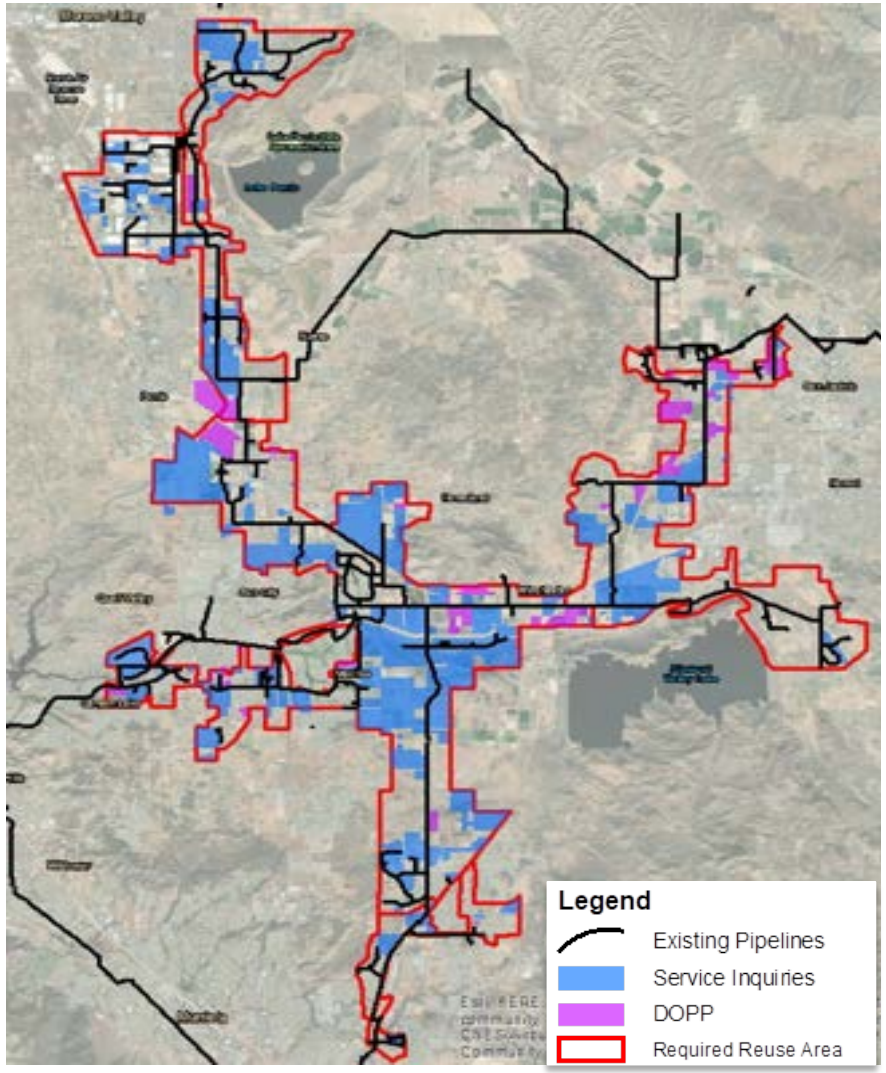
- Geographic boundary developed for conditioning new development
- Based on system capacity, level of service and total planned expansion
- Concentrated and contiguous RW landscape
- Minimizes additional infrastructure costs

Stakeholder Equity

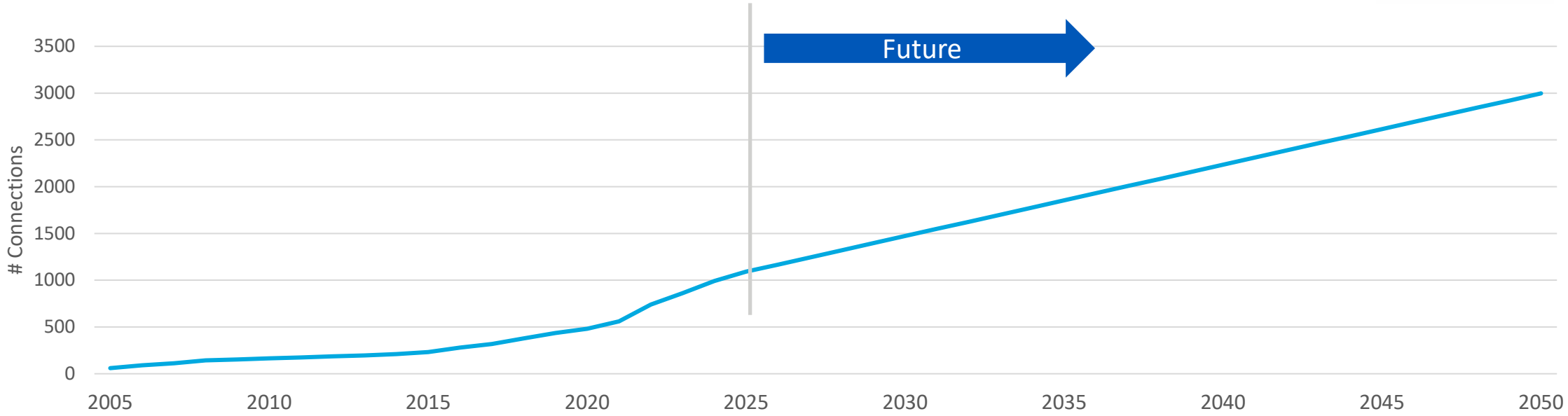
- Everyone benefits from recycled use
- Fee structure to offset developer investments
- Development conditioned for RW exempt from fee
- Codified by EMWD Board in Admin Code in 2021

Benefits:

- Efficient / cost effective landscape expansion
- Increased transparency
- Empowered staff to make better decisions



# Regulatory Compliance Requirements




- Current:
  - 4 Annual inspections / day
  - 1 Cross connection test / 3 days
- Projected by 2050:
  - 12 Annual inspections / day
  - 1 Cross connection tests / day



**Significant resource / staff requirement (Opportunity for X-Conn Specialists)**



# Accelerated Retrofit Program (est. 2015)

## Objective:

Support existing potable landscape customers to retrofit to recycled water

***ARP Program Details:**

- Customers pays ARP Rate at 75% of potable rate
- After 10-years, customer reverts to recycled water rate

**Support Provided**

- Technical Design
- Permitting

**Service Connections**

- New recycled meters
- Abandon potable meters

**Customer Funding**

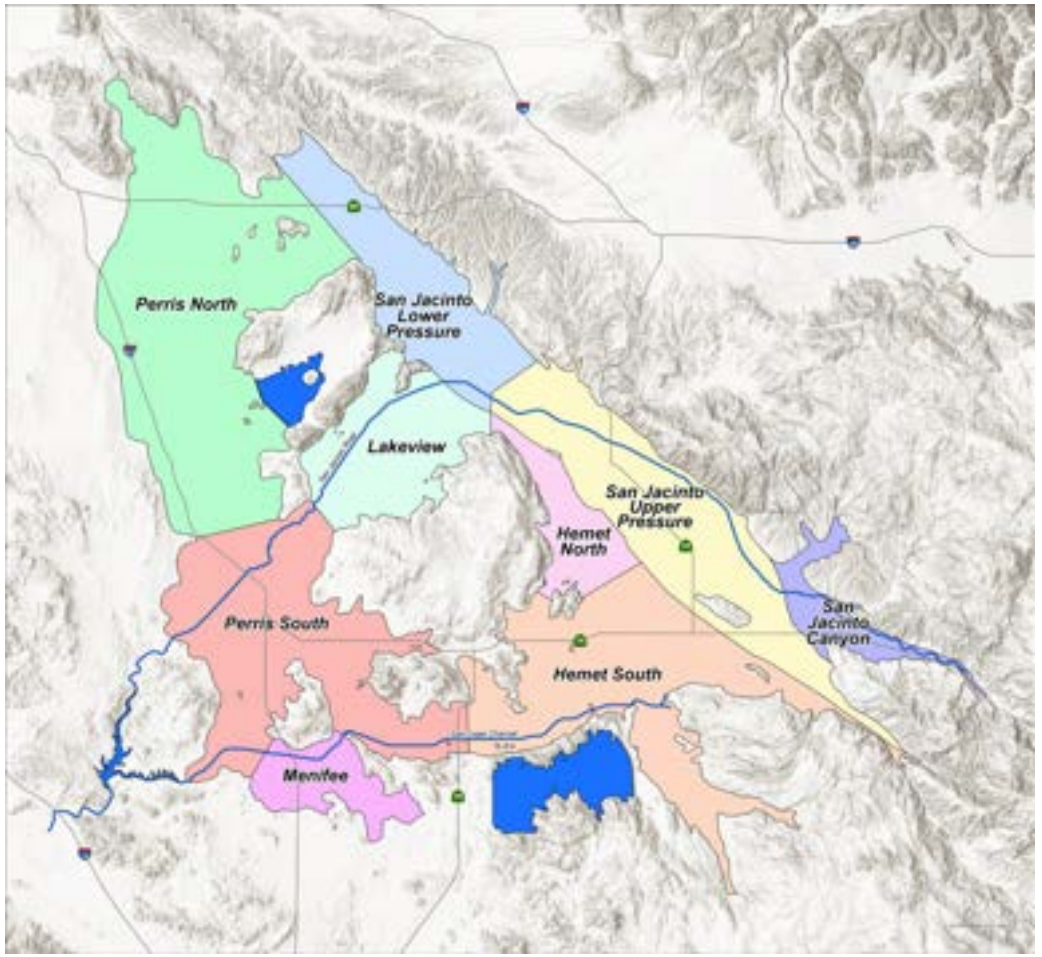
- Funding for onsite construction costs
- Up to $7,500/AF up-front ARP funding
- MWD Onsite Retrofit Program - $1,950/AF

## Results to date:

1,417 AF PW offset
825,000 SF Turf transformation
Total cost - $7.9M

# Managing Salinity Impacts of RW Use

- Recycled water quality already exceeds some basin objectives
- Declining flows (conservation) will continue to degrade water quality
  - SB1157 requires 42 GPCPD by 2030
- San Jacinto Upper Pressure
  - Overdraft from years of pumping / Optimal for recharge
  - Low basin objectives / high-quality groundwater
  - Significant recycled water usage including “GW In-Lieu”




| BASIN PLAN OBJECTIVES | PERRIS NORTH | SAN JACINTO LOWER PRESSURE | LAKEVIEW HEMET NORTH | PERRIS SOUTH | SAN JACINTO UPPER PRESSURE* | HEMET SOUTH | MENIFEE |
|---|---|---|---|---|---|---|---|
| TDS (mg/L) | 570 | 520 | 520 | 1260 | 320 (500) | 730 | 1020 |
| TIN (mg/L) | 4.1 | 1.0 | 1.8 | 2.5 | 1.4 (7.0) | 4.1 | 2.8 |

Most significant issue for RW

# Maximum Benefit Analysis

- Submitted to RWQCB July 2007
  - Approval per Resolution No. R8-2010-0039
- Historic Objective - TDS = 320 mg/L
- Proposed Objective -TDS = 500 mg/L
- Included 7 Commitments from EMWD:
  - Groundwater Monitoring Program
  - Ambient Groundwater Quality Determination
  - TDS and Nitrogen Waste Load Allocation
  - Salinity Management Plan
  - **Desalter(s) and Brine Disposal (or equivalent)**
  - Recycled Water Use
  - Recycled Water Quality Improvement Plan and Schedule
- Required to submit plan and schedule for construction if:
  - 5 years running average TDS of SJVRWRF effluent > 640 mg/L
  - Volume weighted ambient average TDS of SJUPGMZ > 490 mg/L

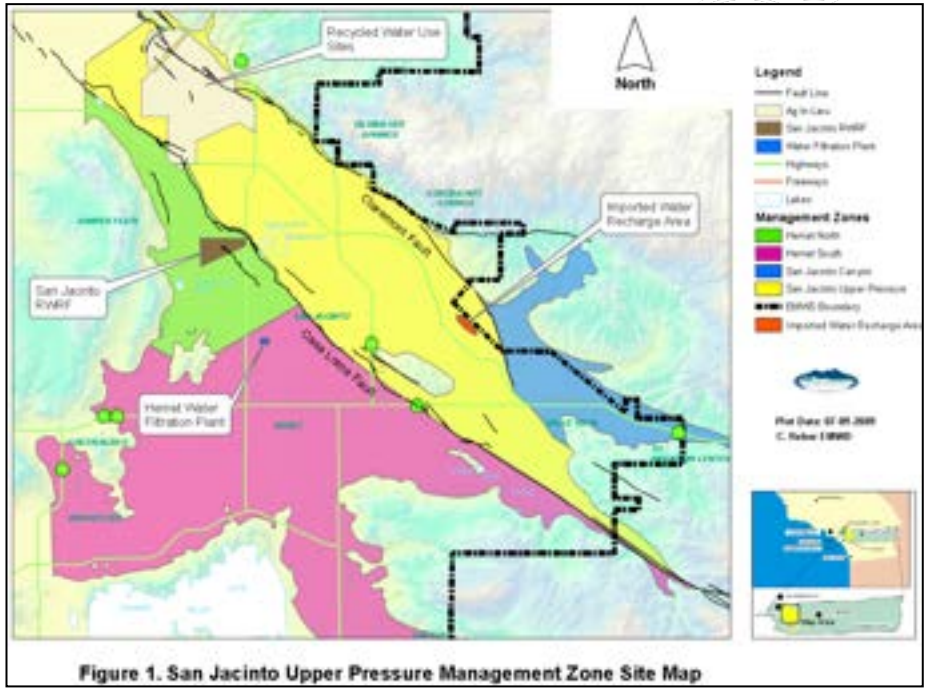
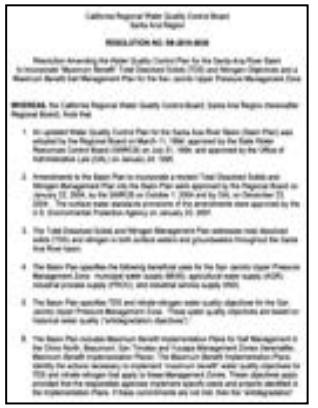
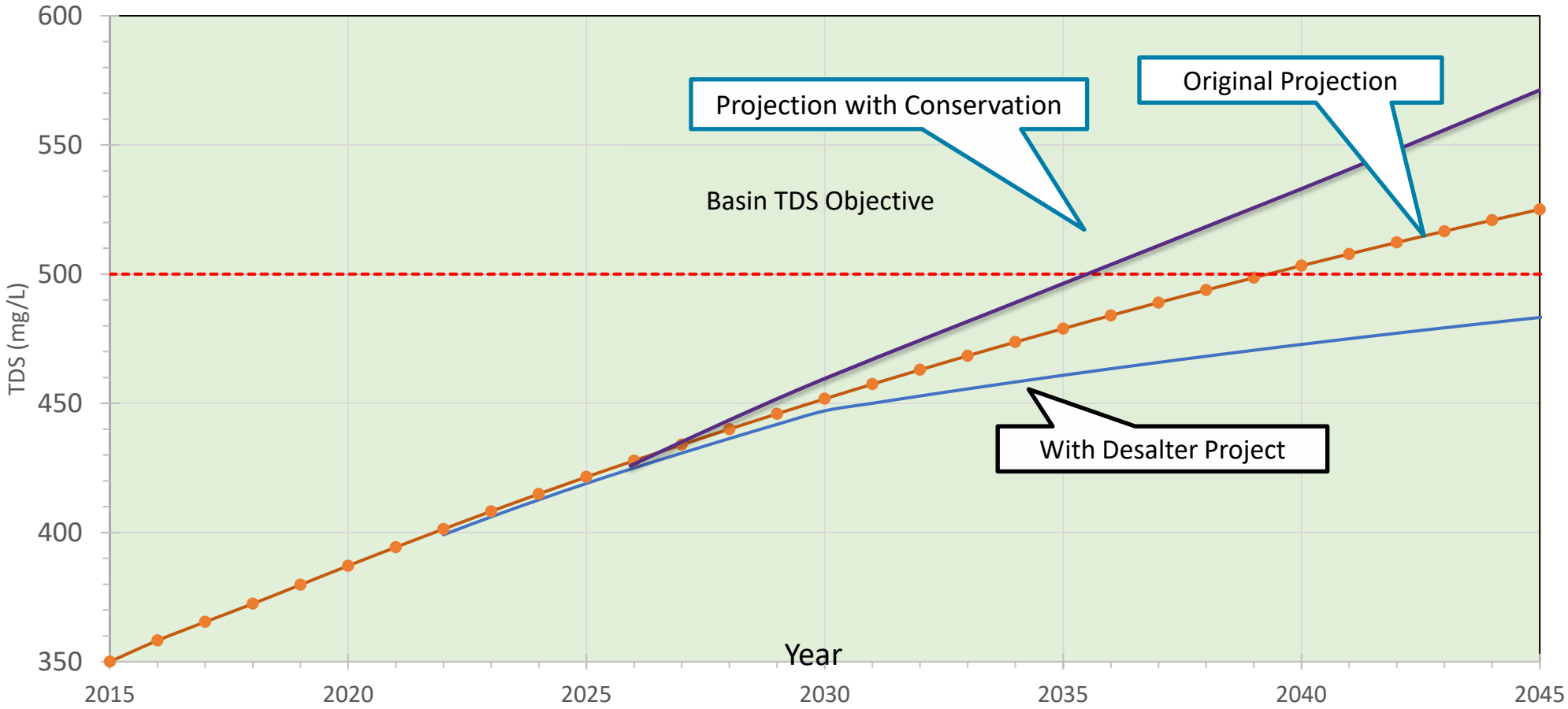


Figure 1. San Jacinto Upper Pressure Management Zone Site Map





# Salinity Impacts to SJUP GMZ from RW Use



# EMWD's Potable Reuse Project = Salinity Management



Disinfected Tertiary



Brine Evap Ponds To Landfill

Imported Water 14,500 afy

MF / RO

2,000 AFY Continuous

0 - 2,000 afy Seasonal



Recharge Ponds

Soil

Aquifer

Treatment

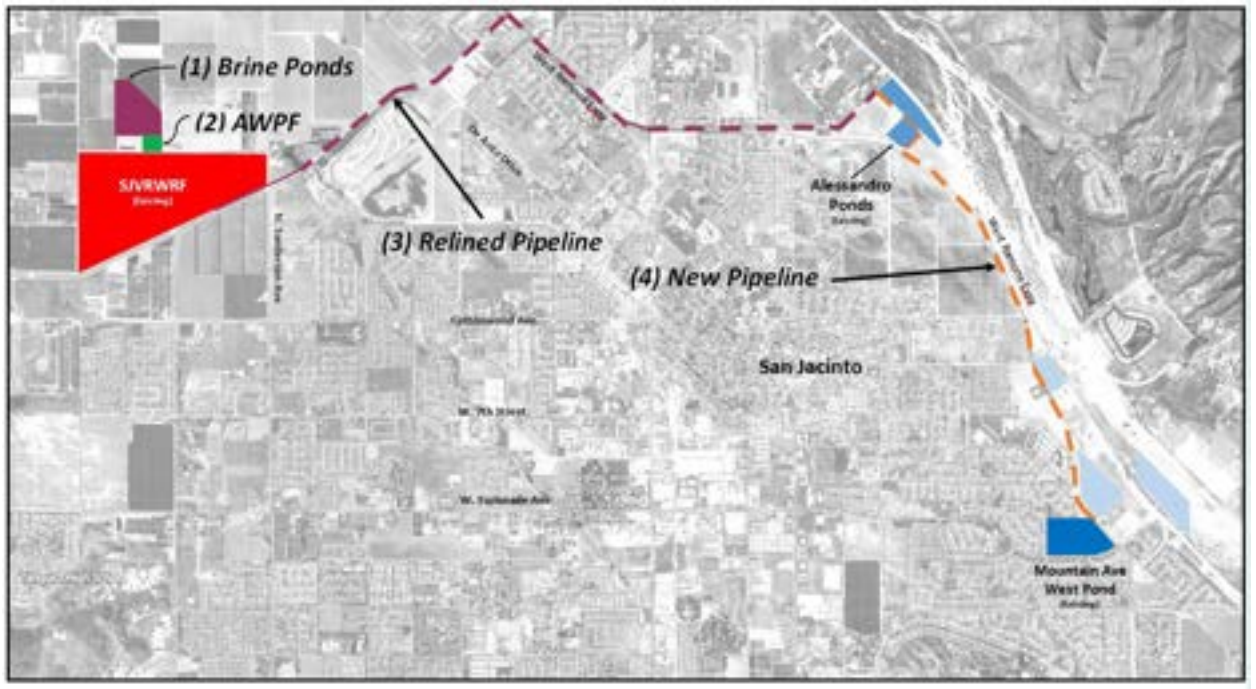


~5-year travel time in groundwater aquifer

# Key Implementation Tracks – Started 2010

Technical / Design

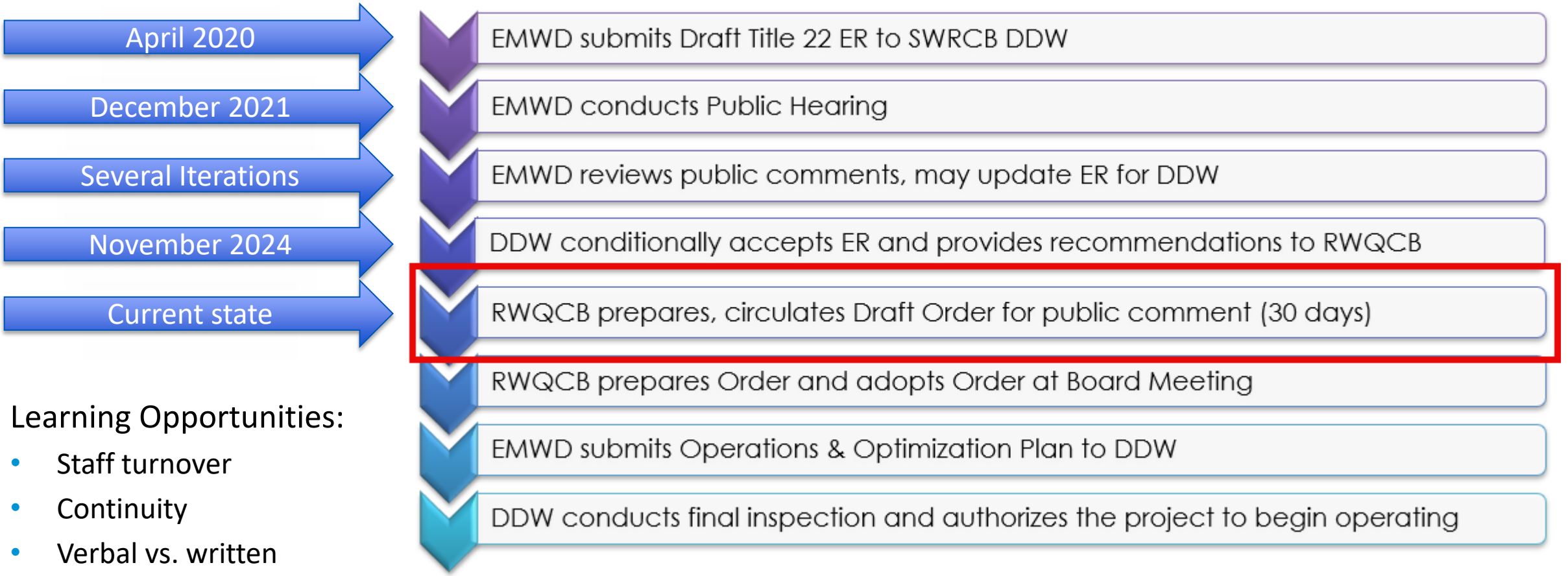
- Project Definition
- Preliminary Design Report
- Grant Funding
- Final Design




Public outreach / Regulatory approval

- Stakeholder group meetings including regulators, experts & consultants
- Public outreach / education
- Regulatory Approval -T22 Engineering Report

# Permitting Process




Learning Opportunities:

- Staff turnover
- Continuity
- Verbal vs. written

# Current Status

## Permitting

- Pending Draft Order by RWQCB for public comment (30 days)
- Concurrently addressing DDW's Conditional Approval Requirements
  - Operations Optimization and Plan (OOP)
- Regular status / update meetings with DDW

## Construction

- Brine Pond Monitoring Wells complete
- AWPF out to bid
- Construction start 4th quarter 2026

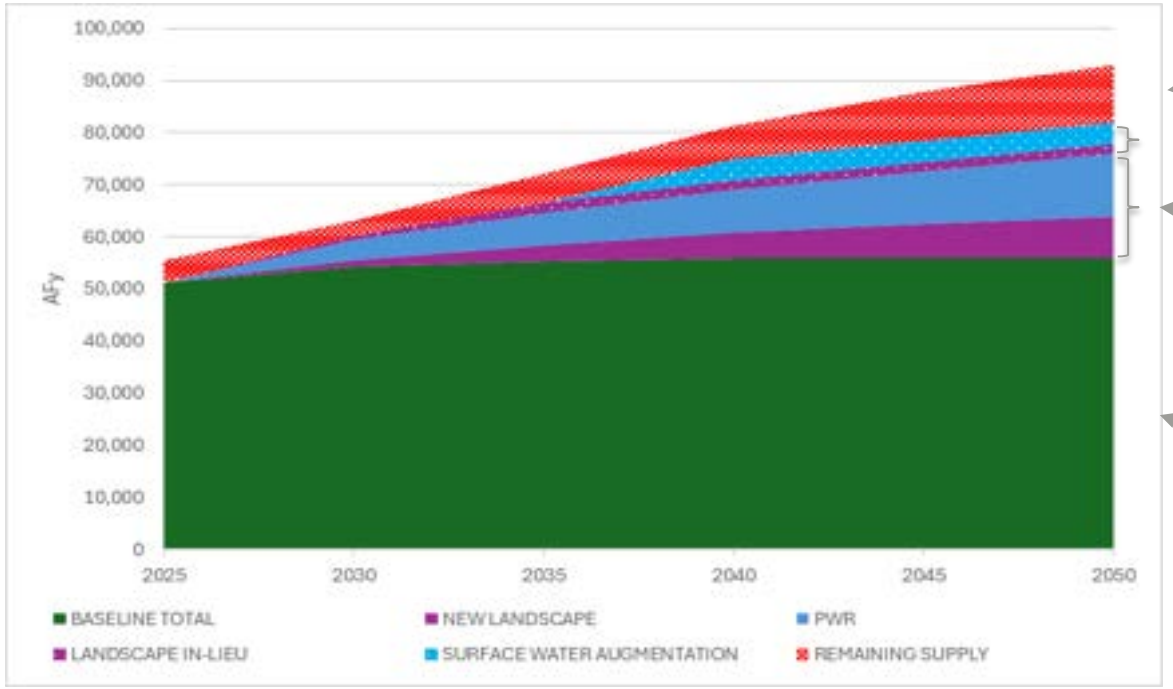


# Planning For The Future

Challenges:

- There's more supply than demand, and baseline demand changes will impact discharge and future planning
- Balancing supply, storage, and demand with annual and seasonal variability
- Regulatory environment for PWR/future potable reuse

**"Supply-Based" Planning Requires a Diverse and Adaptive Demand Portfolio**




Remaining Supply = Discharge

Potential Demand (*Surface Water Augmentation & Landscape In-Lieu)*

Pending Demand (*New Landscape & PWR*)

Baseline Demand (*Includes 6,000 Acre Feet Landscape*)

# Diamond Valley Recreational Area RW Storage Study

Goal: Develop “dual purpose” RW Storage Facility

- Develop alternatives that:
  - Maximize storage capacity
  - Incorporate recreational elements
  - Estimate project costs
- Assess regulatory requirements including:
  - Watershed
  - Groundwater
  - Recreational uses
- Identify ongoing management strategies
- Develop road map and next steps

*Supported by Jacobs*

*Partnering with Metropolitan Water District*

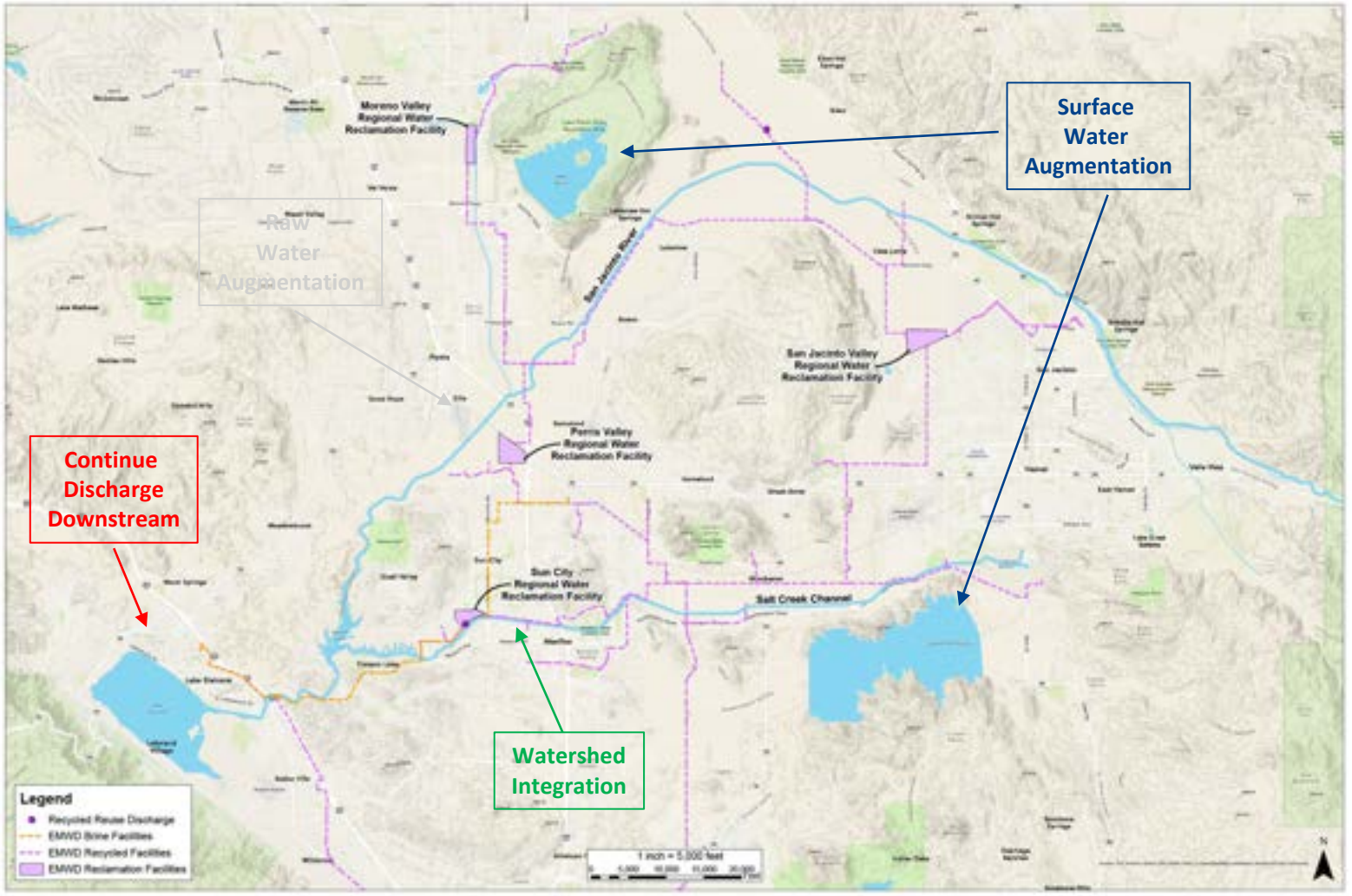
*Expected completion November 2027*



# Regional Reuse Opportunities Study

What to do with surplus water?

- Four draft alternatives under two categories include:
  - Baseline – continue discharge
  - EMWD centric:
    - Wholesale deliveries to EVMWD
    - Raw water augmentation (DPR)
  - Regional collaboration:
    - Surface water augmentation (IPR)
    - Upper watershed integration
- Objective – define a path forward that provides the greatest regional benefit across multiple sectors including water supply, environmental, political and socioeconomic
- Request for Proposal release expected 1st quarter, 2027






# Contact Information

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