



Subcommittee on Pure Water Southern California
and Regional Conveyance

Pure Water Southern California Quarterly Report

Item 3b

March 28, 2023

Pure Water
Southern
California
Quarterly Report

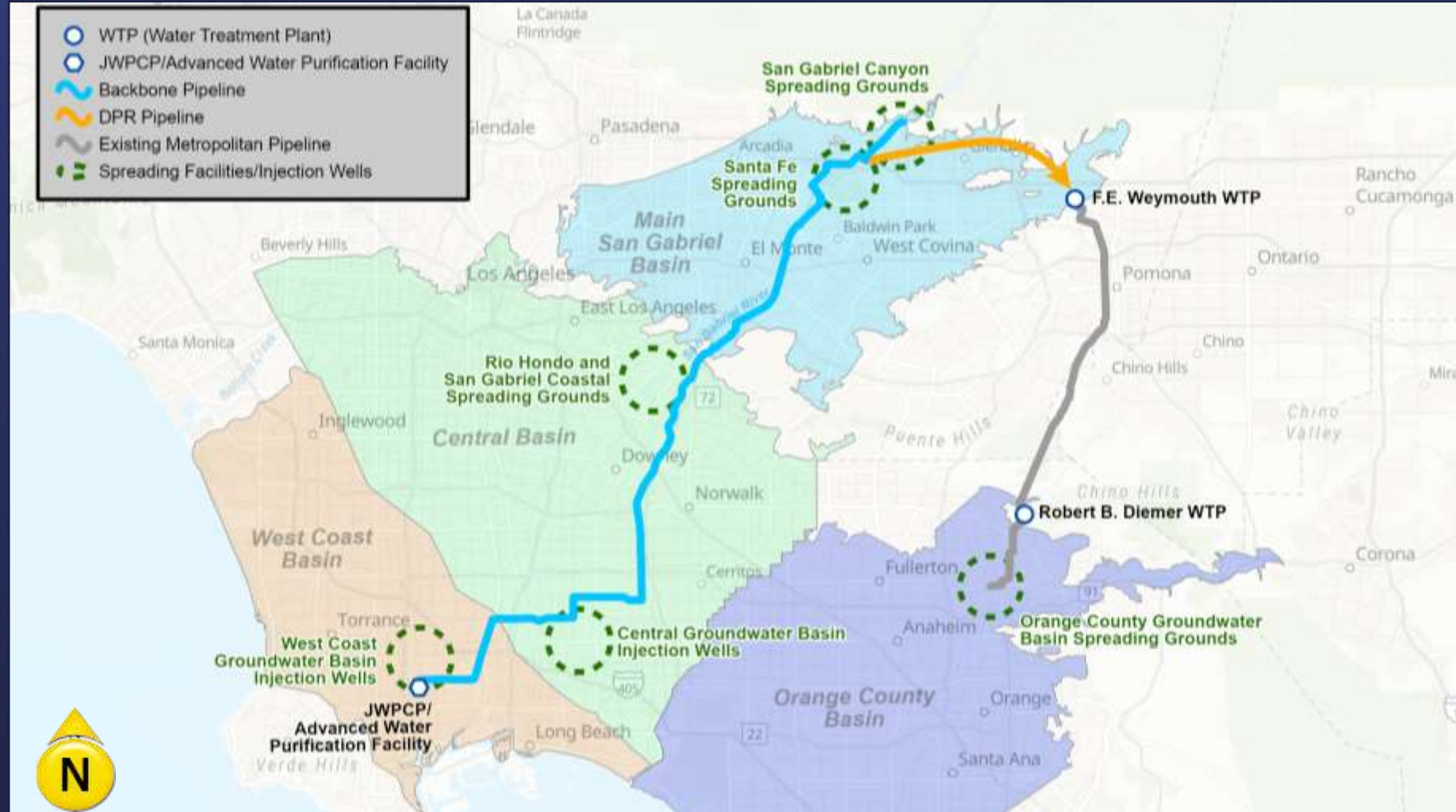


Outline for Program Report

- Program Overview & Recent Activities
- Demonstration Plant & Regulatory Activities
- Outreach Activities
- Environmental Review
- Funding
- Schedule
- Next Steps

Program Overview

Pure Water Southern California Quarterly Report



Pure Water
Southern
California
Quarterly Report

Recent Board Authorizations

- Dec 2022 – Accepted use of \$80M state funds
- Jan 2023 – AECOM + Brown & Caldwell agreement for program management support
- Mar 2023 – two consultant agreements for preliminary design of first two pipeline reaches
- March 2023 – support for USBR grant application for Large Scale Reuse Feasibility Study

Pure Water Southern California Quarterly Report



Preliminary Site Layout

Recent Project Team Activities

- Finishing sMBR demo plant testing
- Engaging in CA DPR regulatory development
- Developing DPR testing strategy
- Continuing environmental studies & developing draft PEIR document
- Outlining Early Start/Early Delivery Alternatives
- Refining conveyance pipeline alignment
- Coordinating Program Manager work
- Discussing agency contributions



THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Program Partners



LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

Metropolitan Member Agencies



Groundwater Basin Managers



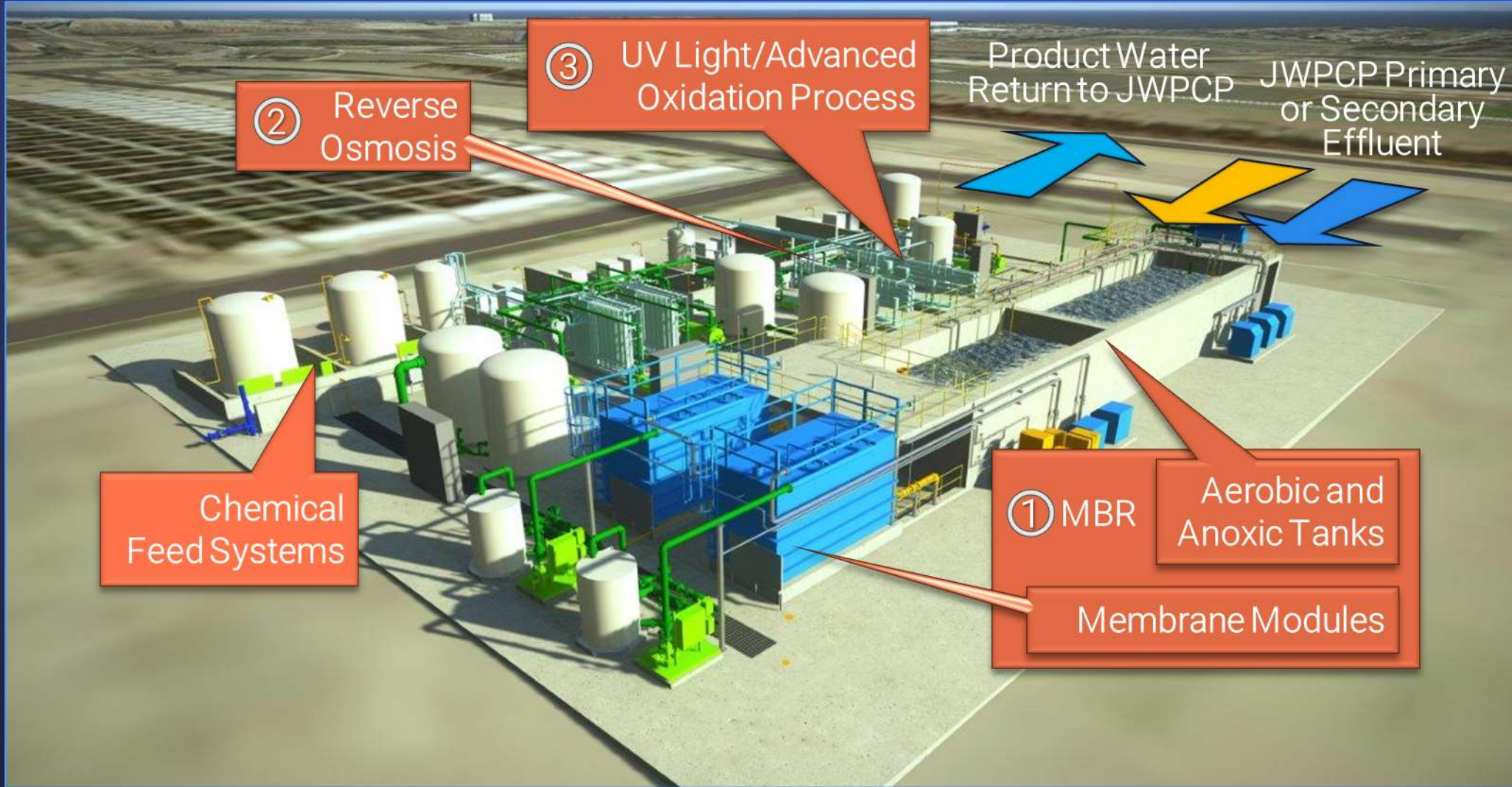
Colorado River Partners



Other Key Partners



Demonstration Facility



Demonstration Update



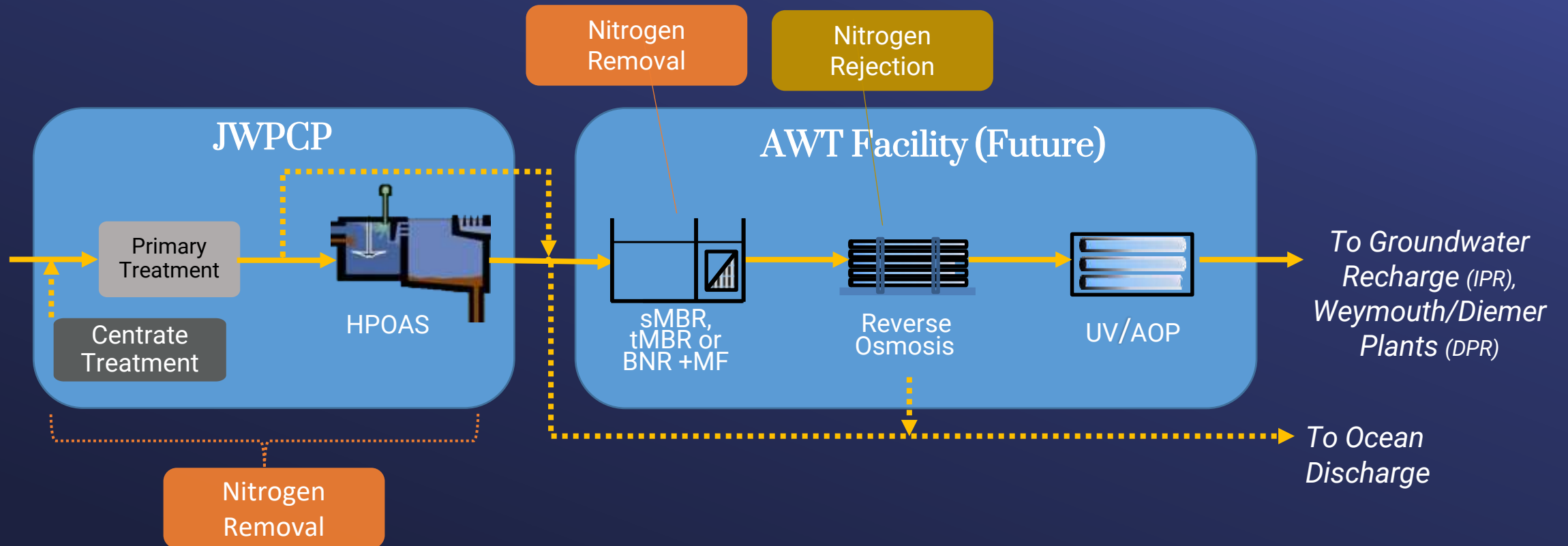
Replacement of membranes

Demonstration Plant Activities

- Completed Tertiary MBR testing (Nov 2021)
 - Easily achieved required pathogen removal levels
 - Report being finalized; anticipate submitting to regulators in summer 2023
- Secondary MBR startup & testing (April 2022-present)
 - Biological acclimation & microbial method development
 - Replacement of MBR & RO membranes
- South Coast AQMD source sampling (spring 2023)
- Regulatory engagement meeting & Independent Science Advisory Panel Workshop (March 2023)

Nitrogen Management Process Selection

- LACSD investigating alternative nitrogen management processes
- Nitrogen concentrations limited by basin plans & DPR
- Evaluation of several treatment processes for nitrogen removal



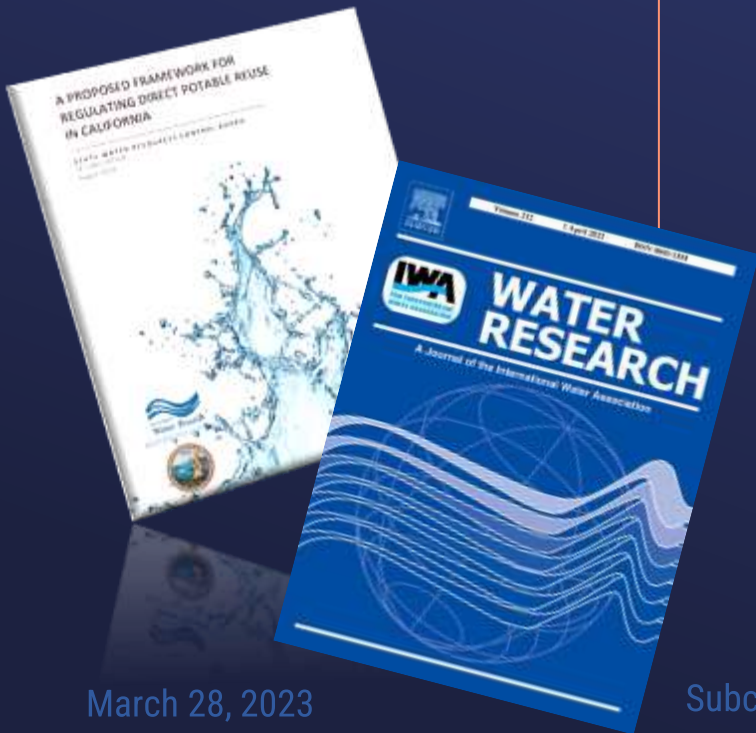
Nitrogen Management Process Selection



Membrane element
closeup during
challenge testing

- Completing sMBR baseline testing
- Phased tMBR approach is currently favored
 - tMBR is reliable & meets water quality goals for early phases
- Developing tMBR optimization testing plan
 - Refining tMBR feasibility & costs
 - Finalizing design criteria
- Evaluating plant modifications to enable additional testing based on LACSD pilot testing

CA DPR Planning & Regulatory Development



Proposed CA DPR Regulation

- Engagement and technical exchange on developing framework for CA Direct Potable Reuse
- Expecting proposed regulation release ~ mid 2023 & to be finalized by end of 2023

Direct Potable Reuse (DPR) Approach

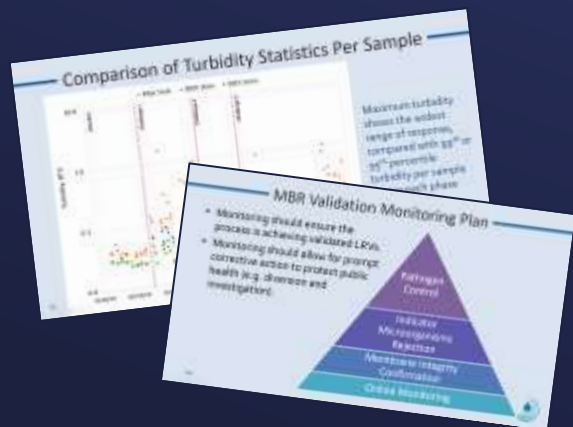
- Identify viable alternative process trains
- Develop test plans and conduct studies to test alternative process trains
- Engage DDW on Metropolitan's technical approach
- Seek ISAP review and approval of alternative process trains



Panel Members

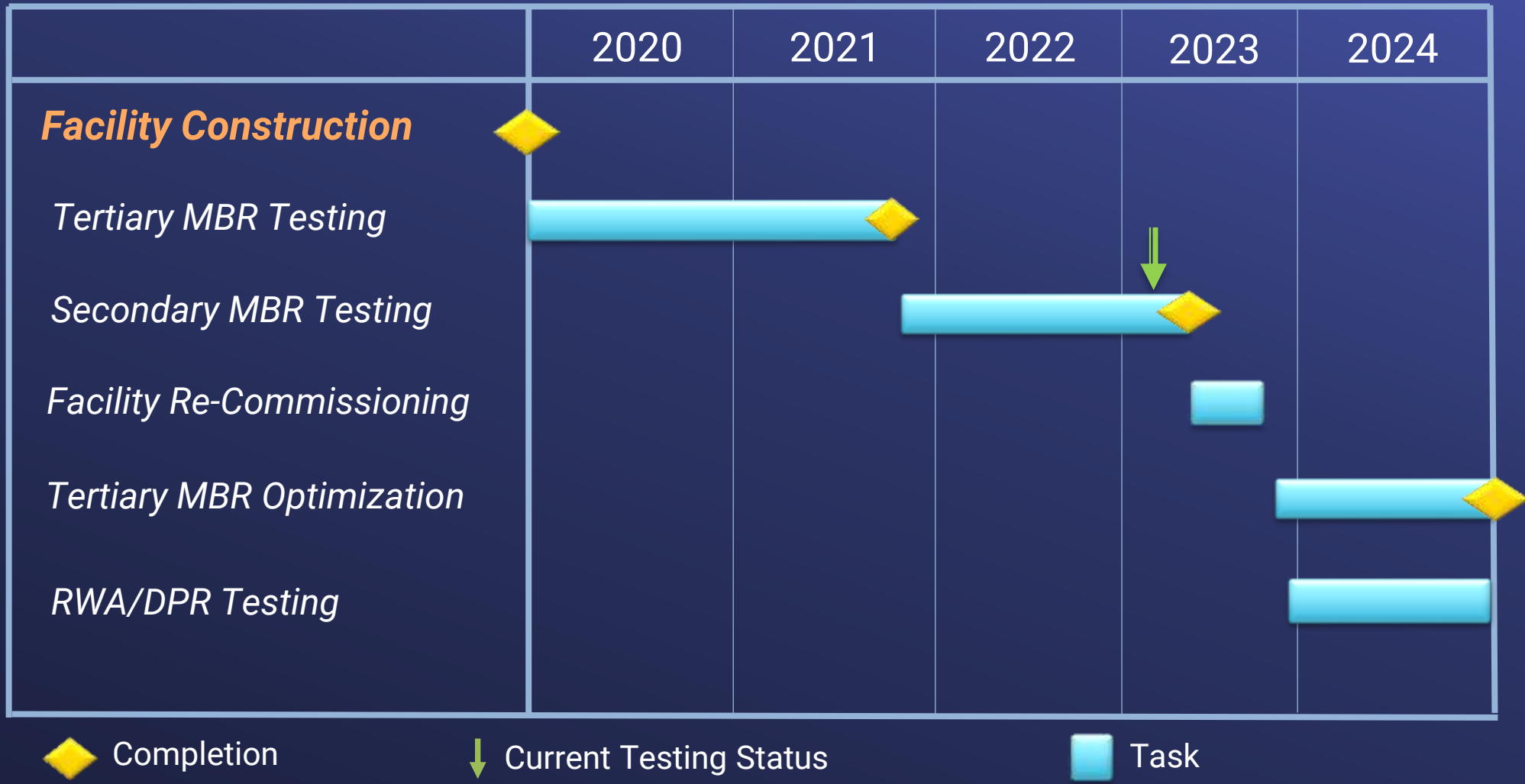
ISAP Workshop No. 6

March 22 & 23, 2023



- Reviewed **Secondary MBR** results to-date & received feedback on
 - Adequate pathogen removal through MBR
 - Water quality suitable for groundwater recharge
 - Suitability of RO concentrate for ocean discharge
- Obtained feedback on nitrogen management with focus on **Tertiary MBR** optimization
- Presented approach for Direct Potable Reuse
 - Raw Water Augmentation
 - Future demonstration testing
- ISAP report on workshop feedback expected ~ May
- Ongoing regulatory engagement with DDW & Regional Boards

Demonstration Plant Testing Schedule

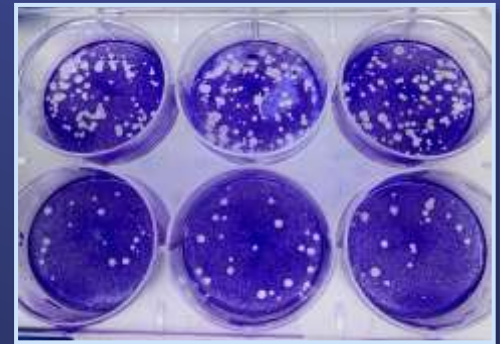


PWSC Industry Outreach & Collaboration



Industry Outreach Activities

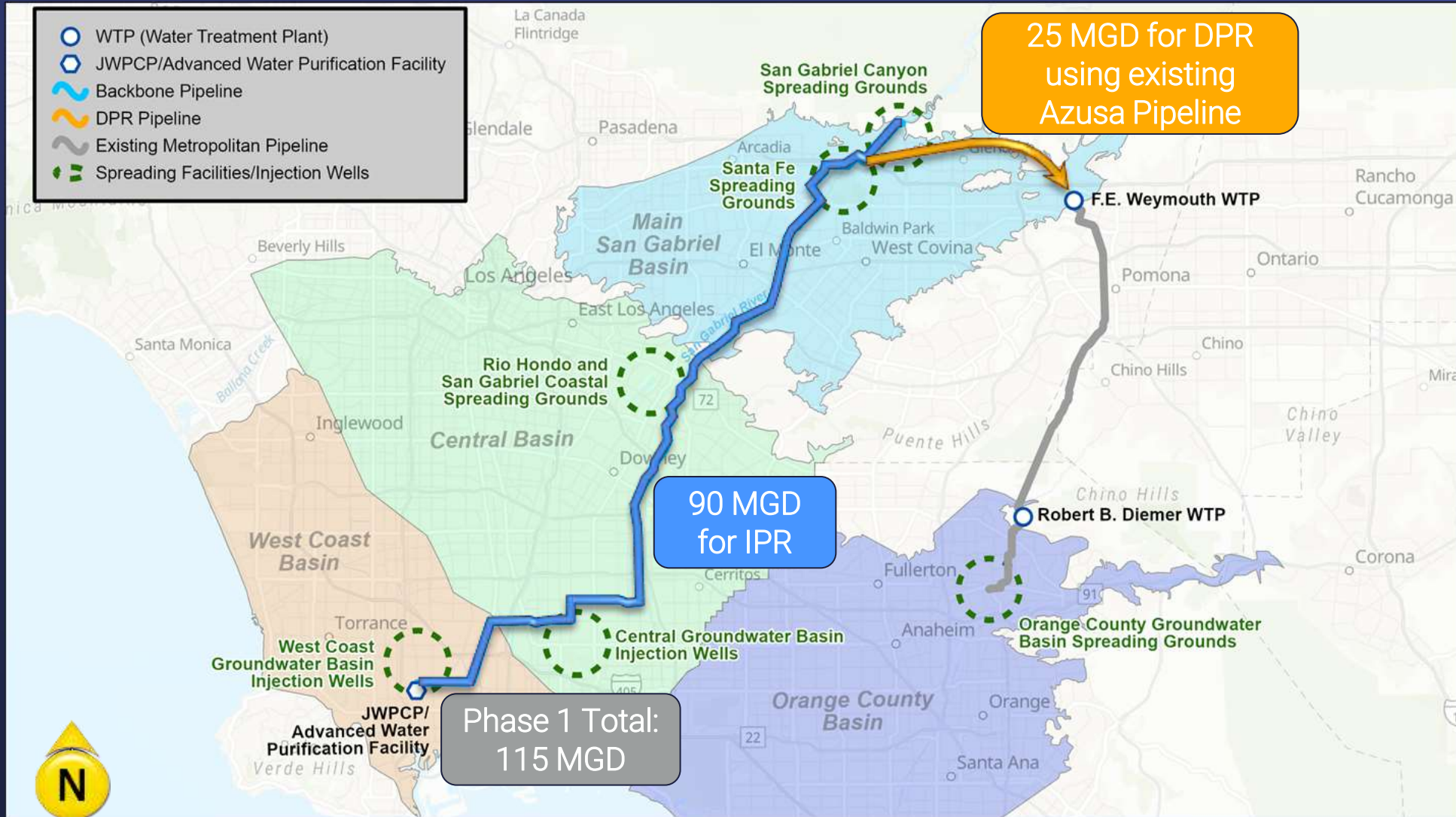
- Four peer-reviewed journal publications in preparation
- WaterReuse CA & Annual Symposium presentations
- 2023 WEFTEC MBR Workshop
- MetWorks Industry & Networking Day
- United Contractors Public Works Summit presentations
- USBR Desalination & Water Purification Research Project



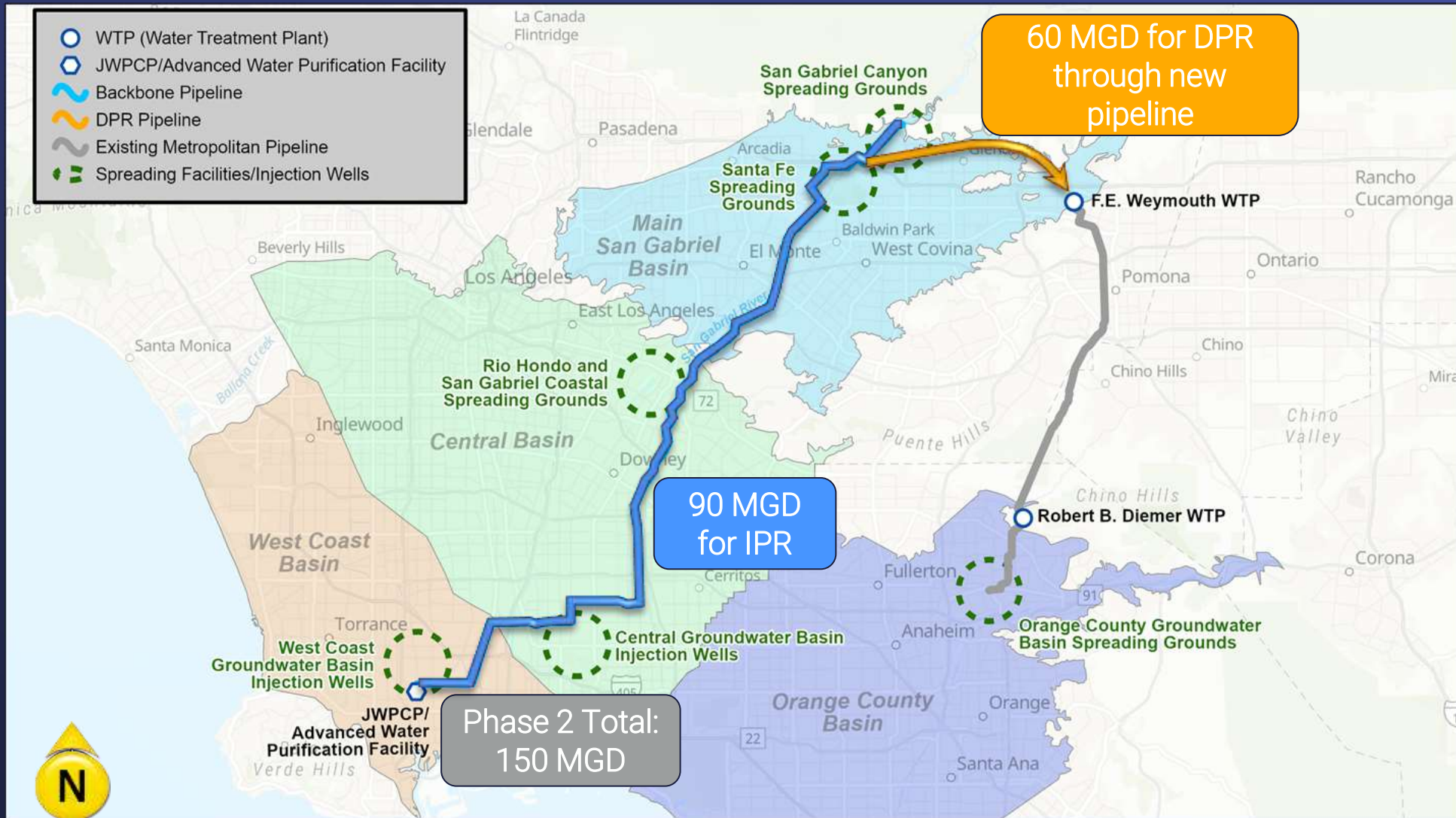
Outreach Highlights



Program Overview – Phase 1



Program Overview – Phase 2



Environmental Planning Activities

PEIR/EIR revised schedule

- 6 months added
- Flow changes Phase 1
 - 115 MGD
 - DPR 25 MGD
- Pipeline alignment modifications
- Revisions to technical studies and surveys



→ **Technical Studies underway** →

Initial Program Funding



State

- \$80M direct earmark funding for Metropolitan's PWSC
- Used for design only/no construction
- Funding anticipated to be received in April 2023

Federal

- USBR WaterSMART grant submitted February 28, 2023
 - \$5M grant with a 75 percent match (State funds)
 - Obtaining Letters of Support from Partners
 - Notification this summer/funding in October 2023
- \$450M funding for large-scale water recycling (LSWR) in Infrastructure bill
 - 1st LSWR grants expected Spring 2023



Phase 1 - Program Schedule



Environmental
Planning

IN PROGRESS



Early Delivery
Projects

IN PROGRESS



Design and
Construction

FUTURE



Start-up and
Operations

FUTURE

Cost of Service

Inflation, supply chain issues & DPR resulting in cost increases

Project Costs & Rate Update

- Last published costs (2018) are being updated for inflation & changes to the Program
- White Paper No. 2 (October 2020)
 - Discussed benefits & potential rate/payment options
 - Addendum WP No. 2, in-progress
- Consultant performing a study for a Cost-of-Service analysis
 - Analysis will form the basis to discuss recommendations for the rates/structure

Next Steps Pure Water Southern California

Demonstration Plant

- Complete Demo Plant sMBR testing & confirm DPR testing approach
- Conduct nitrogen management/tMBR optimization

Program Activities

- Prepare Conceptual Facilities Plans
- Continue Early Start/Delivery project preliminary designs
- Coordinate power supply requirements
- Continue outreach & prepare draft PEIR

Future PWSC update to address

- Status of State & Federal grant/opportunities
- Cost of Service analysis & Partner contributions
- Development of Term Sheets for agency demands

