



Regional Recycled Water Program Update

Engineering and Operations Committee

Item 6b

September 9, 2019

Outline

- Program Background
- Demonstration Plant Activities
 - Commissioning
 - Operations and Testing
 - Schedule
- Outreach Activities
- Next Steps



Program Background

- Pilot Scale Studies (2010-12)
- Board approval and appropriation for Demonstration Plant (Nov. 2015)
- Feasibility Study Report (Nov. 2016)
- Conceptual Planning Studies Report (Feb. 2019)
- Demonstration Plant
 - Completion of Final Design (Feb. 2017)
 - Construction Completion & Start-up (Sept. 2019)

Location of AWT Facilities at JWPCP



Demonstration Plant Construction

- Capital Program Budget: \$20 million
- Construction Contract: \$13.85 million
- Construction Status: 99% complete
- Commence Operations and Testing: Sept 2019



Demonstration Plant Process Train



Chemical Feed Systems

The image shows a 3D architectural rendering of a water treatment demonstration plant. The facility is situated in a flat, open landscape. It features a series of interconnected components: several large white cylindrical storage tanks on the left; a central area with green piping and machinery labeled 'Reverse Osmosis'; a large blue rectangular structure labeled 'MBR - Membrane Modules'; and a long, narrow rectangular basin labeled 'MBR - Aerobic and Anoxic Tanks' with blue equipment at its end. A yellow forklift is parked on the concrete ground. In the background, there are more industrial structures and a clear sky. Five red callout boxes with white text point to specific parts of the plant.

Reverse Osmosis

UV Light/Advanced Oxidation Process

MBR – Aerobic and Anoxic Tanks

MBR – Membrane Modules

AWT Demonstration Plant Activities

Plant Start-up and Commissioning



Commissioning Process Equipment



Seed Supply from LACSD



Biological Acclimation



Aerobic Basin Preparation

Commissioning continued...



Asset Identification



Weather Enclosure



Control System Integration



Membrane Bioreactor Sampling Locations

Preparing for Operations and Testing

- Coordination and Partnering Meetings

- Metropolitan
- LACSD
- Project Consultants



- Activity Areas

- Sampling & Analytical Methods
- Data Sharing & Analytics
- Equipment & Process Operation
- Health & Safety
- Security
- Training

Site Readiness Training



Microbial Sampling Skid



Demonstration Plant Objectives

- Provide data for regulatory acceptance
- Confirm viability of membrane bioreactor (MBR) process

**INITIAL
TESTING
PERIOD**

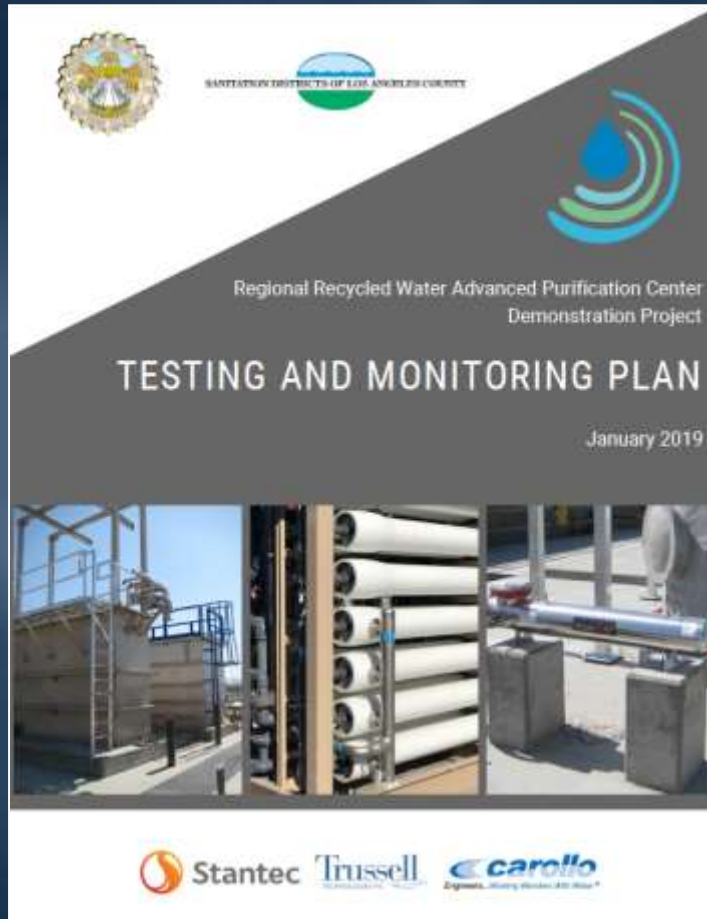
- Optimize treatment process, develop design criteria, and establish cost clarity
- Develop Raw Water Augmentation approach

**FUTURE
TESTING
PERIODS**

- Confirm operational dependencies/ interfaces with LACSD
- Provide vehicle for public outreach and acceptance

ONGOING

Demonstration Plant Testing and Initial Testing Period



Pre-testing

Equipment Testing and Process
Acclimation (3 months)

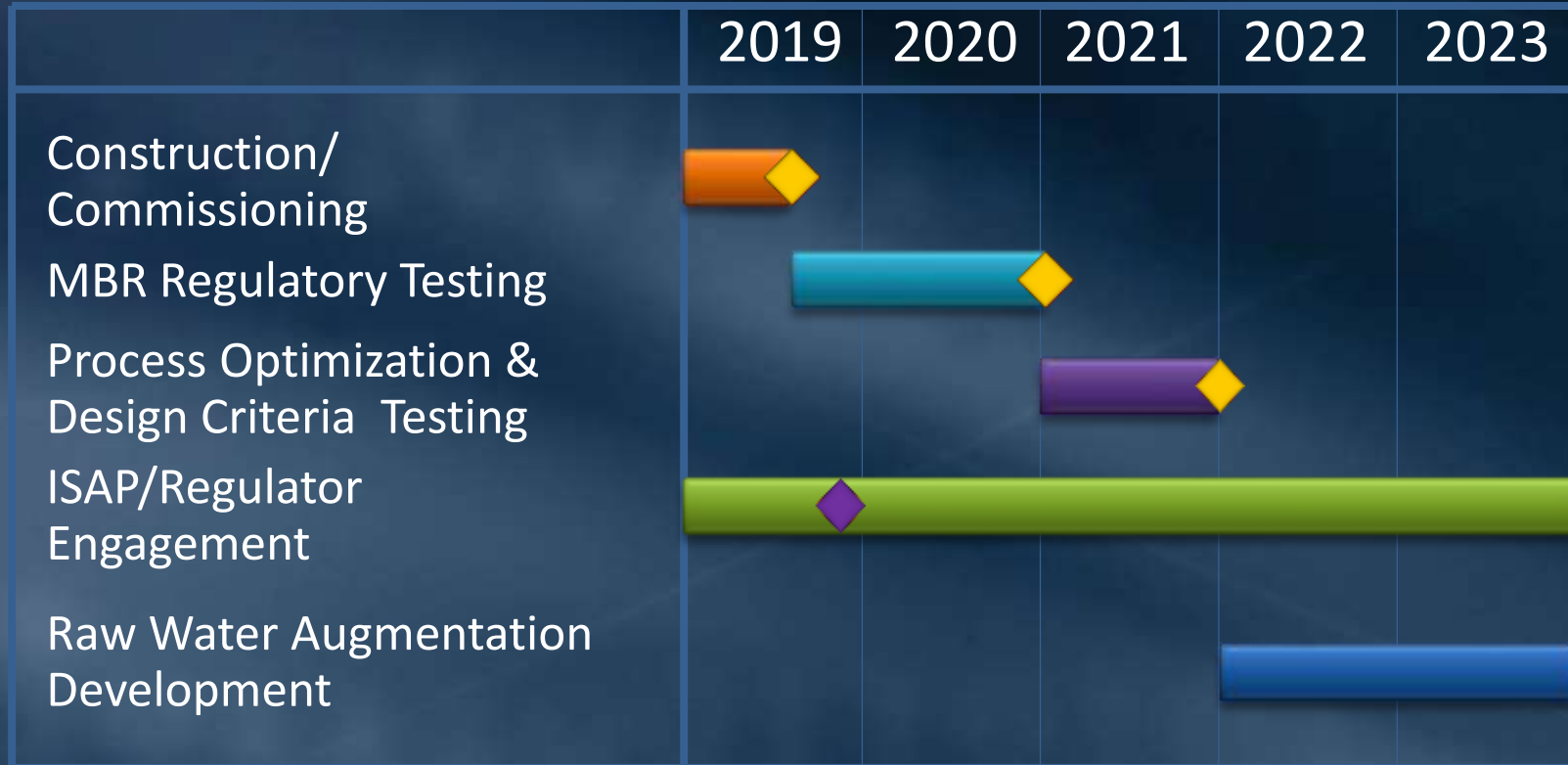
Phase 1

Baseline Performance Testing
(4 months)

Phase 2

Challenge Testing and Evaluation
(8 months)

Demonstration Facility Testing Schedule



◆ Completion

◆ ISAP Meeting No. 2 (Dec. 4 and 5), Regulator Meeting No. 7 (Dec. 5)

Outreach Activities

- Grand Opening Event
 - October 10, 2019 at 2:00 p.m.
- Limited tours to employees, member agencies and key stakeholders
- Full tour program will begin after opening event
- Tour sign-ups will be available on website and via phone/email



Next Steps for Program

- Develop Letters of Intent with potential program partners
- Prepare for Board Workshop #2
 - **White Paper #2: “Planning, Agreements, and Financial Considerations”** prior to workshop
- Both workshops will contribute to preparation of potential Board actions
- Future potential actions related to Raw Water Augmentation development will follow

Metropolitan's Recycled Water Website



INTRODUCTION HOW IT WORKS PROCESS BENEFITS STRATEGY MILESTONES RESOURCES PARTNERSHIP



Regional Recycled Water Advanced Purification Center

A NEW SOURCE OF WATER FOR SOUTHERN CALIFORNIA

Water is too precious to use just once. So the Metropolitan Water District of Southern California is making a major investment in a potential water recycling project that will reuse water currently sent to the ocean.

www.mwdh2o.com/RRWP

