



BAYWORK Workshop-On-Wheels (WOW) - Facility Visit Plan

PURPOSE: Please provide information on who will be presenting and on the content of your presentation.

I. AGENCY CONTACT:

Name: Virgil Sevilla

Title: WWTP Operations Superintendent

Agency: Dublin San Ramon Services District

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PRESENTER(S) (if different than agency contact):

Name: Aaron Castro, Todd Millison, & Derrick Pearson

Title: Senior Process WWTP Operator (AC & TM), WWTP Operator II (DP)

Email address: castro@dsrsd.com, millison@dsrsd.com, pearson@dsrsd.com

Number of employees: 141

Number of customers served: 192,900

FACILITY CHARACTERISTICS:

Name of treatment facility or system: DSRSD Regional Wastewater Treatment Facility

Type of facility: Wastewater Treatment and Recycle Production

(e.g., Water Distribution, Water Treatment, Wastewater Collections, Wastewater Treatment, Recycling, etc.)

II. INNOVATION OR FEATURED PROCESS:

1. **Please describe the innovation or process that you will be demonstrating to the workshop attendees:**

Primary Treatment Expansion and Ballasted Flocculation

2. **Please select all categories which apply to your process:**

☒ Operations and Maintenance

☒ Optimization of existing resources

☐ Other (please describe):

3. **What factors motivated your agency to implement this change, if any?**

Primary Sedimentation Expansion – Improve efficiency of TSS and BOD removal, prior system was below industry standards. Improve sludge settleability by adding improved baffle system as recommended by the engineering consulting firm, increase hydraulic loading capacity. Potentially increase biogas production.

Ballasted Flocculation – Expand tertiary influent pumping, stabilize and reduce filter influent solids and turbidity entering the sand filters allowing them to operate at their intended design loading rate while staying in compliance with CCR Title 22 requirements. Increase hydraulic loading rate on the filters without adding new filters, expanding and re-rating of the UV disinfection system, and expanding Pump Station R1 to meet growing customer demands.

4. **What barriers/challenges did your agency encounter in planning and implementing the change?**

Primary Sedimentation Expansion – Operating during wet weather with a reduction of hydraulic capacity and temporary bypassing during construction phase. Optimizing control setpoints during startup of new equipment to provide efficient treatment.

Ballasted Flocculation – Maintaining adequate water storage in holding basin during peak irrigation season. Operating under the constraints of processing water with higher Turbidity and TSS values during the two-year construction phase.

5. **What benefits has your agency derived from this process?**

Primary Sedimentation Expansion – Improved sludge settleability and scum removal. Optimized TSS removal during higher flow rates.

Ballasted Flocculation – Improved recycled water quality, minimized bypasses during influxes of high TSS and NTU's. Providing a consistent and reliable recycled water source reducing the demand for potable water irrigation.

6. **How has the change affected staff competencies and training needed?**

Primary Expansion – Other than dialing in the system and adjusting setpoints, minimal training was needed.

Ballasted Flocculation – Required operations staff to increase their knowledge on how to operate an entirely new recycled water system that is primarily used for drinking water. And how to effectively dose chemicals not typically familiar with.

7. **What lessons did you learn in the process about what worked and what didn't?**

Primary Sedimentation Expansion – During design phase, more emphasis focused on requesting automatic gate actuators. Hand cranking gates significantly decreases the time a tank can be taken offline or put back on and adds physical stress on operators. Scum hopper design does not effectively allow pumps to completely remove.

Ballasted Flocculation – Initial chemical optimization testing did not match manufacturer recommendations and required staff to recommend additional jar testing and experiment with the use cationic polymers vs anionic polymers.

8. **Please add any other information that would be useful to the workshop attendees about your presentation.**

Please return your completed survey to BAYWORK coordinator Sesa Pabalan at spabalan@jvs.org.