

Event Title: Aeration Benefits in Secondary Treatment

Date and Time:

Tuesday, January 28, 2025

8:00 AM – 12:30 PM

Location:

Monterey One Water

14811 Del Monte Blvd Marina Ca 93933

Event Focus:

This event will provide an in-depth look at the benefits of aeration within secondary treatment processes in the wastewater industry. It will include expert-led presentations, a hands-on demonstration of diffuser equipment, and a tour of Monterey One Water's Regional Treatment Plant, highlighting its Biofloc system.

Agenda:

- **08:00 – 10:00:**

- Training Session**

- Presentations by Brandon Olson (MISCOwater) and Scott Henges (EDI)
 - Hands-on demo equipment showcasing diffuser options for attendee interaction
 - **Detailed Topics Covered:**
 - **Brandon Olson (45 minutes):**
 - **Introduction to Aeration**
 - What is aeration?
 - Importance of aeration in secondary treatment
 - Location of aeration at a WWTP
 - History of wastewater treatment with a focus on aeration
 - Types of aeration systems: submerged and non-submerged
 - Fundamentals of nitrification and denitrification
 - Anaerobic vs. anoxic vs. aerobic with process illustrations
 - Q&A
 - **Principles of Aeration System – Mixing & Oxygen**
 - Guidelines for mixing and the placement of aeration equipment to optimize mixing conditions with CFD modeling.
 - Determining oxygen requirements
 - Factors affecting oxygen transfer efficiency (DO, alpha, fouling)
 - Case studies with a focus on energy savings: SVCW & TBD
 - Q&A
 - **Scott Henges (45 minutes):**
 - **Aeration Design – Diffused Aeration Systems**
 - Mechanical overview of diffused aeration systems
 - Types of diffusers: coarse, disc, panel
 - SOTE comparison: coarse, disc, panel

- Video of different diffused aeration patterns
- Disc vs. panel diffuser comparison
- Membrane types, selection, and impact on OTE
- Fouling and its effects on air distribution, blowers, and O&M costs
- Monitoring fouling and recommended O&M intervals
- Q&A
- **Case Study: Monterey One Water – Biofloc System**
 - Process flow diagram and equipment location at M1W
 - Scope of work
 - Oxygen transfer efficiency curve
- **10:00 – 11:00:**
Tour of the Regional Treatment Plant
 - Focus on the Biofloc system with an overview of equipment location and functionality
- **11:00 – 12:30:**
Lunch
 - Sponsored by MISCOWater

Participants:

This event is limited to **60 attendees**. Food will be provided for all participants.

Venue Requirements:

- **Conference Rooms A and B** for the training session and lunch

Cost:

\$30 per attendee

CEUs:

Attendees will receive **2 CEUs** through the CWEA for participating in this event.

Additional Notes:

- Coffee and snacks will be provided in the morning.
- The training session will include a Q&A section after each presentation.
- Demo equipment will allow attendees hands-on interaction with diffuser options before the plant tour.
- Comfortable attire and sturdy footwear are recommended for the plant tour.

Parking Instructions:

Monterey One Water staff will be on-site to direct visitors to their designated parking locations.