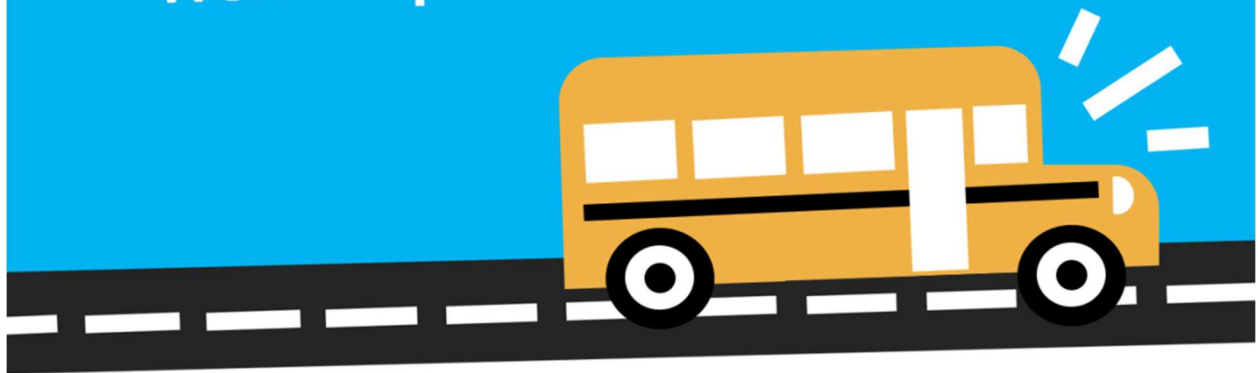


BAYWORK 2024 *IN-PERSON*

Workshop on Wheels North Bay



Wednesday, May 22nd, 2024





Agenda for May 22nd, 2024

Time	Location	Address	Presenter	Presenter's Email
8:00 a.m.	Meet at Central Marin Sanitation Agency for check-in and breakfast			
8:30 a.m.	Tour Central Marin Sanitation Agency	1301 Andersen Dr, San Rafael, CA 94901	Chris Finton	cfinton@cmsa.us
9:30 a.m.	Leave for Las Gallinas Valley Sanitary District			
10:00 a.m.	Tour Las Gallinas Valley Sanitary District	300 Smith Ranch Rd, San Rafael, CA 94903	Don Moore, Steve Inskeep, Norman Rogers	dmoore@lgvsd.org, sinskeep@lgvsd.org, nrogers@lgvsd.org
11:00 a.m.	Travel to McInnis Park			
11:20 a.m.	Lunch in McInnis Park	310 Smith Ranch Road, San Rafael, CA		
12:00 p.m.	Travel to Novato Sanitary District			
12:30 p.m.	Tour Novato Sanitary District	500 Davidson St, Novato, CA 94945	Erik Brown, Mack McKenzie	erikb@novatosan.com, michael.j.mckenzie@veolia.com
1:30 p.m.	Leave for Petaluma Ellis Creek Water Recycling Facility			
2:10 p.m.	Tour Petaluma Ellis Creek Water Recycling Facility	3890 Cypress Dr, Petaluma, CA 94954	Matthew Pierce	mpierce@cityofpetaluma.org
3:10 p.m.	Leave for Central Marin Sanitation Agency			
3:30 p.m.	End at Central Marin Sanitation Agency	1301 Andersen Dr, San Rafael, CA 94901		



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: Chris Finton

Title: Treatment Plant Manager

Agency: Central Marin Sanitation Agency – Stop No. 1

Address: 1301 Andersen Dr. San Rafael 94901

Email address: cfinton@cmsa.us

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

Name: Chris Finton

Title: Treatment Plant Manager

Email address: cfinton@cmsa.us

Number of employees: 47

Number of customers served: 110,000 customers and San Quentin State Prison

FACILITY CHARACTERISTICS:

Name of treatment facility or system: Presentation – *Energy Generations and Power Production*

Type of facility: *Conventional Activated Sludge Secondary WW Treatment Plant.*
(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:

Pubic/Private Partnership between Marin Sanitary Service and CMSA to Divert Foodwaste from Landfills and turn it into an Energy Source for Power Production and Sale.

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

X Operations and Maintenance

X Optimization of existing resources

X Other (please describe): New Infrastructure - Organic Waste Receiving Station

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

Utilize existing infrastructure to produce additional power for facility operations and sale. Partnership with Local Solid Waste Management Company and Assist with Landfill Diversion Mandates (SB 1383).

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

Foodwaste to Energy was such a new concept at the time, Engineers had not built these types of processing facilities and Operations and Maintenance folks had never operated facilities incorporating organic wastes, there was no assumed O&M budgets to review and no way to determine the amount of biogas that would be produced when introduced to Anaerobic Digestion.

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

Additional Power Produced to offset Utility Power Costs. Reduced emissions community.

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

A new process to operate, new revenue streams, focus on equipment maintenance and uptimes, and enhanced sampling and analysis of process equipment.

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

We learned quite a bit about anaerobic digester biology and reactions to organic wastes, which types of equipment worked and did not work in organics processing, power production management, and how to incorporate this new process into our existing operating model.

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

Nothing to Add.

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



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: _____Mel Liebmann

Title: _____Plant Manager

Agency: _____Las Gallinas Valley Sanitary District

Address: _____300 Smith Ranch Road, San Rafael

Email address: mliebmann@lgvdsd.org

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

Name: Don Moore, Steve Inskeep, Norman Rogers

Title: DM (Ops Supervisor) SI (Lead Operator) NR (Lead Operator)

Email address: dmoore@lgvdsd.org sinskeep@lgvdsd.org nrogers@lgvdsd.org

Number of employees: 31

Number of customers served: >30,000

FACILITY CHARACTERISTICS:

Name of treatment facility or system: LGVSD WWTP

Type of facility: Wastewater Treatment Plant
(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:

(50/50 Dechlorination Method) (UF Recycled Water Facility Upgrade Project) (Weir Washers and Ultrasonic Sludge Blanket Instruments)

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

X___ Operations and Maintenance

X___ Optimization of existing resources

___ Other (please describe): _____

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

50/50 Dechlorination – Reduced Maintenance and Improved Reliability, RWF Upgrade Project – Capacity Increase and Improved Reliability, Weir Washers and Ultrasonic Sludge Blanket Instruments – Reduced Maintenance and Improved Water Quality

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

50/50 Dechlorination – Optimization process and staff confidence, RWF Upgrade Project – Revised disinfection system and SCADA integration, Weir Washers and Ultrasonic Sludge Blanket Instruments – Installation

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

50/50 Dechlorination – Less maintenance, less frequent calibration, RWF Upgrade Project – LGVSD is RW producer for MMWD and NMWD, Plant Water is Title 22 compliant, Capacity increase allows future expansion, Weir Washers and Ultrasonic Sludge Blanket Instruments – Reduced staff time and improved water quality.

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

All technologies mentioned required staff training and increased sensitivities to abnormal conditions unique to each system or process.

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

50/50 Dechlorination – Instrument accuracy is crucial to the system which translates into heightened staff assertiveness to device maintenance and calibration. RWF

Upgrade Project – Too many things to list but the major issues were associated with the packaged controls integration into the existing SCADA network. Weir Washers and Ultrasonic Sludge Blanket devices – Staff shadowed the WW manufacturer's representative install the first of two clarifiers but the second was installed by District staff. There were some differences between the materials provided that required adaptation. The Raven Sludge Interface Detector installation was of average difficulty.

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

We have learned that in any project, the design phase is where you can prevent 95% of future headaches. Engaging staff early and often in the process will greatly improve project success.

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



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: Rachel Hundley
Title: Administrative Services Manager/General Counsel
Agency: Novato Sanitary District
Address: 500 Davidson St., Novato, CA 94945
Email: *rachelh@novatosan.com*

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

Name: **Erik Brown**
Title: **Deputy General Manager**
Email: *erikb@novatsan.com*

Name: **Mack McKenzie**
Title: **Project Manager - Veolia Novato WWTP**
Email: *michael.j.mckenzie@veolia.com*

Number of employees: NSD: 23, Veolia: 11

Number of customers served: 20,000

FACILITY CHARACTERISTICS:

Name of treatment facility or system: **Tesla Megapack, Modified Ludzack-Ettinger (MLE) Process Biological Nutrient Reduction (BNR)**

Type of facility: **Energy Storage, Wastewater Treatment, BNR**

II. INNOVATION OR FEATURED PROCESS:

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

Tesla Megapack, a large-scale rechargeable lithium-ion battery stationary energy storage system

MLE Process BNR, which was unique to Bay Area WWTPs when first implemented in 2010 and is especially relevant today with the forthcoming/new SF Bay Regional Water Quality Control Board 3rd Nutrient Watershed Permit

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?

Energy costs are rising and peak demand charges can be a significant financial burden. Battery storage helps NSD lower its energy costs by purchasing electricity during nonpeak hours to use during peak hours, which also helps avoid demand charges.

When NSD upgraded its wastewater treatment plan in 2010, it opted to adapt the facility for known issues that would like become greater issues in the future, such as sea level rise and BNR through an MLE Process.

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

Battery Storage - This was the District's first design/build project. There was a learning curve and a bit of a leap of faith that the project was going to be successful with a lot of elements out of our hands.

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

Battery Storage - The system was commissioned in late fall, so we have yet to realize the full benefits of the battery, but expect to see significant savings as we move into the summer rate regime through offset of peak pricing and demand charges.

BNR- We have just completed our 12th year of no permit violations and will be receiving the NACWA Peak Platinum 12 Award later this summer.

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

Battery Storage - We have a 3rd party monitoring contract for performance but we do have to stay on top of things to note any anomalies. O&M underwent required emergency response training.

BNR - At the heart of the process, this is still a conventional activated sludge treatment process. However, the Modified Ludzack-Ettinger (MLE) process does add complexity. The District's contract operator, Veolia Water maintains high standards for the technical competencies and ongoing training of their O&M staff.

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

Battery Storage – Contracting with a technical consultant to advise and represent NSD really helped us understand the technology and process.

BNR – When doing facility upgrades, consider challenges that will inevitably need to be addressed in the future.

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

The Modified Ludzack-Ettinger (MLE) is a modification from a conventional activated sludge system, with the addition of an anoxic zone upstream of the aerobic zone. Nitrates converted from ammonia in the aerobic zone (nitrification) become the oxygen source, or food, for bacteria in the anoxic zone (denitrification). The pre-anoxic zone contains a mix of influent wastewater (which serves as the carbon source for the bacteria), return sludge from the

clarifier, and nitrate-laden mixed liquor from the effluent end of the aeration tanks.



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: Matthew Pierce

Title: Operations Supervisor

Agency: City of Petaluma

Address: 3890 Cypress Drive, Petaluma

Email address: mpierce@cityofpetaluma.org

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

Name: Matthew Pierce and ECWF Operations Staff

Title: ECWRF Operations Staff

Email address: mpierce@cityofpetaluma.org

Number of employees: 26

Number of customers served: approx. 65,000

FACILITY CHARACTERISTICS:

Name of treatment facility or system: Ellis Creek Water Recycling Facility

Type of facility: Wastewater Treatment and Water Recycling
(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:

Tour of the facility's secondary treatment process and discussion of biological nutrient removal through the Orbal process.

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

X Operations and Maintenance

___ Optimization of existing resources

___ Other (please describe): _____

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

During design of the facility, the City anticipated nutrient limits would become more stringent, and selected a secondary treatment process that could meet future permit requirements.

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

The secondary treatment process is operating per design, and the City's consideration of future nutrient limits is paying dividends.

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

Current nutrient loading to the bay from facility effluent is minimal and the facility should be in compliance with future nutrient limits.

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

Operators need to understand biological nutrient removal, and the operating parameters of the Orbal process.

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

The treatment system was designed in early 2000's to comply with then current requirements, and with consideration for future regulations.

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.

BAYWORK Workshop on Wheels 2024 Event Survey

1. Your information (optional)

Name:

Company:

2. Did you have any trouble participating in the event? If so, what type of problems did you have?

Check all that apply.

☐ Had trouble getting to the meeting point

☐ Parking

☐ Bus

☐ Food and/or beverage

☐ Gear (i.e. safety glasses, closed-toe shoes)

3. The presenter from Central Marin Sanitation Agency was knowledgeable and engaging.

☐ Strongly agree

☐ Agree

☐ Neither agree nor disagree

☐ Disagree

☐ Strongly disagree

4. The presenters from the Las Gallinas Valley Sanitary District were knowledgeable and engaging.

☐ Strongly agree

☐ Agree

☐ Neither agree nor disagree

☐ Disagree

☐ Strongly disagree

5. The presenters from the Novato Sanitary District were knowledgeable and engaging.

☐ Strongly agree

☐ Agree

☐ Neither agree nor disagree

☐ Disagree

☐ Strongly disagree

6. The presenter from Petaluma Ellis Creek Water Recycling Facility was knowledgeable and engaging.

☐ Strongly agree

☐ Agree

☐ Neither agree nor disagree

☐ Disagree

☐ Strongly disagree

7. Overall, this event was both interesting and useful.

☐ Strongly agree

☐ Agree

☐ Neither agree nor disagree

☐ Disagree

☐ Strongly disagree

8. Tell us what you liked about this event (we may use your comments in BAYWORK advertising or communications).

9. What could we improve on next time?

10. What topics would you like to see us address in the future?