



CMSA UPGRADES

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Organic Waste Receiving Tank and Biogas Treatment System Upgrades

The upgrades to the biogas treatment system, which included the demolition of the old gas dryer and installation of two new chillers and a heat exchanger, were completed in November 2023. Staff assisted with the programming and shutdown sequencing, and attended the startup and training session with the manufacturer's representative which resulted in a seamless transition to the new system that is currently in operation.

Remaining work includes making the final connections and startup of the new equipment at the organic waste receiving tank site. The new tank, ladder, seismic anchors, piping, lighting, mixing pump, and screening system have been installed. The proposed receiving station hatch widening work will be incorporated into this project, and completion is anticipated for spring 2024. This project is funded by CalRecycle's Co-Digestion Grant, and to date we have received reimbursement for \$1.73 million of the \$2.5 million awarded for the project costs, including associated CMSA staff time.



New chillers and heat exchanger for biogas treatment system in service



Construction at the new organic waste receiving tank near completion

TECHNICAL SERVICES PROJECTS

New Nutrient Analysis Equipment

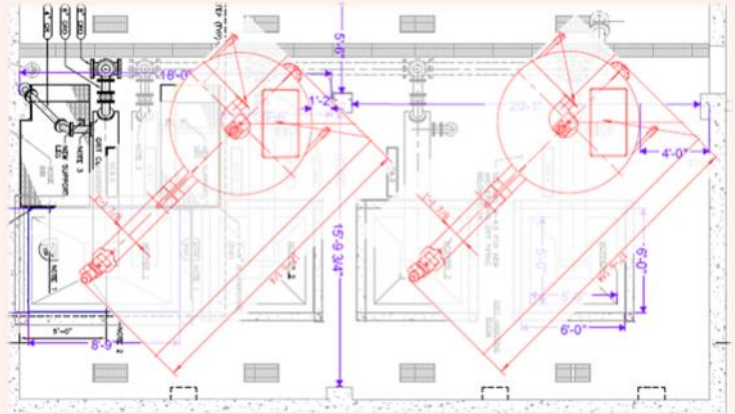


The Laboratory purchased, installed, and implemented a new Skalar nutrient analyzer in 2023. Prior to then, the CMSA Lab was only able to analyze 6 ammonia sample analyses at a time. The old analysis procedure required manual sample distillation and titration steps which took an hour to complete for 6 samples. The new equipment automates distillation, expands sample analysis volume to 100 samples and requires only 15 minutes to complete the 6 sample analyses. The equipment also performs a total phosphorus analysis which was previously outsourced to subcontracted labs.

Grit Classifier Replacement Project Update

CMSA’s project team has been working with Carollo Engineers and a high efficiency grit washing vendor to investigate operational strategies and equipment sizing. Operations staff tested out various operation scenarios and determined the best approach would be to replace at least three of the existing grit classifiers with two larger grit washers. Various equipment layout alternatives are being considered to maximize the use of existing space and infrastructure and minimize retrofit costs.

Current location options include utilizing the existing grit classifier room, the adjacent air handling room, the grit loading bay, and the deck of primary clarifiers 6 and 7. Once the location and layout of the grit washers are determined, the project will proceed to the detailed design phase.



New grit washer layout option in existing grit washing room

Hillside Cleaning and Repair

In anticipation of wet weather, staff cleared debris from the lower v-ditches on the Andersen Drive hillside and contracted with Forster & Kroeger to perform maintenance of the upper v-ditch, which was extensively overgrown with brush and was packed with soil that prevented proper drainage. Upon clearing the v-ditch, several areas were identified to be susceptible to future slides and therefore additional segments of short retaining walls



Installation of new retaining wall after clearing v-ditch

were installed as a preventative measure. Separately, Maggiora & Ghilotti was hired to repair hillside damage caused by the 2023 winter storms. Work includes repairing the erosion gullies, installing a retaining wall and earthen berms, and grading and earthwork to prevent future damage for five sites along the hillside.

Primary Clarifiers Rehabilitation

CMSA is beginning a multi-year rehabilitation of its seven primary clarifiers. The work includes replacing aging and corroding equipment as well as repairing the damaged concrete along the clarifier’s inlet walls. Coinciding with the first primary clarifier rehabilitation project, CMSA also is implementing a trial of an innovative baffle system in Primary Clarifier No. 1. The baffle system aims to optimize the flow distribution throughout the length of the clarifier to enhance its settling performance. Removing more wastewater materials in the primary clarifier is expected to result in energy and chemicals savings in the downstream treatment processes, as well as enhance the biogas production in the two anaerobic digesters, thereby increasing the amount of renewable power generation.

OPERATIONS AND MAINTENANCE DEPARTMENT ACTIVITIES

Aeration Sluice Gate Replacement

Staff replaced six sluice gates in the Aeration Basins area this fall. Over the past 10 years, CMSA has been systematically replacing originally installed gates as they reach the end of their working lifespans. This project was challenging, as these gates operate partially submerged, are in a very tight area to work in, and control flow out of the aeration system and into the secondary clarifiers. This required support from several work groups to safely shut down and isolate portions of both systems, while keeping both process areas operational. The original cast iron gates were removed from their frames, and new lightweight stainless-steel gates were installed and then tested for watertightness. Following installation, their actuators were installed and calibrated to ensure that these gates would open and close correctly.



Original installed gate

New replacement gate

Waukesha Cogeneration Engine Overhaul

The Waukesha cogeneration engine suffered severe damage in October 2022. The culprit was a main bearing failure due to plugged oil ports. In January 2023, Waukesha Pierce Industries (WPI) has hired for the repair and rehabilitation work. The engine was removed and taken to WPI's New Mexico facility in February 2023, where it was completely disassembled, and all components were inspected. This project was estimated to take four months to complete, but a shortage in both new and remanufactured parts delayed the rebuild by two additional months. The system was returned, installed, and passed emissions testing in August. This system is now operating, producing green power, and serving as the backup cogeneration system for Agency operations.



Submarine Outfall Cleaning

CMSA's outfall discharges highly treated wastewater over 1.5 miles into the central SF Bay. Each year, CMSA engages a diving contractor to inspect the 1,000' long diffuser section at the end of the outfall and replace necessary components. Every several years, contractors measure the accumulated solids in the diffuser section. Last September, the contractor extended 45 buried diffuser risers above the regularly shifting bay floor, measured the interior settled solids levels, and collected samples of the interior solids. The inspection revealed approximately 600 cubic yards of interior solids towards the end of the outfall that needs to be removed.

Staff has submitted a comprehensive informational package to the Water Board for review and feedback on regulatory approval requirements.



Emergency Generator Replacement

The Cummins emergency standby generator was installed during the Agency's inception and has been operating since 1985. A condition assessment of the generator and the diesel driven engine was performed and its findings indicated that the insulation coating on the generator's windings was deteriorating and recommended recoating them. Staff looked into the cost to reinsulate versus completely replace the generator and found that replacement was the better economic decision. A new generator was purchased, delivered, and installed. Agency technicians installed a new mounting plate onto the existing engine skid and completed the wiring connections between the generator and its control cabinet.



THE LATEST FROM FINANCE AND ADMINISTRATION

Annual Financial Reports

The Agency prepared its Annual Comprehensive Financial Report (ACFR) and Popular Annual Financial Report (PAFR) for June 30, 2023, and submitted them to the Government Finance Officers Association for Certificate of Achievement awards. The Agency has received the ACFR award for 21 consecutive years and the PAFR award for the past 13 years.

Recruitment & Succession

Administrative Services Manager (ASM)

The Agency's long-time Administrative Services Manager (ASM), Ken Spray, is retiring after 32 years public service. Ken is a CPA and MBA and has been involved in numerous financial and administrative projects for the Agency. Ken will work with the new ASM in his final few weeks for seamless continuity and transition. Ken's retirement will be effective March 31, 2024. All staff wish Ken the best in his new endeavors!

Accounting Technician

The Agency's long-time payroll and accounts payable technician, Ahn Ta, is retiring April 15, 2024, after 16 years of service with CMSA in addition to prior experience in public schools and corporate settings. In her retirement, Ahn wants to spend quality time travelling and doing all the things that she loves. Recruitment has begun and Ahn will work with the new replacement for seamless continuity and transition. Best wishes to Ahn in her new endeavors!

Auditor Update

Audit contract rotation comes up every six years due to a requirement in the California Government Code. Staff was very pleased with the predecessor auditor, Cropper Accountancy, for their thoroughness and efficiency performing our audits. Requests for proposals were recently sent to 13 qualified firms, proposals were evaluated, and MAZE & Associates was awarded a multi-year audit contract. MAZE has significant experience performing public agency audits, including numerous wastewater agencies.

Financial Modeling Adjustment

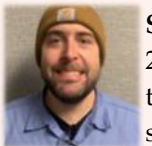
The Board recently responded to the need for increases in regional service charges and the capital fee to cover projected shortfalls in operating revenues and capital funding. These shortfalls were created by supply chain and economic issues that substantially increased costs for insurance policies and chemicals used in the wastewater treatment process. Staff is performing operational tests to reduce chemical usage while maintaining compliance with permit requirements.

NEW EMPLOYEES AND AWARD RECOGNITIONS!



Chris Gutierrez Electrical and Instrumentation Technician Chris Gutierrez joined the Maintenance group in August 2023. With 13 years of experience as an electrician, Chris has spent the past eight of those years specializing in industrial maintenance. He has a background in building industrial control panels. In his free time, Chris enjoys hiking and playing video games.

Dillon Rhoten Mechanical Technician Dillon Rhoten joined the Maintenance group in August 2023. Before joining CMSA, he worked as a mechanic at Train Town in Sonoma, CA for the past 13 years. Dillon, a Sonoma native, takes pleasure in the simple joys of life, cherishing lazy days spent with his wife and two girls.



Sean Clementz Electrical and Instrumentation Technician Sean Clementz joined Maintenance staff in August 2023. Sean began his journey in the U.S. Navy as an Electrician's Mate. He lives in Rohnert Park with his wife and two kids. Sean is not only skilled in electrical work but also well-versed in dad jokes. In his leisure time, he enjoys spending time with his family, playing the guitar, and being a devoted 49ers fan.

CWEA Awards—The Agency is proud to have three employees receive 2023 CWEA Redwood Section Annual Awards. Lead Operator **Mike Silva** won the Operator of the Year award, **Cody Leveque** won the Murray McKinnie (Operator-in-Training) award, and **Tony Drady** received the Electrical/Instrumentation Technician of Year award. Congratulations to Mike, Cody, and Tony!

The wastewater treatment agencies of Marin County, for which CMSA is the lead agency, received the Community Engagement & Public Outreach award.

