



PROJECTS UNDERWAY AT CMSA

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OPERATIONS & MAINTENANCE

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Organic Waste Facility Expansion

CMSA plans to expand the existing organic waste receiving facility (OWRF) and is currently in the process of designing a new above-grade liquid organic waste storage tank. The storage tank would allow more flexibility when receiving liquid organic wastes and thereby better balance daily biogas production, improve contaminant removal, and increase the overall operational flexibility. The OWRF is equipped with a simple contaminant screening system at the truck offload connection area to protect pumps and downstream equipment. In the past couple of months, the project team assessed various new more effective screening systems to replace the existing system. After a thorough evaluation, the Huber Strainpress was selected and has been pre-purchased. Construction work is anticipated to begin in August 2022.



Rehabilitation of Secondary Clarifier No. 1 and No. 4

The design for the Secondary Clarifier No. 1 and No. 4 Rehabilitation Project was completed in January, and the project is now ready for construction. During design, a consultant assessed the coating and metal loss of the steel members, concrete, and the interior conditions of the center column and RAS pipes. The project involves blast cleaning and recoating the steel members, replacing skimmer blades and the turntable drive unit, resurfacing the effluent trough concrete, replacing the center column system in Clarifier No. 4, performing various mechanical improvements, and replacing the walkways with new fiberglass reinforced plastic grating. The bids are due at the end of March, and construction is anticipated to begin in late April.



Return Activated Sludge Pumps Replacement

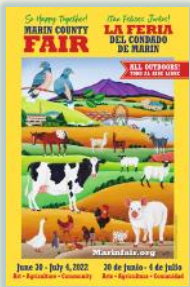
Replacement of the RAS pumps began in September 2021, but due to COVID related supply chain issues there were significant delays to the pump fabrication and delivery schedule. CMSA finally received all the pumps and motors in February 2022, and Project completion is anticipated for April 2022.



TECHNICAL SERVICES PROJECTS

Post COVID Activities

As COVID restrictions diminish, CMSA staff are reintroducing various source control and public education activities back into our community. For example, in-person tours at the CMSA facility over the past month have increased substantially. We also look forward to participating in the forthcoming Marin County Fair scheduled for June 30 to July 4, 2022.



New Public Education Website



Newly designed website, www.savrbay.com was recently launched for the Wastewater Treatment Agencies of Marin County Public Education Program. It contains information on the available resources, activities, and programs that are offered to the community. Additionally, this website provides the community with a CMSA staff contact for key wastewater education questions and requests.

Administration Building Roof Replaced

Construction of the Administration Building Roof Replacement Project began in May 2021. The metal panel roof, gutters and flashing were quickly removed and replaced, and the new wood framing for the skylights were installed in September. The skylights did not arrive on site until February 2022 due to labor shortages, material availability disruptions, and shipping delays. They were installed in late-February and the project is now wrapped up.



New Cogeneration Engine System Installed



After many years of diligent planning, design, and construction, our new cogeneration system is finally installed. The new state-of-the-art system is highly efficient and can generate up to 995 kilowatts of renewable power from biogas, a significant portion of which will be exported to the local grid after supplying all of the Agency's power demands. CMSA also received approval from PG&E to use the new system to power the Agency in the event of a planned or unplanned outage of the PG&E grid, significantly increasing the reliability and resilience of the power generation systems.

NPDES Permit Annual Reporting Completed

In January each year, CMSA is required to self-report the facility's NPDES Permit compliance status for the previous year. During the 2021 reporting period, CMSA treated and discharged over 3.95 billion gallons of final effluent to the San Francisco Bay, with no reportable NPDES permit exceedances. Water quality matters to CMSA as evidenced by its consistent compliance standard and exceptional water quality, going well beyond any regulatory requirements.

New Influent Flow Meter Purchased

The Agency receives wastewater through the 45-inch diameter San Rafael interceptor and the 54-inch diameter Ross Valley Interceptor. The influent flow data for each pipeline is currently measured with single-path ultrasonic flowmeters installed in the early 1980s. To ensure reliability of flow monitoring, a consultant evaluated several flow meter technology alternatives and recommended installing a multi-path ultrasonic transit time flowmeter system on the San Rafael Interceptor. The flow meter system by GWF was ordered in November 2021 and installation is planned for summer 2022. If after 1 year of operation the technology is reliable and performs to the satisfaction of staff, a second unit would be installed on the Ross Valley Interceptor.



Digester Cover Replaced After Unexpected Failure

In July 2021, the existing membrane cover on Digester No. 1 unexpectedly ruptured. Staff quickly and safely took the digester offline and fast-tracked the cover replacement. The digester was emptied and cleaned while a new cover was being manufactured and subsequently installed by the original cover manufacturer. In early 2022, the new cover was fully installed, and the digester was in service. We are now making plans to fast-track the replacement of the Digester No. 2 cover this coming summer.

OPERATIONS AND MAINTENANCE DEPARTMENT ACTIVITIES

Electrical Switchgear Resiliency

In order to meet the needs of the new cogeneration system installation project and to bolster CMSA's emergency electrical power supply system, a manual transfer switch for a one-megawatt portable generator was recently installed. This was required to safely complete wiring connections between the new Jenbacher system and CMSA's two existing generator systems inside the facility's main electrical switchgear. CMSA staff rented a one-megawatt generator, completed the connections between the portable trailer and the transfer switch, installed a transformer for lighting and battery charging, and tested the functionality of the system. An SOP was created to ensure staff could safely start and operate this system in the event of a utility power failure. There were two utility power failures during the rental period, and the system worked flawlessly ensuring reliable power for Agency operations.



Nitrogen Purge of Digester No. 1

The purpose of completing a nitrogen purge is to remove combustible gases in a space to prevent the creation of a potentially unstable and combustible environment. Nitrogen gas is suitable for this purpose because it lacks oxygen and possesses relatively low reactivity. CMSA staff completed a nitrogen purge once methane production ceased in the digester, which was a key step during the removal of Digester No. 1 from service. The liquid nitrogen and evaporator system were rented from a local industrial gas supplier. Once onsite, the system was connected to a gas sampling line for Digester No. 1 and then turned on. Approximately 27,000 cubic feet of nitrogen gas was introduced into the digester to displace methane from the digester and its piping, and then into a waste gas burner. The methane content inside the digester was tested daily until it was no longer detected.



Reclaimed Water Surge Tank

CMSA utilizes two water surge tanks to supply a steady 45-60psi water supply to Agency equipment and facilities, and to prevent damage to equipment and supply piping. Surge tanks use air cushioning and an internal butyl bladder to effectively control water hammer shock and surges. During a recent monthly preventative maintenance procedure, a technician discovered a greater than normal loss in air pressure inside this vessel. A hole was discovered within the water bladder causing the loss in water pressure capabilities. Staff isolated the malfunctioning tank, replaced the internal bladder through the discharge opening in the tank, tested the equipment at the proper pressure settings, and returned the tank to normal service.



Recycled water tank

Underground Vault Rehabilitation

The Effluent Pump Station's discharge forcemain connects to the land outfall adjacent to the end of the chlorine contact tanks. This forcemain is routed through a 66" isolation valve that is located in an underground vault covered with removable steel plates. Since the vault's construction in 2010, the valve, piping, and ancillary equipment in the vault have experienced heavy corrosion caused by damp conditions. Additionally, corrosion was further exasperated by the solid steel lid preventing adequate air circulation. A project to address the corrosion issues was recently completed and included

removing and replacing carbon steel nuts and bolts with stainless replacements, completing corrosion repairs and recoating vault equipment, and replacing the steel cover with a fiberglass grating system.



Forcemain corrosion



THE LATEST FROM FINANCE AND ADMINISTRATION

Employee Assistance Program Winter Topics

- * Embracing Change
- * Tips to Get Better Sleep
- * Heart Health Facts
- * Mental Health & Heart Disease
- * Reducing Financial Stress
- * Saving for Retirement
- * Money & Mental Health

Booths and Tours

CMSA hosts public education booths at several local events including the Marin County Fair, Earth Day events, and local farmers markets. CMSA also offers tours of the facility for schools, community groups, and other members of the public.

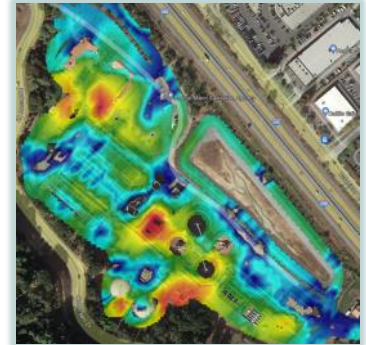
For information on touring the facility, please call

415-459-1455

to schedule your visit.

Wireless Signal Strength

With greater reliance on tablet devices for day-to-day work, seamless Wi-Fi connectivity is becoming more of a requirement. CMSA recently generated Wi-Fi heat maps of Agency facilities, which is a visual representation of the wireless signal coverage and strength. These heat maps have been used to help clarify where problem areas are located, and work is underway to add additional wireless equipment to improve coverage.



Pension Obligation Bonds

The Agency has an approximate \$9.4M unfunded pension liability with CalPERS that it wishes to almost fully fund and refinance the obligation through issuance of pension obligation bonds (POBs). The POBs annual debt service will be significantly less than the annual payment that would otherwise be required to pay to CalPERS. These savings will be placed in a Section 115 trust to grow and accumulate to pay future pension costs.

Labor Negotiations

Labor negotiations have begun for both represented and unrepresented employee groups. Salary and benefit surveys are underway for benchmarking data with twelve comparator agencies. The Agency's contract with SEIU Local 1021 will expire on June 30, 2022 subject to renewal for a new multi-year contract.

Employee Benefit Training Update

The Agency from time-to-time hosts training sessions on benefits to help employees understand and better use their benefits. The most recent benefit trainings were from Nationwide and ICMA for their respective Section 457 and 401(a) deferred compensation investment plans. Employees received information on retirement planning and how to navigate the many investment funds there are to choose from depending on one's particular needs.

Audit Awards Submitted

The Agency completed its Annual Comprehensive Financial Report (ACFR) and Popular Annual Financial Report (PAFR) for June 30, 2021 and submitted them to the Government Finance Officers Association for Certificate of Achievement awards. The Agency consistently receives awards for its full disclosure financial reports – 19 consecutive years for the ACFR and 11 consecutive years for the PAFR.

FROM IUL TO OIT

Luis Rubio was hired by CMSA in November 2019 as an Institutional Utility Laborer to perform the day-to-day operations of the San Quentin State Prison pump station. Since starting work, Luis has continuously developed and furthered his studies in wastewater technology. Last year, Luis passed the CWEA Grade I Mechanical Technician Certification exam, earning him a spot to place his certificate on the wall alongside other Agency Mechanical Technicians. He also passed his Grade I Wastewater Treatment Plant Operator Certification exam. Two positions in the Operations Department became available in January 2022, and CMSA completed an in-house Operator-in-Training (OIT) recruitment. Luis was selected and reclassified as an OIT. We are very proud of Luis' accomplishments to date.

