



# CENTRAL MARIN SANITATION AGENCY

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A NACWA  
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Jason R. Dow, P.E.  
General Manager



*CMSA's Organic Waste Receiving Facility, which is planned to be expanded.*

## Big Milestone in Sight for Exporting Excess Power

There are several project activities the Agency has completed or are in-progress, and when all are completed the Agency will be able to deliver renewable power to the PG&E electrical grid.

The Agency has negotiated a power purchase agreement with Marin Clean Energy, PG&E has issued the Agency a new interconnection agreement, and the design of CMSA electrical system improvements were recently approved by PG&E. Construction of the improvements is underway and PG&E

testing will be completed this fall.

Once the improvements are finished, tested, and accepted, PG&E will authorize CMSA to deliver power to their electrical system, establishing a Commercial Operations Date. After that milestone event, the Agency will obtain renewable generator certification from the California Energy Commission, and then expand our organic waste program that will result in additional biogas production and power generation. This has been a slow, multi-faceted process, but

## Andersen Drive Landslide Repair Project to be Bid Soon

After the February 2017 storms, five landslides occurred on the Andersen Drive hillside. CMSA selected Miller Pacific to evaluate repairs for the slides with the designated work being subject to reimbursement by the Federal Emergency Management Agency (FEMA). The selected alternative involves constructing soldier pile retaining walls to stabilize the upper portion of each slide area and reducing the slopes to conform to adjacent grades.



*Landslide sites on Andersen Drive with tarps for temporary protection.*

FEMA and the California Office of Emergency Services (Cal OES) authorized proceeding with the retaining wall design and to formally bid the construction project. Staff will seek Board approval to publicly bid the project in the next few months after the completion of the environmental review. It is expected that the entire construction cost and portions of CMSA staff time spent on project management will be eligible for reimbursement by FEMA.

## O & M: AUTOMATION / PIPING REPLACEMENTS / ISOLATION GATES



*Old engineering office being re-wired (above), and newly remodeled control room (right).*



### Operations Control Room Transformed

After the engineering staff relocated to the remodeled maintenance building last spring, their old office was repurposed and outfitted as the Agency’s main control room.

Control rooms serve as a central space where both on- and off-site facilities can be monitored and controlled, and this move required extensive wiring upgrades. Eleven staff members on three shifts share this space, which is equipped with multiple electronic displays, communications and network software, and enhanced desk space for individual project work. This space replaces the original control room, a busy open corridor that also doubled as the facility’s main server room.

### Automation Integrated into the System

Over the past several years isolation gates, of which there are many throughout the treatment plant, have been replaced



*New automated gate controls.*

and their controls automated. Technicians recently replaced the manual isolation gate that separates secondary effluent from the Agency’s effluent storage pond. This new gate is fully-integrated into the Agency’s process control system, and has the capability of opening

when blending occurs and closing when the pond is full. The gate is crucial during winter storm events, when blended wastewater is sent to the pond for temporary storage; a provision in CMSA’s NPDES permit. Gone are the days that two staff members were required to open and monitor this important gate.

### Expansion Joints — a Stress Reliever

Expansion joints are separation devices designed to relieve stress on piping that is typically caused by building movement such as settling or seismic activity. Over time, these joints weaken and crack and require replacement. A multi-year replacement schedule was developed last year



and six 30” expansion joints have been procured for process piping. The first, in the biotower basement, was recently replaced by Agency technicians, with plans to replace the rest over the next several months.

### Recycled Water Piping Replaced



Technicians have completed replacing more than 2,000 feet of recycled water piping in four of the Agency’s original five primary clarifiers. These PVC pipelines were over three decades old, had become brittle and regularly needed repairs. Technicians rerouted the majority of the piping below the decking not only for aesthetic reasons but also to protect them from the sun’s UV rays.

### Multi-year Isolation Gate Project Complete

There are 12 channel isolation gates on the primary clarifier influent deck. These gates provide process control options: flow distribution to, or the isolation of, a primary clarifier. Over the past four years, staff have been replacing these gates, and replacement of

the final four gates required staff to divert flow in the middle of the night to perform a confined space entry (CSE) to install a temporary “coffer” dam. This allowed for dry work on one side of the dam while normal treatment was carried out on the other side. This process was reversed once one side was completed. On one final mid-night flow diversion, a CSE was performed to remove the temporary dam. Staff also used the opportunity to rehabilitate the gate actuators and base plates for each new gate.



*New isolation gate in place.*

## TECH SERVICES: COATINGS / PAVING / PUMP RELOCATION / FIRE PROTECTION



### San Quentin Pump Station Motors Relocated for Better Maintenance Access

CMSA and the California Department of Corrections and Rehabilitation (CDCR) have a multi-year capital improvement plan for various structural, mechanical, and electrical improvements for the main San Quentin pump station. CMSA hired Bartley Pump to relocate the shaft-driven motors for all three pumps to the lower level pump room for easier maintenance and to eliminate operational issues from rotating equipment. To keep the pump station in operation while work was being done, only one motor was relocated at a time. From the shut down of the first pump to full operation of the last pump, Bartley Pump completed the project in only two weeks and within budget.

*Direct-coupled pump with enclosed rotating equipment.*

### Energy System Outage

The Agency's cogenerator had to be removed from service in early August after the generator's stator winding failed. This system is vital, as it typically produces more than 95% of the total electricity and 100% of the heat for the Agency's processes, buildings, and equipment. Repairs required



*Cogenerator offline for repairs.*

uncoupling the generator from the engine by CMSA staff, and transporting it to a local service facility. The generator was returned two weeks later after extensive testing, troubleshooting, and repairs. The cogeneration system was started on August 24 and immediately began producing green power for the facility.

### Pavement Cracks and Potholes Fixed

The roadways at the facility were constructed in the early 1980s, and have been repaired as needed over the years. Several areas were showing significant cracking, settling, and potholing which needed attention. CMSA requested competitive bids and selected Alaniz Construction to repair approximately 4,200 square-feet of worn pavement surfaces. The work included digging out failed asphalt areas, grinding off edges of the existing pavement, and laying new asphalt. Alaniz completed the work by the end of September, within budget. Another pavement rehabilitation project is planned to be put out to bid by the end of this year.



*Payment before and after repairs.*

### New Coatings and Corrosion Repair

CMSA hired Top Line Engineers to repair the epoxy coatings in the sodium bisulfite chemical storage room and in the sodium bisulfite and sodium hypochlorite drain vaults. The existing epoxy coating had cracks and delamination in several locations and had completely



*New coating in bisulfite storage room, spalled concrete in hypochlorite vault.*

failed in other areas. While blasting the hypochlorite vault walls to remove the failed coating, Top Line discovered areas of spalled concrete and corroded rebar. They treated the rebar for corrosion protection and applied repair mortar to the failed concrete. Coating for all three areas was completed in September.



### Improvements Made to Fire Protection System

In August, CMSA hired Nickell Fire Protection to provide annual and five-year fire protection system inspections, and to correct deficiencies noted in last year's inspection. Some of the repairs included replacing corroded sprinkler heads, installing new test and drain valves, and installing spare sprinkler head boxes. Passing inspection reports have been submitted to the San Rafael Fire Department.

*Fire protection water riser with new spare head box and drain valve.*

## PUBLIC OUTREACH / NEW STAFF AND INTERNS / FINANCE NEWS

### Community Education

Since the beginning of the year, over 2,000 people have learned pollution prevention strategies through events like the Marin County Fair and Marin Farmers' Markets, and by using resources such as Rock Steady Juggling presenting to over 1,200 elementary students in our service area.

Please visit [www.savrbay.org](http://www.savrbay.org) for more information on these outreach activities.



Rock Steady Juggling performs and educates.

### Preventing Pollution

Staff has conducted over 200 inspections of various industries connected to the sewer collection system, and actively works to reduce the amount of pharmaceutical waste to the wastewater treatment process by partnering with [www.rxsafemarin.org](http://www.rxsafemarin.org). Please visit their site for safe storage and take-back sites and events.



### Talented Individuals Join the CMSA Team

**Peter Kistenmacher** was recently hired as Technical Services Manager. Peter is a graduate of UC Berkeley and has worked for over 15 years in the wastewater industry, including engineering consulting for a global wastewater equipment manufacturer, and as engineer for Silicon Valley Clean Water. Peter enjoys spending his free time with his family and exploring Bay Area parks and beaches.



**Rebecca Brewer**, a Certified Professional Environmental Auditor and Certified Hazardous Materials Manager, joined CMSA in September as Safety Officer. Rebecca has over 25 years experience in the environmental, health and safety compliance fields. In her free time, Rebecca likes to sing, read, and go sightseeing in the Bay Area with her husband and daughter.

**Kunning Zhu** joined the Agency in July as a Laboratory Analyst. Kunning is a graduate of Rutgers University with a Doctorate in environmental science. His past work experience includes the California Air Resource Control Board, San Jose and Santa Clara Regional Wastewater Treatment Facility, and Alameda County Water District. Kunning enjoys spending his free time surfing, watching independent movies, and exploring the Bay Area.



### Interns Learn the Ropes



**Matthew Montgomery** started his internship in the Operations Department in April for qualifying experience for the Grade I wastewater treatment plant operator certification.



**Lauren Fontana** was granted an internship in June, and is working to complete wastewater technology coursework at Santa Rosa Junior College.



**Sebastian Dow**, a San Marin High School senior in the science, technology, engineering, and math (STEM) program, joined us for a summer internship. Sebastian was interested in gaining a better understand of the wastewater utility business.

### Annual Audit Complete

The FY18 annual financial audit has been completed and includes accounting changes for inventory and other post-employment benefits (OPEB). Overall, the internal control and financial audits went well, and will be presented to the Board in November by our auditors, Cropper Accountancy.

### Budget Approved

The Agency's FY 18-19 GFOA budget was approved by the Board at the June meeting, is available on the Agency's website, and was submitted to the GFOA for consideration of award.

### New Business Plan

Approved in July, the new FY 18-19 Business Plan has many exciting projects for the upcoming fiscal year, including compliance activities, maintenance and capital projects, and energy efficiency and green business initiatives. Stay tuned!

### Facebook Live

CMSA now has a live Facebook page! With help from a communications consultant, Crocker & Crocker, our project team developed key messaging for information and sharing of ideas with stakeholders, partners, and the public. Check out our page! [www.facebook.com/](http://www.facebook.com/)



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