



# CENTRAL MARIN SANITATION AGENCY

NEWSLETTER | WINTER 2016—2017

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*Aerial view of Agency facilities adjacent to Highway 580 in San Rafael.*

## Looking Ten Years Into the Future

Carollo Engineers is working with Agency staff to prepare a 2017 Facilities Master Plan. This comprehensive plan has eleven technical tasks that include performing a condition assessment of the Agency's aging facilities and assets, infrastructure improvements for nutrient removal and blending reduction from potential regulatory changes, additional uses of biogas, options for expansion of the Organic Waste Receiving Facility, secondary system operational improvements, and examining climate change issues such as greenhouse gas reduction and sea level rise. The Facility Master Plan is scheduled to be completed this summer, and the findings will be considered during the update of the Agency's 10-year Capital Improvement Program and will provide valuable information for this year's renewal of the Agency's NPDES permit.

## A NACWA Platinum 11 Peak Performance Agency

1301 Andersen Drive  
San Rafael, CA 94901  
Phone 415.459.1455  
Fax 415.459.3971  
www.cmsa.us

Jason R. Dow, P.E.  
General Manager



## Highest Ever Recorded Influent Flow During Big January Storm

The Agency recorded incoming flows as high as 120.5 million gallons per day when a strong winter storm slammed the Bay Area on January 10. It brought gusty winds and a good soaking, continuing a recent pattern of above-average rainfall in our region this season. More debris than normal arrived at the Agency facility, due to the rain scouring the collection system's piping. The influent bar screens were working hard to remove many yards of debris entering the headworks.



*High channel levels caused by elevated influent flows from the Ross Valley and San Rafael interceptors.*

## OPERATIONS / MAINTENANCE ACTIVITIES

### Budget Update

Through the end of 2016, the Agency has received 55% of operating and debt service revenue. Operating revenues totaled \$6.0 million and debt service revenues totaled \$1.2 million. Total operating expenses were \$4.8 million, or 41% of the \$11.6 million adopted budget.



### A Clean Audit

The Agency's independent auditors, Chavan and Associates, completed the audit for the fiscal year ending June 30, 2016, and the Agency once again received an unqualified opinion that the financial statements were free of material misstatements.

### CAFR Published

The Comprehensive Annual Financial Report (CAFR), available on the Agency's website, is designed to provide a broad context for the Agency's financial statements, and explains the Agency's initiatives, accomplishments, and financial activities during the fiscal year.



Additionally, the information from the CAFR was condensed and published in the Agency's Popular Annual Financial Report (PAFR), which presents summarized, key financial information in an easy-to-read format. Find out more at:

[www.cmsa.us/finance](http://www.cmsa.us/finance)

### Ingenious Fix on an Inflatable Roof



*Rough terrain forklift and man-rated basket used to install Laser Level protection system.*



Agency digesters have a membrane cover system to store biogas prior to its use as a fuel in the Agency's cogeneration system. Laser level indicators, located on top of and in the middle of the covers, measure and regulate the volume of the biogas. In 2016, the indicator on digester #2 needed replacement and, as these sensitive instruments are subject to the elements, it was determined that rain water was the primary culprit in the level's failure.

Agency technicians came up with the clever idea of housing the indicators inside protective covers to prevent water and sun damage, and to cool these heat-generating units. The efficient

yet cost-effective solution involved customizing two 30-gallon heavy duty plastic garbage cans to do the job.

### Gate Replacement Work

The Bartley Pump Company was contracted to remove and replace seven large isolation gates in the primary and secondary clarifiers that were at the end of their service lives. Channel gates allow staff to effectively isolate flows into the clarifier tanks. This project was completed successfully on time and within budget.



### San Rafael Hydrogen Peroxide Pump Upgrade



Operations and Maintenance staff are in the process of testing a new style replacement hydrogen peroxide metering pump. The existing metering pumps (blue in photo) are nearing the end of their lifecycles, parts are becoming hard to find, and their specialized lubricant is very expensive. The new gear-style metering pump (silver cylinder on left) is more energy efficient, provides accurate metering of fluids, are cheaper to run, and most importantly, are made from stainless steel which does not react with the peroxide. One test pump is currently in operation and will be monitored for accuracy and durability over the next several months.

### Aeration Basins Receive New Safe Access Gates

The installation of safe access gates into facility process tanks, a recommendation from the Agency's safety committee, is an ongoing project which initially began in 2015 with the installation of five primary clarifier access gates. Technicians have since installed lockable access gates each year in areas where staff enters tanks to perform routine maintenance. These gates allow staff to securely fasten and safely lower a ladder down into the process tanks, some as deep 14 feet. Installations are scheduled to continue for the next two fiscal years.



## ENGINEERING PROJECTS

### Energy Self-Sufficiency Coming Into Focus



*Agency's existing cogeneration engine.*

The Agency's cogeneration system, using biogas as fuel, powers the Agency facility over 23 hours per day. In the near future, there may be additional biogas generated to fully power the facility *and* supply excess power to the electrical grid. In order to do so, CMSA is in the process of

modifying its Interconnection Agreement (IA) with PG&E. The IA modification process evaluates impacts on the utility grid and identifies necessary improvements.

To keep the process moving on the funding side, CMSA has submitted an application for a Green Project Reserve planning level grant administered through the State Revolving Fund loan program. The grant application has been accepted and hopefully will be approved in early 2017.

### More Accurately Determining the Flow

Technical Services staff report final effluent flow data to the Regional Water Board in monthly Self-Monitoring Reports. That flow is measured using weirs at the end of the Agency's six chlorine contact tanks (CCT). During maintenance activities in the fall of 2015, staff noted an appreciable increase in measured flows when only two CCTs were operated instead of typical four tank operation, which shouldn't happen. One contributing factor to the flow



*New weirs in service.*

variation was determined to be the configuration of the existing weirs.

In 2016, new weirs were installed and a study was initiated to compare the new weir flow measurements to the highly accurate flow monitors that were

temporarily installed in key locations. The study determined that the new weirs consistently measured flows approximately 20% lower than the temporary meters. Staff has reported this issue to the Regional Water Quality Control Board and the Agency will modify the weir flow measurement equation to account for the 20% differential.

### The OWRF Gets a New Coating

The Organic Waste Receiving Facility (OWRF) vault originally had a polyurethane coating applied on the interior surfaces to prevent erosion of the tank's concrete floor and walls. This coating did not properly adhere to the surfaces, and over time, the coating failed on the floor and on several wall locations.

In September 2016, a coating contractor was hired to remove the existing coating and re-coat of all interior concrete and any damaged areas on metallic surfaces with an epoxy coating. While the vault was out of service for the work, a temporary



*Vault with new epoxy coating.*

21,000-gallon tank was placed next to the OWRF in order for the Agency to continue receiving fats, oils, and grease deliveries. The project was completed on the projected five-week schedule and within budget.

### Smart Ball Technology Evaluates Interceptors

In collaboration with the satellite collection agencies, CMSA recently hired a consulting firm to conduct a condition assessment of the two interceptor pipelines that deliver wastewater from the service area to the treatment plant. Because these pipelines are continuously in operation and



*SmartBall rescue from headworks.*

under pressure, new inspection technologies were evaluated, and the *SmartBall* was chosen for use in the assessment work. The *SmartBall* is able to identify leaks and locations where air could accumulate in the pipeline which can cause capacity restrictions and lead to corrosion.

The planning and implementation of the project was coordinated between CMSA and the collection agencies, and successful inspections were conducted in November and December.

Preliminary data received from the San Rafael interceptor inspection found no leaks and one possible air pocket. The results of the Ross Valley interceptor inspection will be available soon.

## ADMINISTRATION

### New Technical Services Department Introduced

CMSA's long-time Environmental Services Manager, Rob Cole, retired in October 2016. With Rob's retirement, the Agency's executive team reviewed the department's core functions and management, and after a thorough analysis and input from Environmental Services staff, decided to create a Technical Services Department which encompasses both Environmental Services and Engineering staff. The new Technical Services Department will provide engineering, capital planning and administration, contract development and management, laboratory, source control, and regulatory compliance services.

The reorganization also includes the creation of a new Laboratory Director position that will be responsible for managing the environmental laboratory, preparing regulatory reports, and supervising the laboratory staff. The new organizational structure is designed to enhance communication of laboratory and source control information between staff and other departments, and provide effective staff cross-training.

### Platinum 11 NACWA Award Earned

The National Association of Clean Water Agencies (NACWA) awarded CMSA its 11-Year Platinum Peak Performance Award for eleven consecutive years of 100% permit compliance with its National Pollution Discharge Elimination System (NPDES) permit. Fewer than a half of a percent of wastewater treatment plants nationwide receive this level of award.



### Agency Receives Many CWEA Awards

In November, the Agency was recognized by the Redwood Empire Section of the California Water Environment Association (CWEA), and received several awards:

- *Plant of the Year*, Medium Size
- *Engineering Achievement of the Year*—Chemical Storage Room Rehabilitation Project
- *Safety Program of the Year*, Medium Size
- *Community Engagement and Outreach Project of the Year*, Large Budget, Wastewater Treatment Agencies of Marin County
- *Community Engagement and Outreach*—Newsletter



Additionally, six of our staff members were recognized by their industry peers:

- *Gretchen Mueller*—Community Engagement and Outreach Person of the Year
- *Abraham Clark*—Murray McKinnie Award (Operator in Training or Grade I)
- *Jose Gutierrez*—Pretreatment, Pollution Prevention, and Storm Water (PS3 Person of the Year)
- *Anthony Smith*—Mechanical Technician of the Year
- *John Farr*—Electrical/Instrumentation Person of the Year
- *Rob Cole*—Research Achievement of the Year

## ENVIRONMENTAL SERVICES

### 100% Compliance

The CMSA lab testing was in compliance with NPDES permit requirements, with 100% survival in all of our recent bioassays.

### Fairs, Events, Learning Labs

The Cooperative Public Education and Outreach Program was very busy with summer and fall events. Public education and outreach booths were staffed at The



Marin County Fair and the Marin County Home & Garden Expo at the Civic Center, various

local Farmer's Markets during Pollution Prevention Week, and at *Trunk or Treat* and *Scream on the Green* booths in Novato for Halloween. At these events, more than

2,500 people took the educational quiz about wastewater related environmental topics.

The elementary school outreach program *Where Does It Go* juggler show was performed at 14 elementary schools throughout the County between July 2016 and December 2016, reaching 2,485 students. Staff also visited two elementary schools and set up a four-station learning lab, reaching 125 students.

### Keeping Pollutants Out

CMSA's National Pollution Discharge Elimination System (NPDES) permit requires programs to inspect and regulate commercial and industrial dischargers within the Agency's service area. These programs maintain awareness of all

businesses that may discharge pollutants to the sewer system that may impact the treatment plant and/or the environment, and characterize the pollutants that are stored, generated, and discharged, or have the potential to be discharged.

During 2016, staff performed a total of 976 inspections at auto-related,

manufacturing, transportation, recycling, and biotech businesses.

CMSA staff also inspected restaurants and markets that may discharge grease to the sewer system, and dental offices in the CMSA, Las Gallinas, and Novato Sanitary service areas to verify mercury amalgam from dental work is collected and properly disposed.

