

---

# CMSA Newsletter

---

Central Marin Sanitation Agency

February 2005

---

## **GENERAL**

---

### **MMWD Desalination**

The design of the pilot desalination facility has been completed by Kennedy/Jenks, and the filtration and reverse osmosis equipment has been ordered. Construction at the Marin Rod & Gun club is underway with Maggiorra & Ghilotti and Tresch Electric teaming up for the work. The anticipated completion date is mid-March.

MMWD is continuing to apply for the necessary permits to begin operation of the facility. They have received the permit to construct from the Bay Conservation and Development Commission, and have applications in at the Army Corps of Engineers, NOAA Fisheries, State Fish & Game, and the Regional Water Quality Control Board. They hope to have approval for operation by the time construction is completed and begin operation in late-March.

Staff has been coordinating the details and sampling protocols with MMWD for our groundwater discharge permit. MMWD has requested to discharge the solid waste stream from the plant's filtration units to the SRSD collection system for conveyance to CMSA. SRSD has forwarded the request to NUTE Engineering for a assessment of potential impacts to the collection system.

Our initial evaluation of the potential waste stream characteristics indicate that it will not adversely impact our operation or permit limits for metals. However, MMWD has agreed to sample the waste stream monthly and provide the results to us for review.

### **Outfall Easement**

The Dutra Group, owner of the San Rafael Rock Quarry, has approached us with a request to place some temporary office building within the easement of our land outfall. Dutra has been informed by the County that their illegal (unpermitted) offices at the Quarry have to be removed and they have to relocate. Their plan is to move into a floor in a to-be built office building near San Rafael Public Works at the end of Morphew Street. The plan to occupy the temporary offices for about 18 months until the office is constructed.

We have met with the property owner and Dutra to discuss the details and they have followed-up with a letter of request. Conceptually, their doesn't appear to be a problem with allowing the encroachment since the outfall is 10 feet deep in that area, but we will be discussion the topic with Counsel and preparing a conditional authorization letter.

### **Storm Water Enforcement**

CMSA has had contracts with the Cities of San Anselmo and San Rafael that authorize our

environmental compliance staff to enforce their stormwater management programs. Enforcement typically entails the issuance of City citations if our staff observe violations.

We recently sent letters offering the same services to Corte Madera, Fairfax, and Larkspur. Larkspur has expressed interest in contracting with CMSA for similar services. We have prepared a draft agreement for Larkspur's review.

### **Security**

Bids for the security fence project were opened on February 1. The low bidder was Ahlborn Fence & Steel, Inc. of Santa Rosa, and the Board of Commissioners approved awarding the contract to them at its February 8 meeting. Ahlborn is completing the contract agreement and document submittal, and we will execute the contract once their submittals are complete. This project largely completes the second phase of security improvements, and includes extending fencing from the existing perimeter fences to the front entry gate, automating the front gate, installing entry and safety controls, and running power and control wiring between the front gate and the Administration building. Construction should start by May 1 and be completed by July 1.

On a related note, the Security Team is drafting proposed revisions to the Agency Security Policy to clarify the contractor entry procedures and data

backup scheme. The proposed revisions should be ready for the Board's review and approval at its March 8 meeting.

---

## CAPITAL/ ENGINEERING

---

### Cogeneration

Some progress has been made on the Cogeneration project since the last report, however, things seem to be at a standstill for CMSA due to several factors.

First and foremost is the lack of Stewart and Stevenson staff being on-site. The San Leandro folks were here a few weeks ago (February 14th) to make the long-awaited modifications to the engine oil system which they completed, but did not test. Ken McCarty, who performed the work, did not start the engine, but said that the construction representative would return to fill the oil system to its specified level and then start it up. He also said he or someone from the San Leandro facility would be returning to oversee that start-up.

We've also been expecting them back so we may continue with our functional testing and train our staff. There is really nothing holding this engine from going on line and generating power from natural gas except for the lack of an overseer and trained CMSA staff. It seems that the vendor, Stewart and Stevenson, is currently torn between CMSA and two other facility start-ups - one in San Diego and one in San Francisco. As it is sometimes the squeaky wheel (aka threatening agency) that gets the grease,

formal correspondence will soon be emanating from San Rafael.

On the sludge gas side. We are still waiting on our compressor vendor, McKenna Engineering, to give us a proposal. That was promised last week for either that Friday or early this week and was later amended to "... by Thursday afternoon" (that's today February 24<sup>th</sup>). There are two problems with our compressor set. First, the regulator will not go below 4 psi. It is rated to go down to 3 psi and the McKenna folks are puzzled as to why it will not go down more, but that is only part of the story. New regulators will be ordered from Fischer Controls as part of the retrofit. The more significant aspect is the limitation on the heat exchanger bypass of 25 percent. It should have been 100 percent. CH2M Hill has no explanation for this. The staff who provided the 25 percent design solution are gone. It was clearly a design error and will only be solved by significantly beefing up the sizes of the on-board heat exchangers. These will be similar in size to the 'after-cooler' heat exchanger mounted outside at the siloxane-removal pad and therefore may pose a bit of a space problem for the compressor skids.

The next question on the compressor retrofit is probably not so much contractor availability, but time needed to purchase the heat exchangers. We don't yet know if these are available off-the-shelf or need to be manufactured.

We received a little bon mot from the electrical subcontractor on the project in the form of a change order request. This is the first in what the subcontractor apparently was planning as a series of

piecemeal submittals. The first one is for \$38,000 and only covers what they claim are additional costs associated with their hiring of the electrical control systems specialists who helped prepare us for the Pre-parallel testing. While we did specifically call on their sub to help us with some controls, their asking price seems a bit steep and we'll be going over this with a fine tooth comb. However, mixed in with that are the costs of load testing which were only supposed to take one day. That testing took many days and multiple trips by the Cummins people who, we were told, charge an arm and a leg for their specialized load testing equipment.

Of course the sub has requested its money right away and has given us ten days to consider their proposal. We have told the contractor that we need the electrical sub to put all of their cards on the table and not make piecemeal submittals. We will not be considering them further until we have them all. It seems a little difficult for the Agency to sympathize with the urgency of their requests when they've waited nearly six months to submit them.

There are two remaining tasks for the prime contractor to complete - aside from punch list items. These are painting and paving. We should see the painters on-site within two weeks which is the lead time they need to order their paints. The paving is not yet scheduled. The paving sub is waiting for things to dry out a bit. The good news on paving is that the sub believes he can get things to drain properly without

trapping water between the digesters and the cogen facility as has happened in the past.

And speaking of punch lists, CMSA staff have been helpful in providing tips to the project coordinator on items which might have otherwise been overlooked. For example, it was reported that a large unistrut support was recently installed directly in front of the engine oil filter compartment and needs to be moved. Another one was the concrete powder from the old engine pad demolition ending up clogging the floor drain. CMSA staff are being encouraged to keep reporting these things as they discover them.

On a final note, the prime contractor for construction, S.R. Hamilton, has decided to go out of business. They are doing this in an orderly way and would like to complete their business with CMSA as soon as possible.

### **Paving**

A small asphalt-paved approach has been built to serve the new sample collection building at Outfall Vault No. 3. The building's approach was previously crushed rock, which reduced mud during wet weather but was poorly suited to driving carts or riding bicycles to the building for sample collection. The new pavement should make sample collection at that building more efficient while maintaining our high safety standards.

### **Polymer Equipment Improvement**

Over time, our polymer storage, handling, and mixing equipment has been modified and repaired piecemeal. The new polymer

contract is expected to result in CMSA using a different form of liquid polymer for sludge dewatering (emulsion vs. mannich). The polymers' different characteristics would require changing significant portions of the handling and mixing equipment, which presents an opportunity to remodel the polymer facility, and to gain improvements in efficiency and overall reliability of our polymer handling.

We will brief the Board of Commissioners at their March 8 meeting, and request their authorization to engage a consultant to assist us with the design, specification, and contract development for this project. Kennedy/Jenks Consultants' is an ideal candidate for this work due to their experience with previous phases of our dewatering project, together with their extensive history with CMSA's treatment plant and their general wastewater design expertise. We anticipate this being about a 16-month project, with design beginning early this spring and construction completed by June 2006.

### **Vector Station Improvement**

Vector trucks are used to pump out wastewater and accumulated sediment from pump stations, sewer mains, and other points in wastewater collection and transport systems. CMSA provides disposal services for its member agencies' Vector trucks. The nature of the Vector loads brought to the plant has changed over time, and our original receiving facility needs to be upgraded to meet current size and sediment handling needs. Due to the specialized nature of the work, and the need for a timely solution, it would be more efficient to engage a consultant to assist us

with design, specification, and contract development. We will brief the Board of Commissioners, and request authorization to move forward with the consultant selection. We anticipate this being about a 12 month project, with design beginning late this spring or early this summer.

### **Roof Beam Restoration**

We have identified a system of industrial wood-restoration epoxies that appear suitable to repair the Administration Building's exposed roof beam ends, and may eliminate the need for sheet metal shrouds. The epoxy system was developed for use in marine and other severe weather conditions, and should both stop rot and restore the beam ends to their original dimensions. This approach will simplify periodic inspection and maintenance of the beam ends. We are meeting soon with a contractor who is certified by the epoxy system's manufacturer to get an estimate. If all goes well, we expect to have the repairs completed by mid-summer.

---

## **BUSINESS SERVICES**

### **Fiscal Year 2005/2006 Budget Planning**

As reported in prior newsletters, staff has been actively refining the Agency's 5-year Capital Improvement Plan (CIP). The revised CIP is being used in conjunction with other information, to assist in predicting future sewer service charge (SSC) increases. The CIP is also a key component of the Agency's

annual budget. With the 1<sup>st</sup> detail draft CIP almost completed, the Agency can soon move on to the next step in the budget planning process, completing the operating budget. Other critical budget planning tasks will follow.

A budget development summary project plan has been completed and includes milestones tasks, target completion dates and responsible party. Key budget development project plan milestones and target completion dates are as follows:

1) 1<sup>st</sup> detail draft budget components collected and compiled (4/21/05), 2) internal publication and review of draft budget (4/28/05), 3) draft budget presented to CMSA Board (5/9/05), 4) final budget presented to CMSA Board (6/14/05).

#### **Bond Transfer**

The majority of our financial reserves are invested in bonds. We rely on two financial institutions to provide investment advice and portfolio management. California Asset Management Program or CAMP handles roughly 90% of the Agency bond securities with UBS Financial Services, Inc. assuming the responsibilities for the remaining 10%. CAMP is a California Joint Powers Authority, established in 1989, to provide investment management services to California public entities and to ensure compliance with all aspects of the Treasury Department arbitrage regulations.

It was determined that portfolio management, and CMSA internal accounting and reporting, could be performed more efficiently if the Agency had only one

institution providing such services. With UBS handling a small percentage of the Agency's portfolio and CAMP historically providing more sound investment advice, we have decided to transfer the securities currently held by UBS to CAMP, effective March 1, 2005. This action provides us with one central contact for investment needs and a consolidated approach to long-term investment planning.

#### **Seminar/Meetings**

On February 17, 2005, the Business Services Manager attended a finance/human resource info-share meeting at the Fairfield-Suisun Sewer District. Participants included finance representatives from various water/wastewater utilities within the Bay Area. The finance group meets quarterly to discuss various finance and human resource issues and utilizes its member's knowledge and experience to assist in resolving issues that impacts our utilities. The February 2005 meeting included discussion on such topics as benefits administration, succession planning and asset management. The Group's next meeting is tentatively scheduled for May 2005.

The Business Manager also attended an Asset Management seminar on February 22, 2005 in Rancho Cordova. Sponsored by Brown & Caldwell, an engineering and business solutions consulting firm, the seminar focused on three areas: 1) implementing value added asset management solutions that are affordable and sustainable, 2) complying with the upcoming Sewer System Management Plan (SSMP) requirements for the Central Valley, 3) forecasting and acquiring

required funds to address competing growth and aging infrastructure needs. Solution alternatives were presented by representatives from Brown & Caldwell. Real-world implementations were provided by various utilities located throughout the Central Valley.

#### **Hypochlorite Contract**

The CMSA Board of Commission conditionally awarded Pioneer Americas, LLC the Sodium Hypochlorite Supply Contract (05-02) at their February 8, 2005 Board meeting. The bid proposal unit price was \$0.745/gallon for 12.5% solution delivered to the CMSA wastewater treatment facility in San Rafael, California. The contract award is conditional, pending receipt and legal review of Pioneer Americas proposed Standby Letter of Credit (LOC) offered in lieu of the standard Performance Bond, which CMSA requires on supply contracts. CMSA historically has not accepted LOC's in place of performance bonds for supply contracts but has accepted them for construction contracts. Research indicates that Standby Letters of Credit's typically provide equivalent or greater levels of protection than a performance bond, but require careful review of the document language to ensure acceptable levels of protection are afforded. CMSA's legal council is currently reviewing the LOC. Once the legal review is completed, staff will finalize and execute the sodium hypochlorite supply contract 05-02 with Pioneer Americas.

#### **Ferric Contract**

CMSA has a contract with Kemiron Companies, Inc. for the

supply of ferric chloride solution. This contract expires on March 28, 2005 but has a provision to allow the contract to be extended for one year with the same contract unit cost and provisions. Kemiron Companies initially indicated they would be unable to extend the current contract at the existing unit cost but would extend if we amended the contract to provide a 4.2% higher unit cost. After informing Kemiron CMSA would be putting the contract out to bid, they reconsidered the extension and agreed to extend the contract at the same contract unit cost and provisions. CMSA sent Kemiron an extension agreement letter on February 2, 2005 and the signed contract extension was received by CMSA on February 23, 2005. The new contract expiration date is March 28, 2006.

### **Asset Management**

CMSA continues to implement its Asset Management Program. The current focus of the program is the completion of the Computerized Maintenance Management System (CMMS) Phase One tasks. Phase One has three Milestones 1) Corrective Maintenance Module Roll Out 2) Asset Tracking Procedures and Documentation Development 3) Asset Data Base - Data Collection and Population (Entry). Milestone One has previously been completed and the corrective maintenance module is successfully being used. The development of asset tracking procedures and documentation Milestone Two task has been completed. Agency personnel have been trained on the new asset tracking procedure, which is scheduled for implementation on March 1,

2005. Within Milestone Three, the data collection component is approximately 82% complete and the data entry functions are approximately 25% complete.

---

## **OPERATIONS & MAINTENANCE**

---

### **WET WEATHER EVENTS**

Most of February has been a wet month with recent storm flows to the plant reaching 56 MGD on February 15<sup>th</sup> (compared to our average dry weather flow of 8.7 MGD). The recent storms caused the plant to blend for nine days straight. The plant is designed to treat a secondary flow of 30 MGD and flows in excess of that are blended with a combination of primary treated effluent and secondary effluent. During the recent storm events, our plant's treatment process ran very well meeting and in most cases exceeding our permit required treatment limits. Plant operations has begun to using our Wet Weather SOP that was developed by CH2M Hill and revised by plant staff to address the idiosyncracies of our plant and its treatment processes. One of the best results realized through the implementation of the Wet Weather SOP is modification of the flow through our aeration tanks in wet weather. In dry weather the flow scheme through the aeration system is all four tanks in parallel and now in wet weather we align each pair of tanks in "series". In addition to placing the aeration tanks in series, operations also tapers the air supply through the aeration system in order to promote better settling in our secondary clarifiers. Better

settling helps prevent solids washout of the secondary clarifiers, which enables us to meet our discharge requirements and preserve the vitality of the biological process. Since staff has been trained and is using the new SOP, our process has been operating very efficiently. Operations staff are to be commended on their efforts during storm events and the obvious improved process efficiency that has been realized.

### **O&M PERSONNEL**

Sandi Batis received her Grade I Wastewater Operator Certificate this month, making the transition from OIT (Operator In Training) to Operator I. Richard Jackson, our new OIT, started on February 28. This month staff attended training on Succession Planning and on handling Personnel Issues (ADA accommodation, Worker's Comp issues as well as the intertwining and overlapping of Federal and State leave laws).

### **O&M MONTHLY**

The plant fire alarm systems were tested and several problems were found including two failed bells and the annex system that was not being monitored in the control room. Repairs were made and the systems are fully functional. Another fire code issue was the front door access card system must unlock when there is a fire alarm to allow egress from the building. The access card system was connected to the fire alarm system and programmed to unlock the door.

The Variable Frequency Drive for RAS pump number 4 failed and has been removed. A new VFD was purchased and is being installed. This will be a good test for this equipment for its possible use in other areas of the plant as our obsolete drives fail and can no longer be repaired.

Centrifuge #1 was rebuilt and is back in service. We found that an overheated seal failed in centrifuge #2 leading to bearing damage. Maintenance has found a different seal that will work at the high operating temperature and protect the bearing. We will retrofit all our machines in our continued centrifuge reliability improvement program.

Maintenance constructed new SCADA reports (in the process control system) so operations can retrieve data for the wet weather monitoring program.

Maintenance replaced a split discharge elbow for one of the Trailer Court Pump Station pumps. This job required the station to be shut off and conformance with our "confined space" procedures to enter the sump. The job was completed safely in three entries.

O&M installed new air bubbler "socks" on Aeration Tank #4. The socks start plugging after a few years, lowering the oxygen transfer and mixing energy efficiencies while raising the power requirements for the tank. Tank #4 was the last tank for this project that started last summer, and all four tanks are now back to peak efficiency.

---

## ENVIRONMENTAL SERVICES

---

### NPDES Testing

The NPDES testing we performed at CMSA for February was in compliance with our permit requirements.

### Laboratory

All of the annual reports have been submitted and received by the San Francisco Bay Regional Water Quality Control Board. They include the annual summaries for our Pretreatment Program, Pollution Prevention Program, and Self Monitoring Program. The reports summarize the permit testing, pollution prevention program activities, and industrial waste program. They included charts and tabular summaries of all of our data collected throughout the year. We are also required to submit an annual biosolids report covering our biosolids testing for land application, land application rates, and biosolids production summaries. This report is submitted both to the regional board and to the EPA.

### Bioassay Test

We had 100% survival of the fish in our January bioassay. Every month we are required to perform a 96 hour bioassay that runs continuously from Monday to Friday. The purpose of this test is to assess the effects of our effluent on the survival of young rainbow trout. Our permit requires that we have an 11 sample median limit of 90 percent or greater and a 90<sup>th</sup> percent survival of at least 70

percent. This means no two samples over an 11 month period can fall below 70 percent survival to meet this limit.

### Member Agency Assistance

We have continued to run samples for our member agencies to assist them during the rainy season. The high flows experienced in the collections system in the rainy season creates the possibility for sanitary sewer overflows. New regulations from the Regional Board require reporting of the overflows, and they are currently drafting additional requirements that will include additional testing.

We run samples during the year for Ross Valley Sanitary District, San Rafael Sanitary District, and Sanitary District 2 to assist them in determining whether water identified in their course of work and from citizen complaints is sewage or just groundwater.

### Sanitary Sewer Overflow Forum

Staff attended the state wide sanitary sewer overflow forum in San Leandro to discuss and draft a recommendation to the State Water Resources Control Board on what would be reasonable and possible for the upcoming programs they are going to require in the very near future. The northern California meeting was organized by Bay Area Clean Water Agencies (BACWA). We split up into groups and came up with reasonable sanitary sewer overflow prevention programs, reporting

requirements, and recommendations for private versus public wastewater collection systems.

This forum was very important because it gives the wastewater community a chance to ensure they have a saying in what will soon be required and understand how the programs will function. CMSA was the only representative from our service area attending the event. We assisted in drafting recommendations for overflow reporting, regulatory mechanisms for requiring a Sanitary Sewer Management Program (SSMP), which would provide protection to the collection agencies when overflows do occur, and public versus private guidelines for determining responsibility. There will be future workshops to cover the sampling that will be required when there is an overflow, the SSMP content and evaluation process, and the certifications that may be required for collection system personnel.

#### **New Promotional Item Logo**

We have started the process for creating our new logo and the promotional items for our public outreach program. The logo is a shark saying the phrase "Take a Bite Out of Pollution." We had members of the public concerned that sharks have a bad reputation and we need to portray the shark in a friendly and personable manner. This is a joint program with LGVSD and we both work together to

develop ideas and outreach efforts to teach people about what is safe to dump down the drains, our efforts to clean wastewater, and the difference between wastewater and stormdrains.

#### **BAEER FAIR**

Every year Marin County hosts the Bay Area Environmental Education Resources Fair at the Civic Center. It is a Bay Area wide event with people attending from Monterey to Eureka. Several other water and wastewater utilities participate in the fair, including East Bay Municipal Utilities District, Central Contra Costa Sanitary District, Marin Municipal Water District, Sonoma County Water Agency, and many other publicly sponsored environmental education programs. We had a very popular table with our environmental quizzes. 243 quizzes we taken that day, which equates to about 45-50 people every hour.

We spoke to several teachers in Marin County and other public agencies that provide environmental education who are interested in touring our wastewater treatment plant. They are also interested in seeing what educational information we provide when we go into classrooms to teach students how we clean the water before it is discharged into the bay. It was a very successful event and our booth received a lot of good comments about our proactive approach to environmental education, our innovative environmental quizzes, and our public outreach program.

#### **LGVSD Assistance**

We have submitted the annual pollution prevention report for LGVSD, which summarizes the activities during the year for their pollution prevention program. Preparation of their annual report is part of our contract with LGVSD. We have also completed their dental inspections and their Fats, Oil, and Grease program survey. We had to do additional follow-up on these inspections and surveys as a result of LGVSD losing their staff person that was assisting us with the pollution prevention program.