



Central Marin Sanitation Agency

COMMISSION REGULAR MEETING AGENDA

Tuesday, January 10, 2017

at the Agency Office

7:00 p.m.

Members of the public may directly address the Board on any item appearing on the Agenda. They may address the Board when the item is called by the Board Chair and he/she indicates it is the time for the public to speak to the agenda item. Audio and video recordings will be made of this meeting and will be posted to the Agency website.

1. 7:00 p.m.: Call Meeting to Order/Pledge of Allegiance

2. Roll Call

3. Open Period for Public Participation

Open time for public expression, up to two minutes per speaker, on items within CMSA's jurisdiction and not on the Board of Commissioners' agenda. The Board will not discuss or take action during open time.

4. Consent Calendar

Matters listed under this item are considered routine and will be enacted by one motion. The consent calendar may include resolutions; therefore, the motion, second, and vote will also be applicable to the resolution and recorded accordingly. There will be no separate discussion of these items unless requested by a member of the Board or the public prior to the time the Board votes on the motion to adopt.

- a) Minutes—Regular Board Meeting—December 13, 2016
- b) Treasurer's Report—Operating Account—December 2016
- c) Schedule of Investments—December 2016
- d) NPDES, Process, and Maintenance Report—December 2016
- e) Performance Metric Report—December 2016
- f) F7 2017 Budget Status Report—Second Quarter Report
- g) FY 2017 Asset Management Program—Second Quarter Report



5. **December 15, 2016 Storm Event**
Recommendation: Informational, provide comments or direction to the General Manager, as appropriate.

6. **2016 Performance Metric Report**
Recommendation: Accept the Agency's 2016 Performance Metric Report.

7. **Solids Handling Building Ventilation Improvements Project – Construction Contract Award (CMSA Contract No. 17-07)**
Recommendation: Award the construction contract for the Solids Handling Building Ventilation Improvements Project to Buhler Commercial for the low bid amount of \$238,695, and authorize the General Manager to execute the contract agreement.

8. **CMSA Amended Joint Powers Agreement – JPA Manager Review Comments**
Recommendations: Review and discuss the JPA managers' comments on the amended CMSA Joint Powers Agreement, and provide direction to staff.

9. **Wastewater Blending Reduction Alternative Selection**
Recommendation: Select a wastewater blending reduction alternative for staff to present in the NPDES Permit's Report of Waste Discharge.

10. **North Bay Watershed Association (NBWA) Report***

11. **Oral Reports by Commissioners/General Manager***

12. **Next Scheduled Meeting**
Tuesday, February 14, 2017 at 7:00 p.m. at the Agency office.

*Information not furnished with Agenda

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact Central Marin Sanitation Agency at 415-459-1455. For auxiliary aids or services or other reasonable accommodations to be provided by the Agency at or before the meeting, please notify the Agency at least 3 business days in advance of the meeting date (meeting is the second Tuesday of each month). If the Agency does not receive timely notification of your reasonable request, the Agency may not be able to make the necessary arrangements by the time of the meeting.



Central Marin Sanitation Agency

**COMMISSION REGULAR MEETING MINUTES
Tuesday, December 13, 2016
at the Agency Office**

Note: The minutes are an official record of the Board meeting.
There are also official audio and video recordings available on the Agency's website at www.cmsa.us.
The time stamps on these minutes refer to the items' start times on the video recording of the meeting.
Please contact CMSA at 415-459-1455 for information about receiving a copy of these records.

1. **Call Meeting to Order/Pledge of Allegiance**
Chair Hartzell called the meeting to order at 7:04 p.m. A quorum was present.

2. **Roll Call** 00:00
 Present: Chair Kathy Hartzell; Vice-Chair Diane Furst; Commissioners Maribeth Bushey, Michael Boorstein, and Thomas Gaffney
 Absent: Secretary Al Boro
 Staff present: Jason Dow, General Manager; Carlos Oblites, Administrative Services Manager; and Kate Brouillet, Recording Secretary

3. **Open Period for Public Participation** 00:30
 Carlos Oblites, Administrative Services Manager, stated that he has given notice and will be leaving the Agency in January to take a position in the finance industry's private sector. He stated that it was a privilege working at CMSA, feels that the Agency is very well-run, and has great respect for Agency staff.
 The Board wished him well in his new position.

4. **Consent Calendar** 02:55
 - a) Minutes—Special Board Meeting—November 10, 2016
 - b) Treasurer's Report—Operating Account—November 2016
 - c) Schedule of Investments—November 2016
 - d) NPDES, Process, and Maintenance Report—November 2016
 - e) Performance Metric Report—November 2016
 - f) CASA 2017 Winter Conference
 - g) FY17 Cogeneration System Maintenance Project Agreement
 - h) Revised Personnel Policy #401 – Drug and Alcohol Abuse

There was no discussion by the Board.

Comments from the Public:

There were no comments from the public.

ACTION: Commissioner Bushey moved to approve Consent Calendar items #8a through #8h; second, Commissioner Furst.

Ayes: BOORSTEIN, BUSHEY, FURST, GAFFNEY, HARTZELL

Nays: NONE

Abstentions: NONE

5. Fiscal Year 2016 Comprehensive Annual Financial Report and Popular Annual Financial Report 03:22

GM Dow gave a brief description of the Comprehensive Annual Financial Report (CAFR) and Popular Annual Financial Report (PAFR). He stated that each year the Agency's finance staff prepares the documents which are submitted to the Board for review and acceptance. He stated that once accepted, staff sends the documents to the Government Finance Officers Association (GFOA) for consideration of award. GM Dow stated that CMSA has received the GFOA Certificate of Achievement for Excellence in Financial Reporting for the CAFR for the past thirteen consecutive years, and the Award for Outstanding Achievement in Popular Annual Financial Reporting for the PAFR for the last five years.

GM Dow stated that he recommends that the Board accept the documents, and any comments or changes would be incorporated into the final versions that are forwarded to the GFOA.

Chair Hartzell stated she has provided GM Dow her editorial notes, and Commissioner Gaffney said he will provide a few comments. The Board commented favorably on the content and reader appeal of the reports.

GM Dow asked the Board to respond with their comments on the PAFR and CAFR by Wednesday, December 21, 2016.

Commissioner Gaffney suggested that the Agency could comply with the SEC's filing requirement for the Agency's Continuing Disclosure of the Refunding Revenue Bond Series 2015 through the Electronic Municipal Market Access system (EMMA) with the CAFR. Mr. Oblites concurred, and stated that the filing date is January 26, 2017, and staff is currently gathering the required documents from the member agencies.

Comments from the Public:

There were no comments from the public.

ACTION: Commissioner Furst moved to accept the Agency's FY 2016 Comprehensive Annual Financial Report and Popular Annual Financial Report, and authorize delivery of the final reports to the Government Finance Officers Association for evaluation with any final corrections by staff and the Board; second, Commissioner Bushey.

Ayes: BOORSTEIN, BUSHEY, FURST, GAFFNEY, HARTZELL

Nays: NONE

Abstentions: NONE

6. 2016 California Water Environment Association Awards – Redwood Empire Section 10:50

GM Dow reviewed the CWEA award program, and stated that the Agency received eleven awards from the Redwood Empire Section: six individual, one regional, and four organizational. He referred to his staff memo stated that the Agency won the Treatment Plant of the Year award, the Engineering Achievement of the Year award for the Chemical Storage Room Rehabilitation Project, the Safety Program of the Year award, and named each recipient of an individual award. He recommends the Board adopt the Resolution of Appreciation (No. 313) to Agency staff for receiving the 2016 organizational, regional, and individual awards.

The Board stated that receiving the awards was a commendable achievement.

Comments from the Public:

There were no comments from the public.

ACTION: Commissioner Furst moved to adopt the Resolution of Appreciation (No. 313) to Agency staff for receiving the 2016 organizational, regional, and individual awards from the Redwood Empire Section of the California Water Environment Association; second, Commissioner Gaffney.

Ayes: BOORSTEIN, BUSHEY, FURST, GAFFNEY, HARTZELL

Nays: NONE

Abstentions: NONE

7. Effluent Flow Monitoring Study Results 16:56

GM Dow stated that in accordance with CMSA's NPDES permit, the treatment plant effluent flow is continuously measured and is reported in the Agency's monthly Self-Monitoring Report to the Regional Water Quality Control Board (RWB). He stated that CMSA hired HDR Engineering (HDR) in December 2015 to conduct a comprehensive flow monitoring and analysis study for both wet and dry weather flows. He stated that HDR submitted a final report on December 6, 2016, and the

key finding is the calculated flows over the chlorine contact tank (CCT) weirs are 20% lower than the temporary flow meters that were installed during the study. GM Dow referred to the staff memo and the attachments, and stated that the report recommends increasing the CCT weir coefficient used to calculate the effluent flow by 20%.

GM Dow gave a description of the study findings using a diagram on the white board of the process areas in the facility. He stated that staff will inform the RWB that the study is complete and its findings; the weir coefficient will be adjusted by 20%; and the Agency will begin reporting the corrected effluent flows in the Monthly Self-Monitoring Reports in early 2017.

The Board asked various questions regarding the study including the location, configuration, and effect of the weirs, flow calculations, and reporting to the RWB. GM Dow answered the Board's questions, and stated that the RWB did not anticipate any penalties for underreporting in the past, and have instructed the Agency to keep them informed going forward.

This item was informational, and no action was taken by the Board.

8. Wastewater Blending Reduction Alternatives

33:45

GM Dow stated that CMSA's National Pollution Discharge Elimination System (NPDES) permit expires on July 31, 2017, and requires the Agency to submit a permit reissuance application and a Report of Waste Discharge (ROWD) by January 31, 2017. He stated that in the ROWD, the current NPDES permit requires the Agency to select a preferred wastewater blending reduction alternative. He stated that CMSA's 2007 and 2012 NPDES permits issued by the RWB required preparing a No Feasible Alternative to Blending Analysis for submittal with each permit's reissuance ROWD.

GM Dow stated that a task in the 2017 Facilities Master Plan's scope of work is for Carollo Engineers to prepare a blending reduction alternative analysis for incorporation into the ROWD's No Feasible Alternative to Blending Analysis. He stated that Carollo completed the first draft of the analysis in November, and information from the final draft will be used by the Agency's regulatory consultant, Monica Oakley, to prepare the No Feasible Alternative to Blending Analysis for the ROWD.

GM Dow referred to the staff memo and attachments and reviewed the two storage options and few of the treatment alternatives. He stated a preferred alternative needs to be selected by the January Board meeting for incorporation into the ROWD.

The Board discussed several of the alternatives and asked GM Dow various questions regarding the potential costs and benefits of the alternatives, related projects in the Agency's Facility Master Plan project, potential capital plan projects,

and reducing inflow and infiltration (I&I) in the member agencies' collection systems.

This item was tabled until the January Board meeting, and no action was taken by the Board. The Board will further discuss the "No Project" alternative and the "Optimize Existing Secondary Treatment" alternatives at the January meeting.

DIRECTION: GM Dow to report back to the Board at the January meeting with metrics on the suspended and organic material during a wet weather blending event and over a year.

9. Interconnection Agreement Modification Project Status Report 68:56

GM Dow referred to his staff memo, and gave a review of the project to date. He stated that the Interconnection Agreement (IA) was submitted to PG&E in September 2016. He stated that their Initial Review has determined that CMSA's cogeneration system failed four out of ten screen analyses. He stated that the Agency paid for a supplemental review which should be completed by January 6, 2017. He stated if the Agency fails this review, a System Impact Study costing up to \$10,000 that will determine necessary system upgrades would need to be completed.

Commissioner Bushey clarified that the PG&E the screen analyses are part of a decision tree that determines the project path, the most desirable outcome being the least expensive, quickest, and does not actually represent a "fail."

GM Dow stated that CMSA has submitted an application to the California Energy Commission (CEC) for a Renewable Energy Certification. He stated that an application for a Western Renewable Energy Generation Information System (WREGIS) identification number for the Agency's power generation facility is required by the CEC, and that CMSA submitted the application and it was received and verified.

GM Dow referred to the staff memo and reviewed the status of the power sale options. He stated that next steps are to better define the specifics of the Marin Clean Energy and PG&E programs, and present each utility's best price and terms to the Board.

GM Dow reviewed the progress of the Clean Water State Revolving Fund (CWSRF) Planning Application, and stated that a CWSRF project manager has been assigned to CMSA, and is reviewing the project. He stated that in light of the response delay from the CWSRF, staff has staff requested, and Carollo Engineers agreed, to postpone starting the Facilities Master Plan tasks that are included in the CWSRF Plan of Study, so they would be eligible for Green Project Reserve (GPR) funding.

The Board discussed the progress of the project and asked GM Dow a few questions. GM Dow answered the Board's questions.

This item was informational, and no action was taken by the Board.

10. North Bay Watershed Association (NBWA) Report 78:40

Commissioner Boorstein stated he attended the December 2, 2016 NBWA Board meeting, and that Keith Caldwell of Napa Sanitary District has retired from the NBWA Board. He requested that the Board secretary forward the meeting minutes to the Board.

11. Oral Reports by Commissioners/General Manager 80:36

GM Dow referred to his handout and reported:

- The CMSA Finance Committee met on November 14 and discussed the development of next Agency revenue plan.
- AB 1661 (McCarty) requires that agency officials take two-hour harassment prevention training every two years, and for the agency to keep records for five years. CMSA will need copies of the proof of participation from Board members; or can assist with obtaining training.
- Staff contacted five metal building manufacturers who are interested in providing bids to the contractors bidding on the Maintenance Building Rehabilitation Project, and found that they are not interested in selling directly to CMSA, as they work with certain installation contractors.
- RVSD and CMSA will share the cost of a second attempt at assessing the Ross Valley Interceptor through the use of the SmartBall technology.

Commissioner Furst asked about the LAFCO meeting on December 8. GM Dow reported that Agency personnel met with LAFCO staff to discuss CMSA's comments on the first draft of the profile, the CMSA profile has been updated, and staff will stay in close touch with LAFCO.

12. Next Scheduled Meeting 91:04

Tuesday, January 10, 2017 at 7:00 p.m. at the Agency office.

Chair Hartzell adjourned the meeting at 8:35 p.m.

Respectfully submitted,

Kate Brouillet, Recording Secretary

Diane Furst, Vice-Chair

Central Marin Sanitation Agency
Treasurer's Report - Operating Account
For the Month of December 2016

I. Accounts Summary: Bank & Investment Accounts

Summary of Bank & Money Market Accounts

Westamerica Bank - Account Activity shown below	\$ 336,375.66
Local Agency Investment Fund (LAIF) - Refer to Schedule of Investments	14,403,592.42
California Asset Management Program (CAMP) - Refer to Schedule of Investments	358,517.17
Total Bank & Investment Accounts: Ending Balance on December 31, 2016	\$ 15,098,485.25

II. Account Activity for Westamerica Bank

Beginning Balance on December 1, 2016	196,029.95
---------------------------------------	------------


Cash Receipts (Deposits into Westamerica):

Transfers from LAIF	850,000.00
Transfers from CAMP	
Connection Fees (Capacity Charges): SD#1 - 3 Residential; SD#2 - 4 Residential Connections	41,042.40
Permit and Inspection Fees	1,077.43
Almonte FOG Program (FY17 1Q: Jul-Sep)	624.58
Revenue from Haulers & RVs	9,001.07
Revenue from Organic Waste Programs	12,622.27
County-wide Public Education Program Reimbursement (FY17 1Q: SASM)	2,963.47
SD 2 Operations & Maintenance Contract (FY17: September)	19,917.83
SQSP Wastewater Services Contract (FY17: October)	108,237.75
SQ Village Operations & Maintenance Contract (FY17: July & October)	2,478.79
Misc Revenue: MetLife Dividend, CalCARD Incentive Payment	345.69
COBRA Health Benefit Payments from separated employees/retirees	285.26
Miscellaneous Reimbursements: HD Supply refund of duplicate payment	470.75
Total Cash Receipts	\$ 1,049,067.29

Cash Disbursements (Withdrawals from WestAmerica):

December 2016 Operating account disbursements register (see attached)	\$541,717.44
Regular Payroll paid 12/09/16	135,319.09
Regular Payroll paid 12/23/16	128,194.66
Transfers to EFTPS Federal Payroll Taxes (12/14, 12/28)	75,198.74
Merit Pay (7), Vacation Cash-Out (1)	28,291.65
Total Cash Disbursements	\$908,721.58
Ending Balance on December 31, 2016	\$ 336,375.66

Prepared by: 
Carlos Oblites, Administrative Services Manager/Treasurer

Reviewed by: 
Jason Dow, General Manager

Central Marin Sanitation Agency
 Operating Account Disbursements Register
 For the Month of December 2016

Check Number	Date	Vendor/Payee	Amount	Description
14348				Last check # from prior month's register
14349	12/01/16	Cal Public Employee Retirement	62,756.99	Medical Insurance, December 2016
14350	12/01/16	Delta Dental Plan of Calif.	8,318.58	Dental Insurance, December 2016
14351	12/01/16	Lincoln Financial Group	1,797.54	Life Insurance, December 2016
14352	12/01/16	Vision Service Plan -(CA)	900.26	Vision Insurance, December 2016
14353	12/01/16	Phillip Frye	241.38	Reimbursement for retiree health benefits by check
14354	12/01/16	James L. Johnson	172.23	Reimbursement for retiree health benefits by check
14355	12/06/16	Carollo Engineers, Inc.	41,820.83	Prof Svcs: 2017 Facilities Master Plan Project, October 2016
14356	12/06/16	Euro Style Management Inc	3,150.00	Organic Waste Receiving Facility Relining Project, November 2016
14357	12/06/16	Exametrics, Inc.	1,395.00	CalOSHA required hearing tests for all employees
14358	12/06/16	Flyers Energy LLC	896.85	Gear oil
14359	12/06/16	Foster Flow Control	7,132.49	SD2 PS Maint: Three check valves for Trinidad #1 (Note B)
14360	12/06/16	Ives	182.73	Forklift training materials
14361	12/06/16	Koff & Associates, Inc.	5,750.00	Prof Svcs: Laboratory Director and Health & Safety Manager Recruitments
14362	12/06/16	Ongaro & Sons, Inc.	505.00	Annual back flow device testing
14363	12/06/16	Pure Air Filtration	420.50	Grease filters
14364	12/06/16	Western Oilfields Supply Co	4,383.59	Organic Waste Receiving Facility Relining Project, Tank cleaning, November 2016
14365	12/06/16	Red Wing Brands of America Inc	184.88	Safety shoes (1 employee)
14366	12/06/16	Rockwell Solutions	4,718.84	Organic Waste Receiving Facility mixing pump
14367	12/06/16	Safety-kleen Systems, Inc	186.18	Hazardous waste disposal
14368	12/06/16	State Water Resources Ctrl Brd	600.00	Operator Grade III certification fee (2 employees)
14369	12/06/16	Synagro West, Inc.	2,310.00	Biosolids land application fee, October 2016
14370	12/06/16	Waters, Jeff	78.11	Employee Expense Reimb: CWEA Northern Safety Day
14371	12/07/16	Katherine Brouillet	639.22	Employee Expense Reimb: CSDA Board Secretary Conference
14372	12/07/16	Evoqua Water Tech LLC	405.00	Lab supplies
14373	12/07/16	IEDA, Inc.	755.00	Labor relations consulting, December 2016
14374	12/07/16	Navia Benefit Solutions	50.00	Monthly fee, November 2016
14375	12/07/16	Ben Northcroft	350.00	Employee Expense Reimb: SWRCB Operator Grade III exam
14376	12/07/16	Carlos Oblites	1,000.00	Employee expenses eligible for dental reimbursement
14377	12/07/16	William Ray Consulting LLC	10,125.00	Prof. Svcs.: Interim Lab Director, November 2016
14378	12/07/16	Thomas Fish Company	138.50	Lab supplies
14379	12/07/16	Thatcher Company of	4,657.40	Ferric Chloride (1 delivery)
14380	12/07/16	Total Waste Systems, Inc.	7,063.70	Biosolids hauling fee, November 2016
14381	12/07/16	Univar USA Inc	14,883.28	Sodium Hypochlorite (3 deliveries), Sodium Bisulfite (2 deliveries)
14382	12/07/16	Waste Management	16,414.93	Redwood Landfill biosolids reuse fee, November 2016
14383	12/07/16	Western Electricity Coordinati		VOID
14384	12/07/16	Workplace Answers	525.00	Employment law training: Diversity, Lawful Hiring (21 employees)
14385	12/09/16	Fisher Scientific	880.36	Lab supplies (7 invoices)
14386	12/09/16	Nicholas Gaunt	350.00	Employee Expense Reimb: Operator Grade III exam
14387	12/09/16	Kaman Industrial Technologies	79.85	Headworks screen gear box seals
14388	12/09/16	P.G.& E.	61.77	Electricity service for SF Drake site, 10/19-11/17/2016
14389	12/09/16	Brian Thomas	143.64	Employee Expense Reimb: CALPELRA Conference travel
14390	12/09/16	Waters, Jeff	230.00	Employee Expense Reimb: Safety shoes
14391	12/09/16	Western Electricity Coordinati	100.00	PG&E Interconnection Agreement Project, WREGIS number
14392	12/14/16	CalPERS	37,396.22	Retirement Pension Contribution: Agency and EPMC, PPE 12/03/2016 (Note C)
14393	12/14/16	California Public Employee	4,479.04	Contribution to Retiree Health Benefits Trust Fund, PPE 12/03/2016 (Note C)

Central Marin Sanitation Agency
 Operating Account Disbursements Register
 For the Month of December 2016

Check Number	Date	Vendor/Payee	Amount	Description
14394	12/14/16	California State Disbursement	314.76	EE Garnishment, PPE 12/03/2016 (Note A)
14395	12/14/16	ICMA Retirement Trust-457	4,983.00	Deferred compensation contributions, PPE 12/03/2016 (Note A)
14396	12/14/16	Navia Benefit Solutions	647.73	Flexible spending account, PPE 12/03/2016
14397	12/14/16	Nationwide Retirement	4,639.35	Deferred compensation contributions, PPE 12/03/2016 (Note A)
14398	12/14/16	Operating Engineers Local 3	1,203.58	MARA contributions, PPE 12/03/2016
14399	12/14/16	SEIU Local 1021	1,094.44	Union dues, PPE 12/03/2016
14400-14442	12/14/16	Award	10,400.00	CWEA 2016 Agency, Regional & Individual awards (42 employees)
14443	12/19/16	AireSpring	693.22	Telephone service, December 2016
14444	12/19/16	Allied Fluid Products Corp	242.62	Maintenance parts & supplies
14445	12/19/16	Amazing Solutions, Inc.	37.50	Prof Svcs: Accounting software support, November 2016
14446	12/19/16	American Sentry Systems, Inc.	210.00	Alarm service, July-December 2016
14447	12/19/16	AT&T Dataplan	393.04	Wireless service, 11/02-12/01/2016
14448	12/19/16	Brandon Tire	632.55	Replacement tires (4 vehicles)
14449	12/19/16	Katherine Brouillet	57.30	Employee Expense Reimb: office supplies
14450	12/19/16	Chavan & Associates LLP	1,600.00	Prof Svcs: FY15-16 Financial Audit, final billing
14451	12/19/16	ChemStation of Northern Cal.	2,974.34	Odor control masking agent
14452	12/19/16	Comcast	182.55	Internet service, 12/04/16-01/03/2017
14453	12/19/16	ERA (A Waters Company)	4,366.13	Analytical Lab testing services renewal
14454	12/19/16	Kit Groves	400.00	Employee Expense Reimb: Safety glasses
14455	12/19/16	Hagel Supply Co.	398.95	Utility supplies, November 2016
14456	12/19/16	Home Depot Credit Services	42.16	Maintenance parts & supplies, November 2016
14457	12/19/16	Inductive Automation	4,416.00	Annual technical support renewal for SCADA software
14458	12/19/16	Jackson's Hardware	184.86	Maintenance parts & supplies, November 2016
14459	12/19/16	JWC Environmental	10,569.95	SQSP PS Maint: Auger brushes (Note B)
14460	12/19/16	Kone Inc	126.35	Elevator monthly service, December 2016
14461	12/19/16	Lion Technology Inc.	795.00	Employee training: Hazardous Waste Management
14462	12/19/16	Lystek International LTD	11,951.68	Biosolids beneficial reuse, November 2016
14463	12/19/16	Marin Color Service	779.49	Paint supplies, November 2016
14464	12/19/16	Marin Independent Journal	200.75	Public Notice: Bid notice for SHB Ventilation Improvements Project
14465	12/19/16	Marin Sanitary Service	6,568.65	Yardwaste, grit, and rag box disposal service, November 2016
14466	12/19/16	Marin Office Supply	499.62	Office supplies, November 2016
14467	12/19/16	Marin Resource Recovery Center	105.00	Yardwaste disposal, November 2016
14468	12/19/16	Carlos Oblites	152.91	Employee Expense Reimb: office supplies
14469	12/19/16	Orchard Business/SYNCB	391.96	Maintenance parts & supplies, November 2016
14470	12/19/16	Rafael Lumber	227.78	Maintenance parts & supplies, October 2016
14471	12/19/16	Regional Government Svcs	4,740.00	Temporary Source Control employee, November 2016
14472	12/19/16	Ricoh USA Inc	318.72	Copier lease, 11/23-12/22/2016
14473	12/19/16	SWRCB FEES	48,522.00	Annual NPDES Permit fee, FY 16-17
14474	12/19/16	Ahn Ta	87.84	Employee Expense Reimb: office supplies
14475	12/19/16	Thatcher Company of	41.27	Ferric Chloride invoice adjustment
14476	12/19/16	Wine Country Balance	445.00	Lab equipment service
14477	12/19/16	Woodland Center Auto Supply	760.21	Maintenance parts for vehicles, November 2016
14478	12/21/16	CASH-PETTY CASH Replenishment	292.40	Petty cash replenishment
14479	12/22/16	Caltest Analytical Laboratory	2,731.53	Lab analyses (5 invoices)
14480	12/22/16	City Electric Supply	17.91	Maintenance parts & supplies
14481	12/22/16	CWEA TCP	516.00	CWEA membership fees (3 employees)
14482	12/22/16	Easy Automotive	50.00	Smog check for one vehicle
14483	12/22/16	Fastenal Company	1,701.31	Maintenance parts & supplies (4 invoices)
14484	12/22/16	Fisher Scientific	316.18	Lab supplies
14485	12/22/16	Galco Industrial Electronics	483.85	Electrical supplies
14486	12/22/16	Grainger	1,576.43	Maintenance parts & supplies (4 invoices)

Central Marin Sanitation Agency
 Operating Account Disbursements Register
 For the Month of December 2016

Check Number	Date	Vendor/Payee	Amount	Description
14487	12/22/16	Horizon Dist. Inc	149.93	Maintenance parts & supplies
14488	12/22/16	Kaman Industrial Technologies	1,970.96	Primary clarifiers parts for inventory (2 invoices)
14489	12/22/16	McMaster-Carr Supply Co.	2,632.11	Maintenance parts & supplies (14 invoices); Paradise PS maint: Replacement parts (3 invoices) (Note B)
14490	12/22/16	Praxair Distribution, Inc.	96.58	Lab supplies
14491	12/22/16	R & B Company	383.81	Repair clamps
14492	12/22/16	Ryan Herco Flow Solutions	303.05	Lab supplies (2 invoices)
14493	12/22/16	Safety-kleen Systems, Inc	254.31	Hazardous waste disposal
14494	12/22/16	Shamrock Materials, Inc.	127.30	Propane (2 invoices)
14495	12/22/16	Simonds Machinery Co.	7,608.68	SD2 PS Maint: Grinder pump (Note B)
14496	12/22/16	VWR International	185.19	Maintenance parts & supplies (2 invoices)
14497	12/22/16	Water Components & Bldg. Supp	112.44	Maintenance parts & supplies (2 invoices)
14498	12/22/16	Western Exterminator Co., Inc.	163.50	Pest control, November 2016
14499	12/22/16	CAL-CARD	11,752.67	State of California Purchase Card, October & November 2016
14500	12/22/16	CalPERS	39,751.54	Retirement Pension Contribution: Agency and EPMC, PPE 12/17/2016 (Note C)
14501	12/22/16	California Public Employee	4,479.04	Contribution to Retiree Health Benefits Trust Fund, PPE 12/17/2016 (Note C)
14502	12/22/16	California State Disbursement	314.76	EE Garnishment, PPE 12/17/2016 (Note A)
14503	12/22/16	ICMA Retirement Trust-457	4,983.00	Deferred compensation contributions, PPE 12/17/2016 (Note A)
14504	12/22/16	Navia Benefit Solutions	646.65	Flexible spending account, PPE 12/17/2016
14505	12/22/16	Nationwide Retirement	4,436.35	Deferred compensation contributions, PPE 12/17/2016 (Note A)
14506	12/22/16	Operating Engineers Local 3	1,203.58	MARA contributions, PPE 12/17/2016
14507	12/22/16	SEIU Local 1021	1,094.44	Union Dues, PPE 12/17/2016
14508	12/23/16	Amazon	1,006.42	Computer equipment, November 2016
14509	12/23/16	AT&T	284.69	Fax and emergency phone service, 12/07/2016-01/06/2017
14510	12/23/16	CWEA TCP	344.00	CWEA membership fees (2 employees)
14511	12/23/16	Evoqua Water Tech LLC	431.85	Lab supplies
14512	12/23/16	Liebert Cassidy Whitmore	2,300.00	Annual membership fee
14513	12/23/16	Marin Municipal Water District	1,328.50	Water service, 10/08-12/08/2016 (3 invoices)
14514	12/23/16	M-I LLC	14,587.38	Hydrogen Sulfide filter media
14515	12/23/16	Univar USA Inc	12,890.01	Sodium Bisulfide (2 deliveries); Sodium Hypochlorite (2 deliveries)
14516	12/23/16	USP Technologies	10,231.00	Hydrogen Peroxide (1 delivery)

Payments by Automatic Clearing House:

101106	12/02/16	Payments to 24 retirees	6,967.10	Reimbursement for retiree health benefits
122304	12/22/16	Michael Owen Boorstein	300.00	Stipend for 11/10 & 12/13/2016 Board Meeting & NBWA
122304	12/22/16	Maribeth Bushey	100.00	Stipend for 12/13/2016 Board Meeting
122304	12/22/16	Diane L. Furst	100.00	Stipend for 12/13/2016 Board Meeting
122304	12/22/16	Thomas E Gaffney	100.00	Stipend for 12/13/2016 Board Meeting
122304	12/22/16	Kathleen Ohlson Hartzell	100.00	Stipend for 12/13/2016 Board Meeting
121316	12/14/16	EDD	11,833.41	State & SDI Taxes, PPE 12/03/2016
122316	12/23/16	EDD	12,449.43	State & SDI Taxes, PPE 12/17/2016

Grand Total 541,717.44

Notes:

A: Not an Agency Expense. Expense funded through Payroll deduction.

B: Not an Agency Expense. CMSA will be reimbursed for this expense.

C: CMSA is partially reimbursed for this expense per Employee Labor Agreements.

Central Marin Sanitation Agency
Schedule of Investments
As of Month Ending December 31, 2016

Description (1)	Book Value (2)	Market Value (3)	Agency Reserve Target for June 30, 2017
I. Investments managed by California Asset Management Program (CAMP)			
<u>Money Market Funds (< 1 year in maturity)</u>			
<u>CAMP Cash Reserve Pool, 0.72%</u>			
b1. Agency Unrestricted Reserve: Operating	\$ 8,517.17	\$ 8,517.17	See LAIF
b2. Agency Unrestricted Reserve: Emergency	\$ 250,000.00	\$ 250,000.00	\$ 250,000
b3. Agency Unrestricted Reserve: Insurance	\$ 100,000.00	\$ 100,000.00	\$ 100,000
Total with CAMP	\$ 358,517.17	\$ 358,517.17	
II. Investments managed by Local Agency Investment Fund (LAIF)			
<u>Money Market Funds (< 1 year in maturity)</u>			
<u>Local Agency Investment Fund (LAIF), 0.55% (estimate)</u>			
a. Current Year Operating	\$ 1,069,342.74	\$ 1,069,342.74	
b1. Agency Unrestricted Reserve: Operating	\$ 2,755,784.83	\$ 2,755,784.83	\$ 2,764,302
c1. Capital Reserves (Restricted)	\$ 1,171,704.85	\$ 1,171,704.85	\$ 992,023
c2. Capital Reserves (Unrestricted)	\$ 9,406,760.00	\$ 9,406,760.00	\$ 6,128,566
Total with LAIF	\$ 14,403,592.42	\$ 14,403,592.42	
TOTAL INVESTMENTS	\$ 14,762,109.59	\$ 14,762,109.59	
<u>Amount designated for Capital Reserves</u>			
1. CAMP	\$ -	\$ -	
2. LAIF	\$ 10,578,464.85	\$ 10,578,464.85	\$ 7,120,589
Total	\$ 10,578,464.85	\$ 10,578,464.85	\$ 7,120,589

COLUMN DEFINITIONS:

- (1) Description - the issuer, type of security and interest rate
- (2) Book Value - The sum of Original Cost and Accumulated Amortization
- (3) Market Value - An estimate of the value at which the principal would be sold from a willing seller to a willing buyer as-of the close of the last business day of the month
Market values are per the fiscal agent's respective monthly statements.

NOTES:

Capacity connection fees collected each fiscal year are the initial source of funding for capital projects. Capital reserve restricted and unrestricted balances reflect amounts remaining after expenditures for CIP to date, including \$79,317 in capacity charges collected to date.

Statement of Compliance

The above portfolio of investments is in compliance with the Agency's investment policy, adopted at the July 22, 2015 Commission meeting, and California Government Code Section 53600. In addition, the Agency does have the financial ability to meet its cash flow requirements for the next six months.



BOARD MEMORANDUM

January 6, 2017

To: CMSA Commissioners and Alternates

From: Chris Finton, Treatment Plant Manager *CF*

Approved: Jason Dow, General Manager

Subject: December 2016 NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report

Recommendation: Accept the December 2016 NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report.

I. NPDES Permit Compliance

Our NPDES permit testing for December showed that the CMSA treatment plant effluent was in compliance with all permit limits. The Monthly Compliance Summary Table shows the results by permitted parameter, the sample's frequency, the sample results, and the permit limit. We successfully passed the December 96-hour flow through bioassay test.

Enterococcus samples were collected during two blend events, one beginning December 9 and the second event beginning December 15. CMSA's NPDES permit specifies monitoring for enterococcus bacteria during dry weather months and for each wet weather blend event, to verify compliance with established effluent limits. The enterococcus geometric mean for December was 7.0 MPN, well below our monthly limit of 35 MPN.

II. Influent Flow

In December, central Marin County experienced cooler daily temperatures and wet weather storm events produced a total of 8.13 inches of rain as recorded in San Rafael, and the Agency recorded a peak flow of 119.3 MG on December 15. The treatment plant exceeded the maximum secondary capacity of 30 MGD twice during the month, and reported two blend events on the Agency's website. The facility's average daily influent flow was 17.9 MGD.

The CMSA treatment plant and each satellite collection agency's daily average and total monthly influent flows are shown in the table below:

December Monthly Flows	San Rafael (SRSD)	Ross Valley (SD#1)	San Quentin (SQSP)	Corte Madera (SD#2)	CMSA Plant Total
Average Daily (MGD)	6.5 MGD	9.5 MGD	0.36 MGD	1.6 MGD	17.9 MGD
Total for Month (MG)	200.7 MG	296.4 MG	11.1 MG	48.9 MG	557.1 MG
Percent of Flow	36.0 %	53.2 %	2.0 %	8.8 %	100 %

The following table shows the CMSA plant and each satellite collection agency's peak wet weather flows:

Wet Weather Peak Flows*	San Rafael (SRSD)	Ross Valley (RVSD)	San Quentin	Corte Madera (SD#2)	CMSA
12/15 Total Days Flow	24.0 MG	31.9 MG	.83 MG	4.1 MG	60.8 MG
Peak Flow Rate	50.6 MGD	68.4 MGD	3.3 MGD	11.3 MGD	119.3 MGD

*The time for peak flows and maximum day's flow varies depending on an area's rainfall during the storm

III. Treatment Process

In December, a series of medium sized rain events and one very large storm event necessitated the transition of treatment processes and equipment between dry and wet weather modes of operation. The Mixed Liquor Suspended Solids (MLSS) inventory averaged 1,408 mg/l, a 7.5% decrease in biomass from last month. The slight decrease in biomass aligned with the process control decision to carry between 1,300 and 1,500 mg/L to treat larger volumes of influent during storm periods.

Graph #3 shows the Total Suspended Solids (TSS), which is a good indicator of the effluent quality. The TSS monthly average in December was 5.5 mg/l, which is 36.7% of our Key Performance Indicator (KPI) of 15 mg/l, and is 18.3% of our permit's monthly average limit of 30 mg/l. The higher than normal TSS value, 24.8 mg/l, recorded on December 16 was due to the December 15 storm event and the large volume of wastewater treated.

Graph #4 shows the coliform most probable number (MPN), which represents the effectiveness of the disinfection process. One of the twenty four coliform samples collected in December was above our KPI target of 30 MPN, (12/15 = 50 MPN), but remained well below our daily limit of 10,000 MPN. The higher than normal sample was collected on December 15 during the above mentioned extremely large storm event. The total coliform monthly geometric mean for December was 4.0 MPN, well below our permit's monthly limit of 240 MPN.

IV. Maintenance Activities

The cogeneration system produced 83.7% of the Agency's power in December, and Marin Clean Energy (MCE) supplied the balance. The generator, as indicated on Graph #8, was in service and produced green power for the majority of the month. The engine was shut down on December 28 to inspect cylinders and heads after discovering engine coolant in two of the sixteen cylinder heads. As a scheduled in-frame major maintenance project was ok to start on January 3, 2017, the cogenerator was left off-line.

In addition to cogeneration maintenance, staff was also able to complete scheduled project work and monthly preventative maintenance tasks. Work included installing a new sludge recirculation grinder cartridge in the digester basement; cleaning all of the check valves on the sludge discharge lines in gallery "A"; replacing a diverter gate pneumatic ram on a centrifuge; replacing wear plates and rotary lobes in thickened waste (TWAS) pump 1; and cleaning both reclaimed water strainers after the December 15 storm event.

Attachment

- December 2016 NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report

NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report

December 2016



Biogas conditioning media replacement



Ross Valley Interceptor assessment "Smart ball" extraction from Agency headworks

Biogas System Maintenance and Interceptor Condition Assessment Work

Monthly Compliance Summary Table

Central Marin Sanitation Agency

December 2016

Final Effluent Monitoring

Parameter	Frequency	Units	Results	Limit
Carbonaceous BOD Highest Weekly Average	Weekly	mg/L	5.8	Maximum 40
Carbonaceous BOD Monthly Average	Monthly	mg/L	3.9	Maximum 25
Carbonaceous BOD Monthly Removal Rate	Monthly	%	98.2	Minimum 85
Total Suspended Solids Highest Weekly Average	Weekly	mg/L	7.7	Maximum 45
Total Suspended Solids Monthly Average	Monthly	mg/L	5.5	Maximum 30
Total Suspended Solids Monthly Removal Rate	Monthly	%	98.0	Minimum 85
Chlorine Residual Instant Limit	Instant	mg/L	<0.1	Maximum 0.0
Ammonia Monthly Average	Monthly	mg/L	20.4	Maximum 60
Ammonia Maximum Daily	Daily	mg/L	23.2	Maximum 120
pH Lower Limit	Continuous		6.2	Minimum 6
pH Upper Limit	Continuous		7.4	Maximum 9
Bacteriological Analysis				
Total Coliform Monthly Geometric Mean	3 X Week	MPN/100mL	4.0	Maximum 240
Total Coliform Daily Maximum	3 X Week	MPN/100mL	50	Maximum 10,000
Enterococcus Monthly Geometric Mean	Monthly	MPN/100mL	7.0	Maximum 35
Flow Through Bioassay				
Acute Toxicity 11 Sample 90th Percentile	Monthly	% survival	100	Minimum 70
Acute Toxicity 11 Sample Median	Monthly	% survival	100	Minimum 90
Metals Analysis				
Copper Daily Limit	Monthly	ug/L	4.1	Maximum 85
Copper Monthly Average	Monthly	ug/L	4.1	Maximum 49
Cyanide Daily Limit	Monthly	ug/L	ND	Maximum 41
Cyanide Monthly Average	Monthly	ug/L	ND	Maximum 21
Mercury Weekly Average	Weekly	ug/L	0.0034	Maximum 0.072
Mercury Monthly Average	Monthly	ug/L	0.0034	Maximum 0.066
Mercury Monthly Loading	Monthly	kg/mo	0.0032	
Mercury Annual Loading (watershed permit)	Jan-Dec	kg/yr	0.0328	Maximum 0.11
Semi-Annual Analysis				
Dioxin - Total Equivalents (TEQ) Daily Maximum	every 6 mos	ug/L	*	Maximum 2.8E-08
Dioxin - Total Equivalents (TEQ) Monthly Average	every 6 mos	ug/L	*	Maximum 1.4E-08
Chronic Bioassay Toxicity	every 3 mos	toxicity units	*	Maximum 20
Chronic Bioassay Toxicity (3 sample median)	every 3 mos	toxicity units	*	Maximum 10
Polychlorinated Biphenyls (PCBs) Daily Limit	every 6 mos	ug/L	ND	Maximum 0.017
Polychlorinated Biphenyls (PCBs) Monthly Limit	every 6 mos	ug/L	ND	Maximum 0.012
Quarterly Analysis				
Oil and Grease Daily Limit	Quarterly	mg/L	*	Maximum 20
Oil and Grease Monthly Average	Quarterly	mg/L	*	Maximum 10
Flow Analysis				
	Daily Max	Hourly Max	5 minute Max	Monthly Average
Effluent Flow	55.5	107.8	109.9	15.6
Influent Flow	60.8	113.3	119.3	17.9
# Days Blended			2	

* Monitoring Not Required This Month
 X Data not available at report time

ND = None Detected
 DNQ = Detected but Not Quantified

Glossary of Terms
NPDES Permit Compliance Summary Table

- **Ammonia:** CMSA's NPDES permit requires that we analyze the final effluent for ammonia due to its toxicity to aquatic organisms and potential for providing nutrients for algae in the San Francisco Bay. The permit has a maximum daily limit of 60 mg/L and a monthly average limit of 120 mg/L. The maximum daily limit is the number that cannot be exceeded on any sample and the monthly average applies to all samples collected in any month (although usually we only are required to take one sample).
- **Biochemical Oxygen Demand (BOD):** The amount of dissolved oxygen needed by microorganisms (biomass) to stabilize organic material in the effluent. The permit limits for our effluent require that removal of 85% influent BOD, and meet a weekly average of less than 40 mg/L and a monthly average of less than 25 mg/L BOD.
- **Chlorine Residual:** The secondary effluent is disinfected with hypochlorite (chlorine "bleach"), and then the residual chlorine is neutralized with sodium bisulfite to protect the Bay environment. The final effluent chlorine residual limit is 0.0 mg/l, which is monitored continuously.
- **Bacteria:** Coliform and enterococcus bacteria are the indicator organisms for the determination of the effectiveness of the disinfection process.
- **Dioxin - Total Equivalent**s - These are 17 dioxin-like compounds that we analyze for twice per year which have permit limits.
- **Fats, Oil and Grease** - Quarterly we are required to monitor our effluent for Fats, Oils, and Grease.
- **Flow Through Bioassay:** A 96-hour test in which we test the toxicity of our effluent to young rainbow trout (15-30 days old) in a flow-through tank to determine their survivability under continuous exposure to CMSA effluent. The permit requires that we maintain a 90th percentile survival of at least 70% and an 11-sample median survival of at least 90%. In layman's terms, this means that out of the last 11 samples, only one bioassay may fall below 70% survival, and the middle value—when all 11 samples are placed in numerical order—must be at least 90%.

Metals Analysis: Our permit requires that we analyze our effluent for many different metals on a monthly basis. We have permit limits for three of the metals. The limits are stated as a maximum daily limit and a monthly average limit.

- **pH:** pH is a measurement of acidity, with pH 7.0 being neutral and higher pH values being basic and lower pH values being acidic. Our permit effluent pH must stay within the range of 6.0 to 9.0, which we monitor continuously.
- **Total Suspended Solids (TSS):** Measurement of suspended solids in the effluent. Our permit requires that we remove at least 85% of the influent TSS and that the effluent limit is less than 45 mg/L as a weekly average and less than 30 mg/L as a monthly average.

Executive Summary Process Performance Data
December 2016

The removal efficiencies shown are based on the monthly average of the following treatment processes that were in service.

Primary Clarifier Performance

Average Total Suspended Solids (TSS) in:	<u>224</u>	mg/l	Expected removal efficiencies as outlined in Metcalf & Eddy Wastewater Engineering Manual
Average TSS out:	<u>86</u>	mg/l	
Average Percent Removal Achieved:	<u>61.9</u>	%	Design 50-70% Removal
Average Total Biochemical Oxygen Demand (BOD) in:	<u>215</u>	mg/l	Design 25-40% Removal
Average BOD out:	<u>127</u>	mg/l	
Average Percent Removal Achieved:	<u>40.9</u>	%	
Average Plant Influent Flows:	<u>17.9</u>	MGD	

Biotower Performance

Average TSS out:	<u>85</u>	mg/l	Design 25-30% Removal
Average BOD out:	<u>100</u>	mg/l	
Average Percent BOD Removal Achieved:	<u>21.3</u>	%	

Aeration Tanks/Activated sludge

Dissolved Oxygen set point:	<u>2.0</u>	mg/l
Average MLSS:	<u>1,408</u>	mg/l
Average MCRT:	<u>4.6</u>	Days
Average SVI:	<u>212</u>	

Secondary Clarifiers

Average WAS concentration:	<u>8,199</u>	mg/l
----------------------------	--------------	------

Final Effluent

Average Effluent TSS for the month was:	<u>5.5</u>	mg/l	(Maximum Limit: 30mg/l)
Week #1 weekly average	<u>6.5</u>		(Maximum Limit: 45mg/l)
Week #2 weekly average	<u>5.9</u>		"
Week #3 weekly average	<u>7.7</u>		"
Week #4 weekly average	<u>2.9</u>		"
Monthly average TSS removal efficiency through the plant was:	<u>98</u>	%	(Minimum Limit: 85%)
Average Effluent BOD was:	<u>3.9</u>	mg/l	(Maximum Limit: 25mg/l)
Week #1 weekly average	<u>5.8</u>		(Maximum Limit: 40mg/l)
Week #2 weekly average	<u>4.5</u>		"
Week #3 weekly average	<u>2.0</u>		"
Week #4 weekly average	<u>3.4</u>		"
Monthly average BOD removal efficiency through the plant was:	<u>98.2</u>	%	(Minimum Limit: 85%)
Disinfection Dosing Rate:	<u>6.3</u>	mg/l	monthly average
Total Coliform Monthly Geometric Mean:	<u>4.0</u>	MPN	(Maximum 240)
The Daily Maximum Total Coliform Count for the month was:	<u>50</u>	MPN	(Maximum 10,000)
Enterococcus Monthly Geometric Mean:	<u>7.0</u>	MPN	(Maximum 35 MPN)
Effluent pH for the month was:			(Min 6.0)
Min	<u>6.2</u>		
Max	<u>7.4</u>		(Max 9.0)

Digester Treatment

Average Thickened Waste Concentration from the RDT was:	<u>6.4</u>	%	
Average percent of Volatile Solids destroyed was:	<u>62.2</u>	%	
Cubic feet of biogas produced was:	<u>8,895,239</u>	(Total)	<u>286,943</u> (Daily Average)
Average temperature of the digester was:	<u>99</u>	degrees Fahrenheit	

Executive Summary Process Performance Data
December 2016

The removal efficiencies shown are based on the monthly average of the following treatment processes that were in service.

Dewatering

Average Centrifuge Feed concentration was:	<u>2.6</u>	%
Average Biosolids concentration was:	<u>25.9</u>	%
Average TSS of the Centrate was:	<u>0.034</u>	%
Solids capture of the Centrifuge was:	<u>98.60</u>	%
Polymer use per Dry ton of biosolids was:	<u>17.85</u>	#/dry ton
The average polymer feed rate per run was	<u>3.81</u>	gpm
Average concentration of the polymer batches was:	<u>0.33</u>	%
Average sludge feed rate per run was:	<u>60.9</u>	gpm

Comments:

The treatment plant has been running well with final effluent being of very good quality.

Graph #1:

Depicts the total influent flow (from all collection agencies) entering the treatment plant. The red graph line represents total influent flows; and the blue graph line depicts San Rafael rain gauge recordings for the month. The total days flow for December 15 was 60.8 million gallons and 3.65 inches of rain was received in the 19.5 hour storm event.

Graph #2:

Depicts individual collection member agency flows. The Y-axis is in the wet weather flow range of 0-40 MGD.

Graph #3:

Depicts the total suspended solids in the effluent. Our monthly average was 5.5 mg/l vs our KPI of 15 mg/l and permit monthly average limit of 30 mg/l. The higher value recorded on December 16 is attributed to the sheer volume of water treated by the Agency on December 15.

Graph #4:

Depicts the coliform most probable number (MPN) results which are an indication of the performance of the disinfection system. The monthly Total Coliform Geometric Mean was 4 MPN through December, which is less than our KPI median of 30 MPN and permit limit of 240 MPN. The higher KPI value recorded, 50 MPN, is attributed to the December 15 storm event.

Graph #5:

Depicts the effluent BOD which is measuring the oxygen demand of the wastewater. The December effluent BOD average was 3.9 mg/l, well below our NPDES limits of 40 mg/l weekly and 25 mg/l for the month.

Graph #6:

Depicts the degree to which the biosolids have been dewatered. Our biosolids % concentration averaged 25.9% and exceeded our KPI of 25% for the entire month of December.

Graph #7:

Depicts the amount of Biogas that is produced in the digesters, and then used to produce electricity. Biogas production in December averaged 286,943 cubic feet per day, which exceeded our monthly KPI of 200,000 cubic feet per day.

Graph #8:

This graph depicts the amount of energy produced through co-generation versus the energy purchased from Marin Clean Energy (MCE) for Agency operations. The cogeneration engine produced 83.7% of the Agency's power in December. The cogeneration engine was removed from service on December 28 as depicted on graph 8.

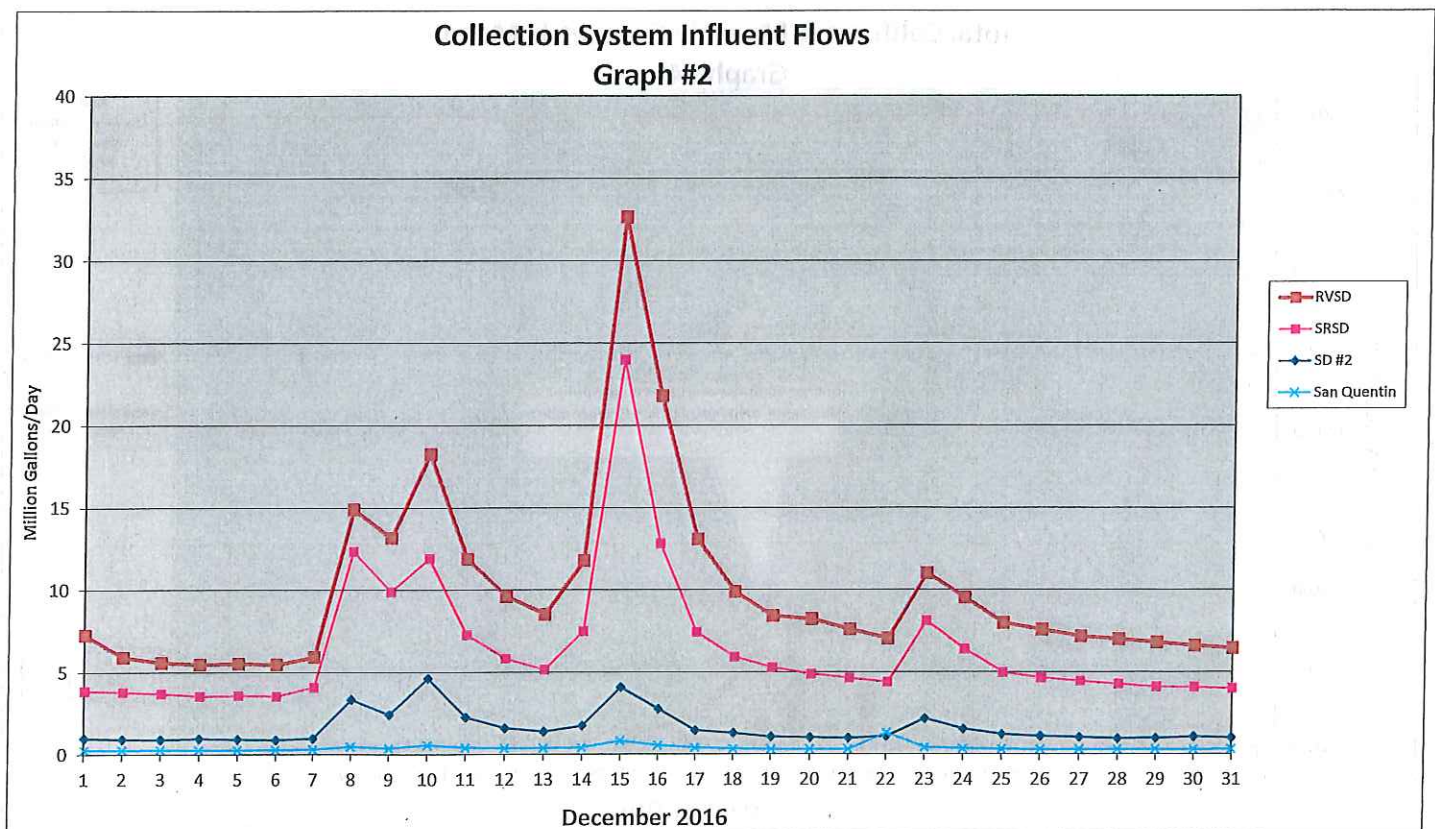
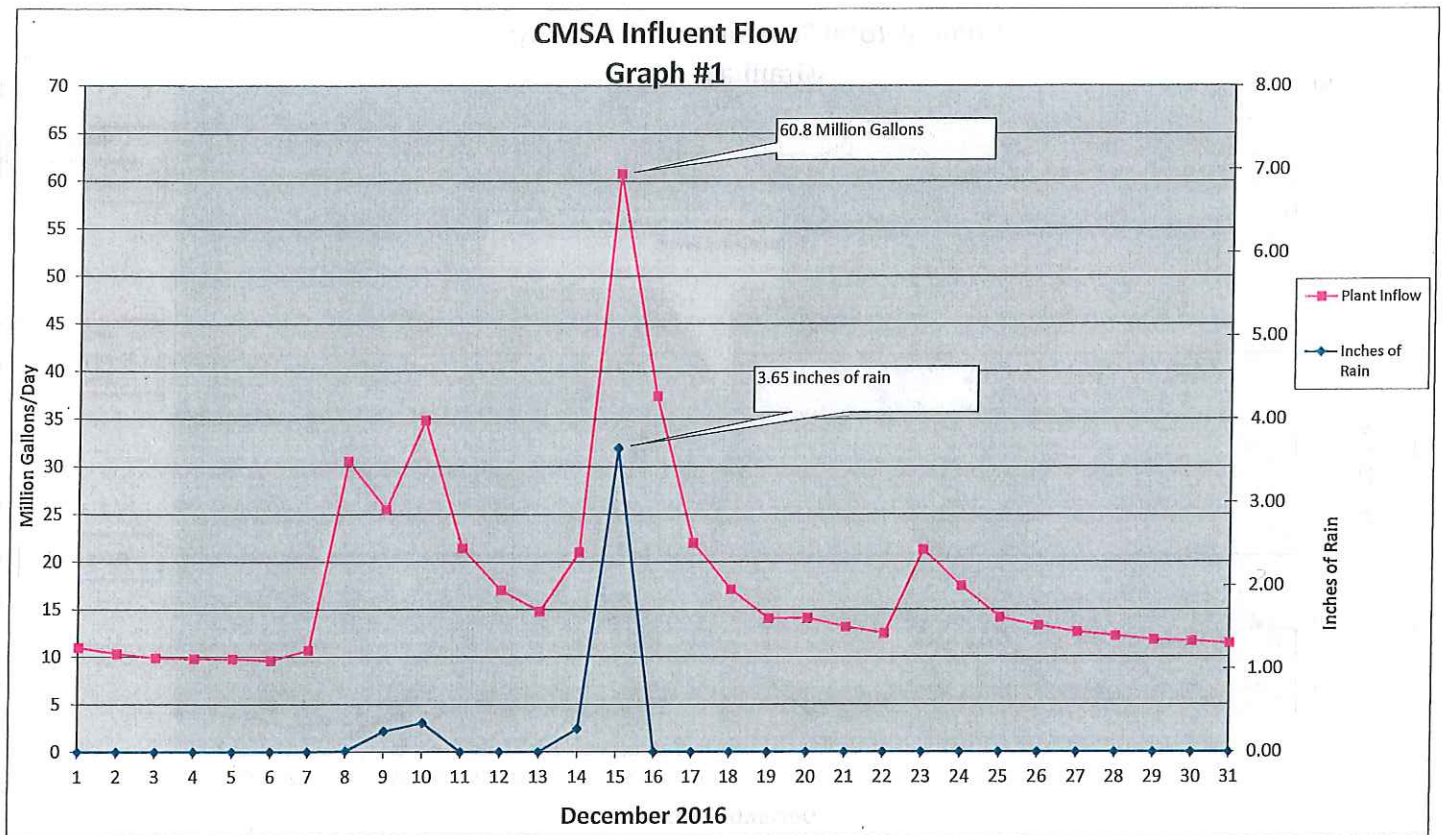
Glossary of Terms Process Performance Data Sheet

- **Aeration Tanks:** A biological process that takes place after the biotowers, where biomass (microorganisms) is mixed with the wastewater to feed on dissolved and suspended organic material. High speed blowers are used to provide compressed air to mix the tank contents.
- **Anaerobic Digesters:** In the anaerobic digestion process, organic material removed in the primary and secondary clarifiers is digested by anaerobic bacteria. The end products are methane, carbon dioxide, water, stabilized organic matter, and some inorganic material.
- **Biosolids:** Anaerobically digested solids that are removed from the two digesters, dewatered, and then beneficially reused. Beneficial reuse may include landfill alternate daily cover (ADC), land application in the summer as a soil amendment and fertilizer, or converted into a liquid fertilizer for agricultural applications.
- **Biotower:** A biological treatment process, occurring after the primary clarifiers and before the aeration tanks, in which the wastewater trickles over a biomass-covered media. The biomass feeds on the dissolved and suspended solids in the wastewater.
- **Centrifuge:** Process equipment used to dewater biosolids prior to beneficial reuse.
- **Cogeneration System:** A system comprised of a dual-fuel engine coupled to an electric generator that is used to produce energy to power the Agency facilities. Fuels the system uses are methane biogas produced in the anaerobic digesters and, when biogas is not available, purchased natural gas. As well as generating electricity, the system supplies heat for plant processes and building heating.
- **Chlorine Contact Tanks (CCTs):** The final treatment process is disinfection and de-chlorination. The CCTs allow contact time for injected chlorine solution to disinfect the wastewater. Sodium bisulfite, the de-chlorination chemical, is introduced at the end of the CCTs to neutralize any residual chlorine to protect the San Francisco Bay environment.
- **Rotary Drum Thickener (RDT):** Waste activated sludge removed from the secondary clarifiers is thickened in rotary drum thickeners before being transported to the anaerobic digesters. Thickening removes some of the sludge's water content, to decrease hydraulic loading to the digesters.
- **Final Effluent:** After all the treatment processes are completed, the final effluent is discharged into to central San Francisco Bay through a 10,000-foot-long deep-water outfall.
- **Mean Cell Residence Time (MCRT):** An expression of the average time that a microorganism will spend in the secondary treatment system.
- **Mixed Liquor Suspended Solids (MLSS):** The liquid in the aeration tanks is called MLSS and is a combination of water, solids, and microbes. Suspended solids in the MLSS measured in milligrams per liter (mg/l).

- **Most Probable Number (MPN):** Concentrations, or number of colonies, of total coliform bacteria are reported as the “most probable number.” The MPN is not the absolute count of the bacteria but a statistical estimate of their concentration.
- **Polymer:** Polymer is added to digested sludge prior to dewatering to improve solids coagulation and water separation.
- **Primary Clarifier:** A physical (as opposed to biological) treatment process where solids that settle or float are removed and sent to the digesters for further processing.
- **Return Activated Sludge (RAS):** The purpose of returning activated sludge (biomass) to the aeration tanks is to maintain a sufficient concentration of microbes to consume the wastewater’s dissolved solids.
- **Secondary Clarifiers:** Provides settling for the biomass after aeration. Most of the settled biomass is returned to the aeration tank as return activated sludge (RAS) and some is sent to the RDT unit as waste activated sludge.
- **Sludge Volume Index (SVI):** This is a calculation used to indicate the settling ability of the biomass in the secondary clarifiers.
- **Thickened Waste Activated Sludge (TWAS):** Waste activated sludge is thickened in the RDTs, and then the TWAS product is pumped to the digester for processing.
- **Volatile Solids:** Organic content of the wastewater suspended solids.
- **Waste Activated Sludge (WAS):** Biomass that is removed from the secondary clarifiers pumped to the RDTs for thickening.

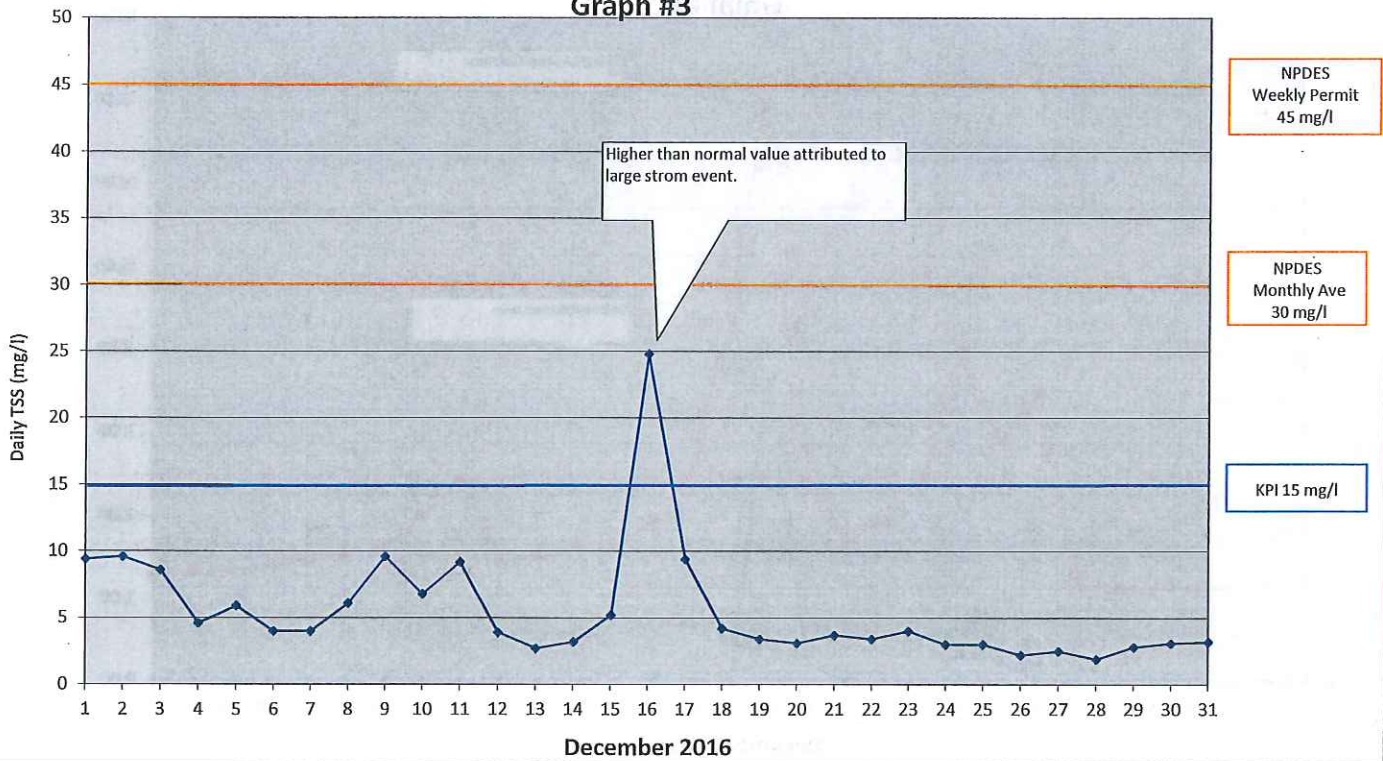
Units of Measurement

- kg/month (Kilograms per Month): 1 kilogram = 2.205 lbs.
- KPI (Key Performance Indicators): The Agency’s process performance goals.
- Kwh (Kilowatt Hours): A unit of electric power equal to using 1 Kw for 1 hour.
- Milligrams per Liter (mg/L): A measure of the concentration by weight of a substance per unit volume. For practical purposes, one mg/L is equal to one part per million (ppm).
- MPN/100mL (Most Probable Number per 100 milliliters): Statistical estimate of a number per 100 milliliters of a given solution.
- Percent by Mass (% by mass): A measure of the combined mass of a solute + solvent.
- Percent by Volume (% by vol): A measure of the volume of a solution.
- ug/L (Micrograms per Liter of Solution): Mass per unit volume.



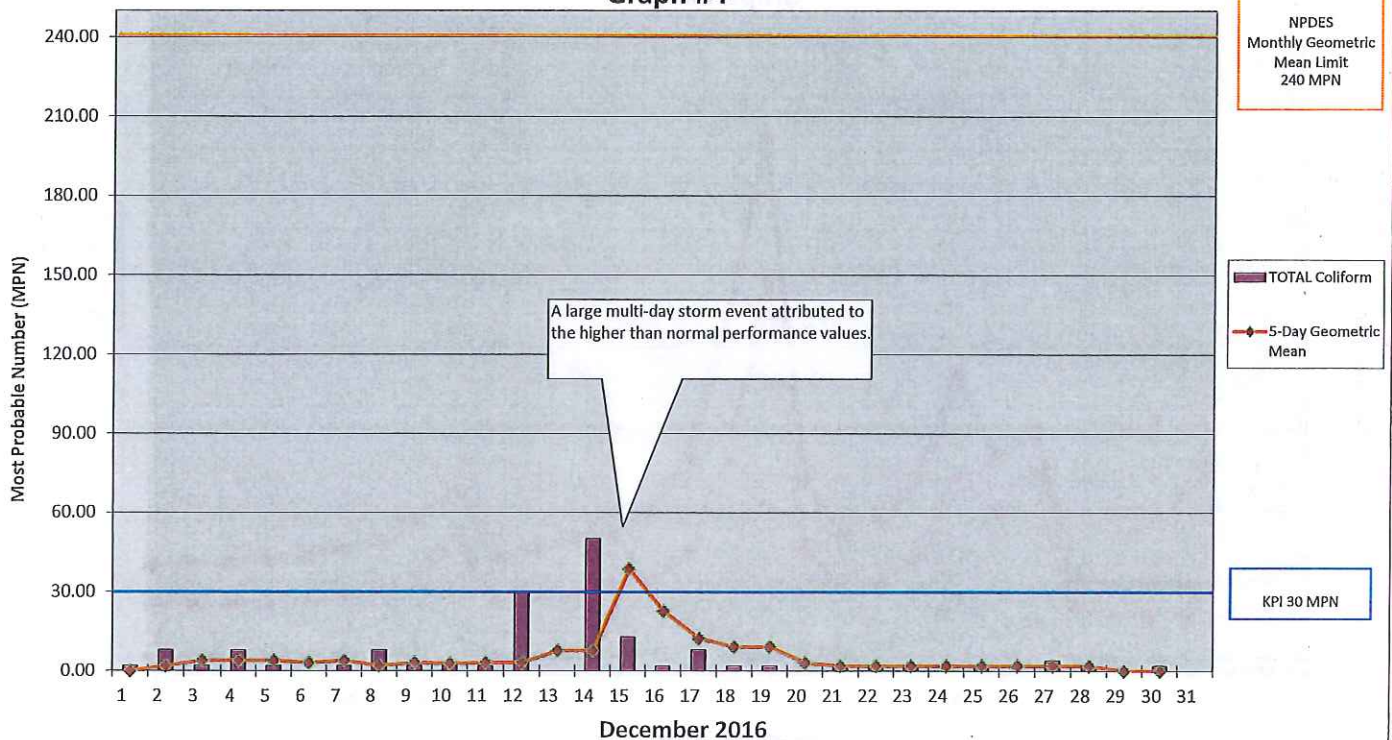
Effluent Total Suspended Solids (TSS)

Graph #3



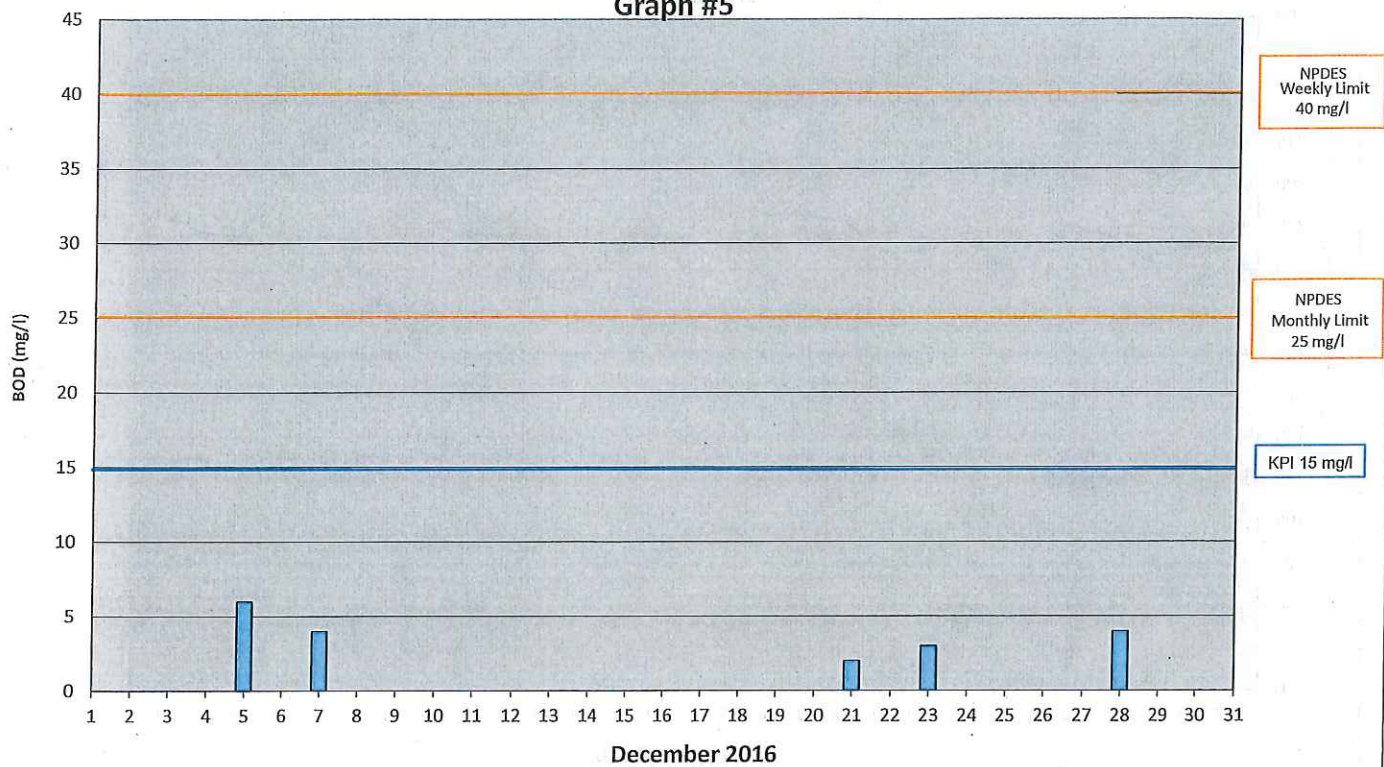
Total Coliform & Monthly Geometric Mean

Graph #4



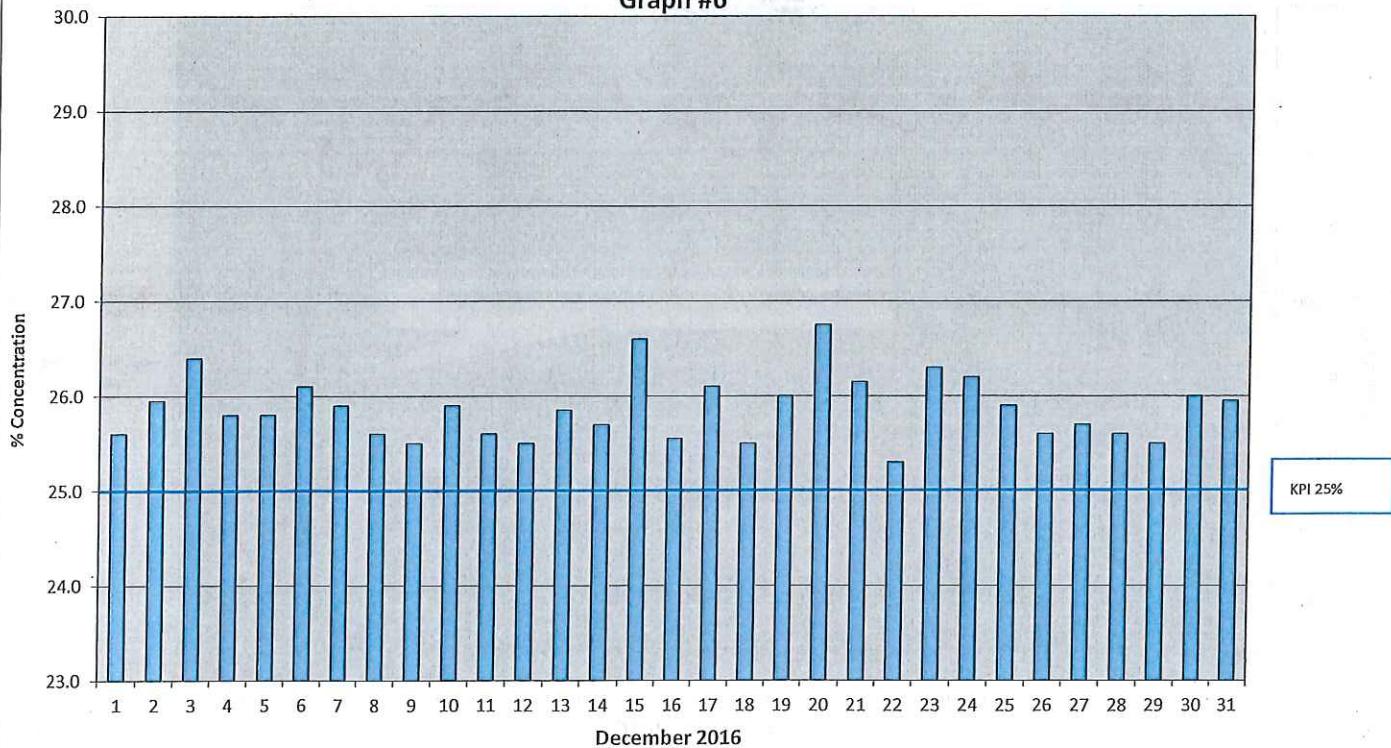
Effluent Biological Oxygen Demand (BOD)

Graph #5

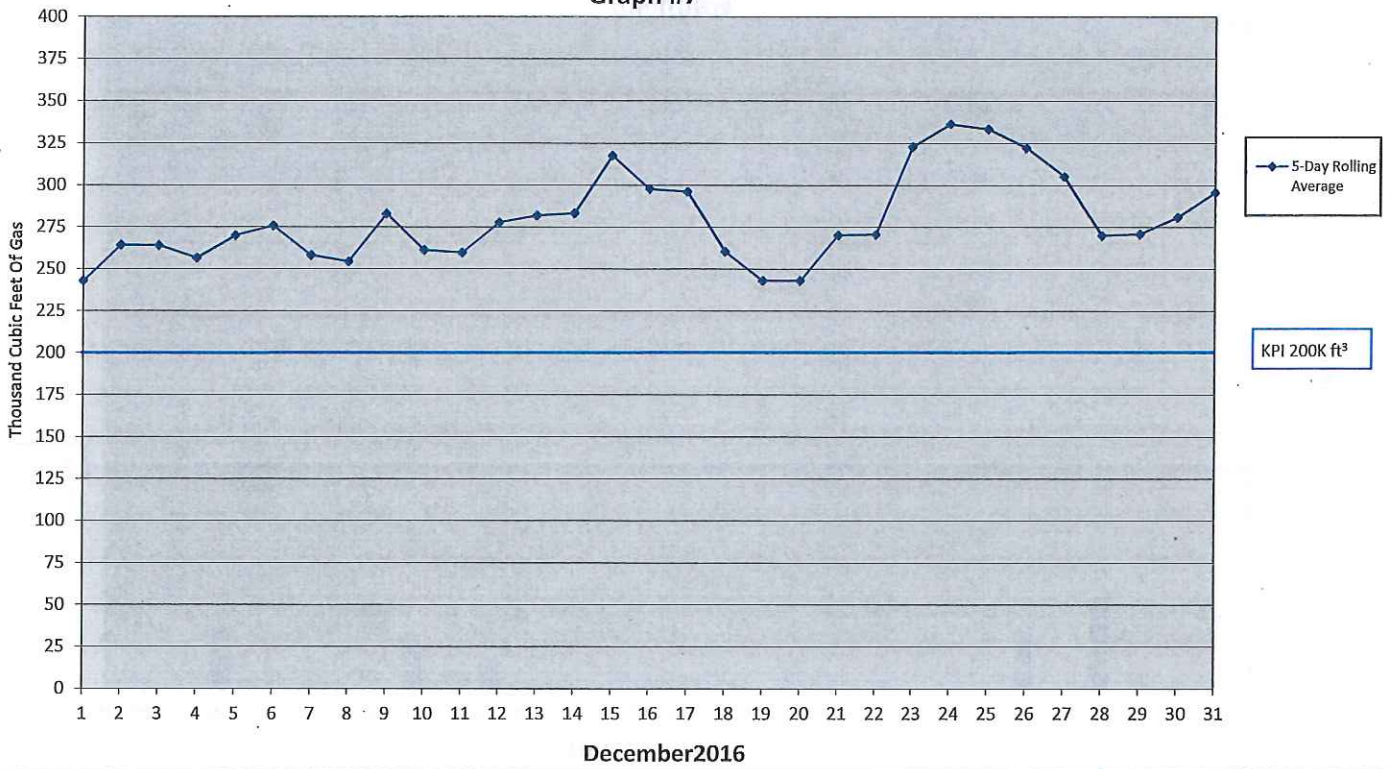


Biosolids Concentration

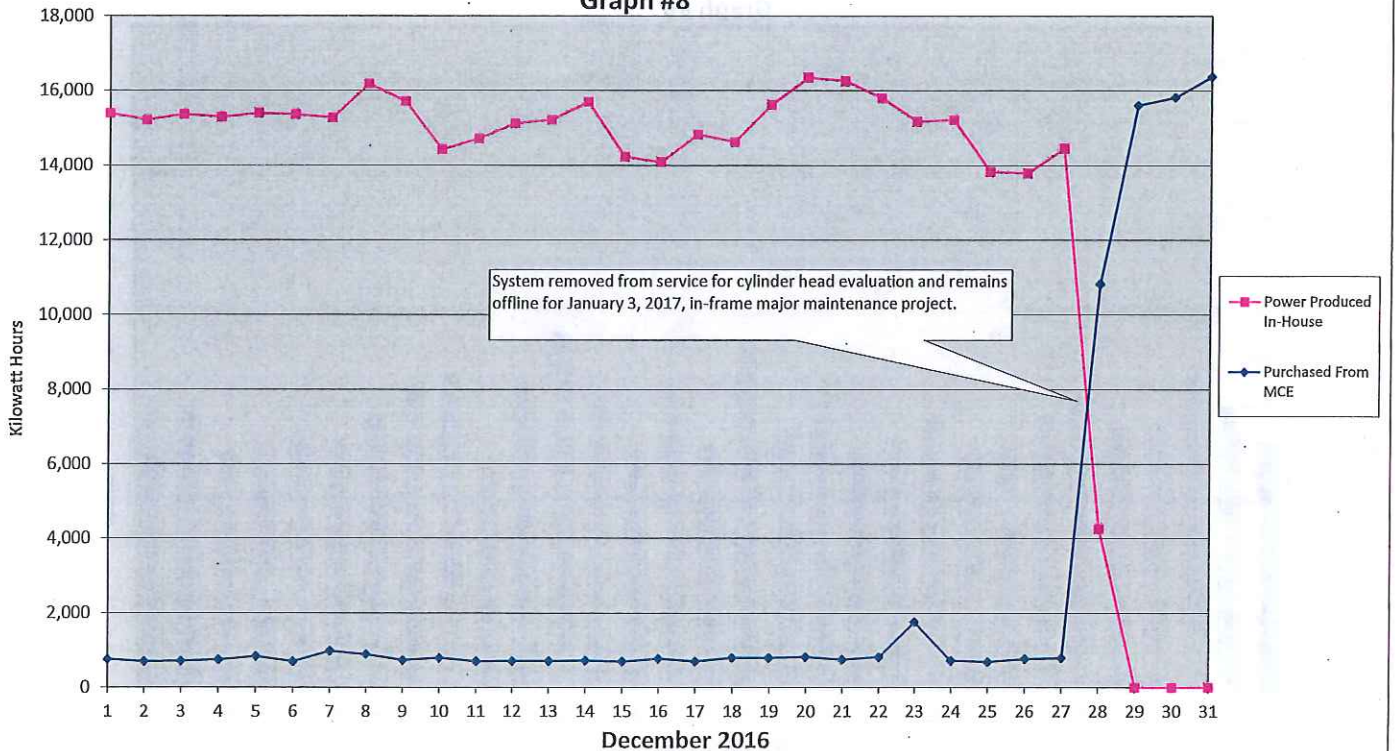
Graph #6



**Biogas Production
Graph #7**



**Kilowatt Hours Used vs. Kilowatts Produced
Graph #8**





BOARD MEMORANDUM

January 6, 2017

To: CMSA Commissioners and Alternates
From: Jason Dow, General Manager ^{JD}
Subject: **Performance Metric Report – December 2016**

Recommendation: Accept the December 2016 Performance Metric reports.

Performance Summary: The Agency’s performance in operations and maintenance activities, regulatory and environmental compliance, and public education and outreach met or exceeded our metric goals/targets. Noteworthy metrics or variances are described below.

Table I – Treatment/Process Metrics

All process metrics are within normal ranges, and the treatment facilities were operated well during the large December rain events. With the organic waste receiving programs, Biogas Production (line 5) and Energy Produced (line 6) regularly exceed their CY 2016 target ranges. For the CY 2017 metric reports, staff will adjust both production ranges.

Table II – Employee Metrics

Employee training was comprised of web-based Lawful Hiring for supervisors and managers; safe work practice, operating procedures, and San Quentin access training for selected operations and maintenance staff, as well as continued source control and electronic NPDES permit reporting for the environmental services analysts.

Table III - Environmental and Regulatory Compliance Metrics

There were no NPDES permit exceedances over the month, and laboratory and pollution prevention activities were performed as scheduled. An interim laboratory director continues to oversee the Agency’s laboratory and regulatory reporting functions until the new laboratory director position is filled. Metric ranges for NPDES Analyses (line 2), Process Analyses (line 3), and Quality Control Testing (line 4) will be adjusted for the CY 2017 report.

Table IV - Public Outreach

There were three odor alerts posted to the Agency website in December for wet weather process adjustments and routine process tank cleaning, and the Agency did not receive any odor complaints.

Attachment:

- December 2016 Performance Metric Report

CMSA CY16 PERFORMANCE METRICS – December 2016

TABLE I - TREATMENT/PROCESS METRICS

Metric	Definition	Measurement	Range/Target/Goal
1) Wastewater Treated	Volume of wastewater influent treated and disposed, in million gallons (Mg)	557.1 Mg	165 – 820 Mg
2) Biosolids Reuse	Alternate Daily Cover (ADC) at the Redwood Landfill, in wet tons (wt) Fertilizer and soil amendment at land application sites, in wet tons (wt) Bio-Fertilizer production at the Lystek facility, in wet tons (wt)	510.52 wt 129.50 wt	360 – 665 wt
3) Conventional Pollutant Removal	Removal of the conventional NPDES pollutants - Total Suspended Solids (TSS) and Biological Oxygen Demand (BOD) a. tons of TSS removed; % TSS removal b. tons of organics removed (BOD); % BOD removal	493.4 tons, 97.9% 460.7 tons, 98.4%	> 85% > 85%
4) Priority Pollutants Removal	Diversion of priority NPDES metals from discharge to the S.F. Bay: a. % Mercury b. % Copper	90.4% 95.1%	88 – 99% 84 – 98%
5) Biogas Production	Biogas generated in our anaerobic digesters, in million cubic feet (Mft ³) Natural gas (methane) equivalent of the biogas, in million cubic feet (Mft ³)	8.89 Mft ³ 5.69 Mft ³	5.0 to 8.5 Mft ³ 3.2 to 5.4 Mft ³
6) Energy Produced	Energy produced from cogeneration of generated biogas and purchased natural gas - in kilowatt hours Cogeneration system runtime on biogas, in hours (hrs.); % time during month Biogas value (natural gas cost equivalent)	413,052 kWh 577 hrs; 77.5% \$26,219	380 to 460,000 kWh 360 hrs.; 50% \$7,000 to \$24,000
7) Efficiency	The cost to operate and maintain the treatment plant per million gallons of wastewater treated, in dollars per million gallons Energy used, kilowatt hours, per million gallons treated	\$646/Mg 885 kWh/Mg	\$451-\$1,830/Mg (wet - dry) 670 - 2,400 kWh/Mg

Table II – EMPLOYEE METRICS

Metric	Definition	Measurement	Target/Goal
1) Employee Training	Hours of internal training – safety, web-based, project, vendor, etc. Hours of external training – employment law, technical, regulatory, etc.	Internal = 178.5 hrs External = 10 hrs	variable
2) Work Orders	Preventative maintenance (PM) labor hours Planned corrective maintenance (CM) labor hours; % of CM+UCM hrs. Unplanned corrective maintenance (UCM) labor hours; % of CM+PM hrs. Ratio of PM to total corrective maintenance (CM + UCM);	486 hrs 502 hrs (80.5%) 122 hrs (12.4%) 0.77	275 – 400 hrs ≥ 70% total CM hrs ≤ 30% total hours ≥ 0.45
3) Overtime Worked	Monthly hours of OT worked; Year to date hours of OT (YTD) % of normal hours worked; % Year to date (YTD)	180.5; (1,408.75) 2.6%; (1.6%)	< 5%

CMSA CY16 PERFORMANCE METRICS – December 2016

Table III - ENVIRONMENTAL AND REGULATORY COMPLIANCE METRICS

Metric	Definition	Measurement	Range/Target/Goal
1) Permit Exceedances	# of NPDES permit exceedances	0	0
2) NPDES Analyses	# samples analyzed by the CMSA laboratory for NPDES compliance monitoring	79	411 – 600
3) Process Analyses	# samples analyzed by the CMSA laboratory for process control reporting and monitoring	437	800 – 1,500
4) Quality Control Testing	# of CMSA performed laboratory analyses for QA/QC purposes Accuracy of QA/QC tests	69 98.6%	347 – 550 > 98%
5) Water Quality Sample Analyses	# of ammonia, coliform (total and fecal), enterococcus, and/or sulfide analyses performed for the CMSA member agencies (SSOs, etc.)	2	as-needed
6) Pollution Prevention Inspections	Inspections of industrial and commercial businesses in the Agency's pretreatment and pollution prevention programs and Novato Sanitary District's Mercury Reduction Program – 277 businesses regulated	35	variable
7) FOG Program Inspections	Inspections of food service establishments (FSEs) in the Almonte, TCSD, SD2, RVSD, SRSD, and LGVSD service areas – approx. 500 FSEs are in programs; 310 are regulated – either permitted or have waivers.	22	25 – 70
8) Permits Issued/Renewed	Permits issued for the pretreatment, pollution prevention, and FOG source control programs, and for groundwater discharge	16	variable

Table IV- PUBLIC OUTREACH

Metric	Definition	Measurement	Target/Goal
1) Public Education Events	Attendance at public education outreach events; # of booth visitors; (YTD)	0; (3,227)	3,500/year
2) School Events	Participation or sponsorship in school outreach events; attendees; (YTD)	95; (4,071)	variable
3) Agency Tours	Tours given to students and the public; # of people, (YTD)	0; (468)	variable
3) Odor Notifications	Number of odor alerts posted to the Agency website due to process or operational changes	3	1-10
4) Odor Complaints	Number of odor complaints received from the public	0	0



BOARD MEMORANDUM

January 10, 2017

To: CMSA Commissioners and Alternates

From: Carlos Oblites, Administrative Services Manager
Heidi Lang, Financial Analyst

Approved: Jason Dow, General Manager *JD*

Subject: **FY 2017 Budget Status - Second Quarter Report**

Recommendation: Review and accept the Agency’s Second Quarter Budget Status Report for Fiscal Year 2016-17.

Summary: We are pleased to present the Agency’s Second Quarter Budget Status Report for fiscal year 2016-17. As of December 31, 2016, the Agency received 47.9% of budgeted operating revenues (Table I) and incurred 52.3% of budgeted operating expenses (Tables III & IV). Revenues and expenditures were in line with expected 50% straight line year-to-date performance for the second quarter. Expenditures are measured by actual expenses and encumbrances for goods and services received or in the process of being procured.

Summarized Financial Performance Highlights

Revenues	FY 17 Budget	YTD Actual Received	Outstanding	Total Revenue	Total Received as % of Budget	Total Revenue Billed as % of Budget
Agency Revenues	12,237,236	5,866,424	266,046	6,132,470	47.9%	50.1%
Contributions for Debt Service	4,960,117	3,667,967	63,239	3,731,206	73.9%	75.2%

Expenditures	FY 17 Budget	YTD Actual Expenditures	Encumbrances/ Pending Payments	Total Expenditures	% Spent
Operating Expenses	11,580,480	5,494,749	567,359	6,062,108	52.3%
Capital Improvement Program	4,193,000	603,533	503,003	1,106,536	26.4%

- JPA Member Agencies paid the second quarter Regional/Sewer Service Charges. The third quarter service charges and debt service interest will be invoiced in January.

- The Agency retired \$2.195M in outstanding debt and paid \$900.2K interest for the Refunding Revenue Bonds Series 2015 that was due on September 1, 2016. An \$872.8K interest only payment is due on March 1, 2017.
- Total capital program expenditures and encumbrances were \$1.1M. This included \$605.5K spent and \$503K encumbered year to date for the Gates Rehabilitation project, the RVSD & SRSD Interceptor Assessment Critical Buried Pipe Inspection Repair project, the Organic Waste Receiving Facility Vault Relining project, the PG&E Interconnection Modification project, and for other capital improvement activities. Actual spent included \$30.2K for staff salary and benefits.

Table I – Agency Revenues

Description	FY 17 Budget	YTD Actual Received	Outstanding Receivables (Invoices)	Total Revenue	Budget Remaining	Total Received as % of Budget	Total Actual & Outstanding as % Budget
Sewer Service Charges	10,395,358	5,197,679	-	5,197,679	5,197,679	50.0%	50.0%
Contract Services	1,425,138	326,738	246,537	573,275	851,863	22.9%	40.2%
Capacity Charges	-	172,139	-	172,139	-	No Budget	-
Program Revenues	128,990	57,162	-	57,162	71,829	44.3%	44.3%
Haulers, Permits & Inspection Fees	211,250	86,002	19,509	105,511	105,739	40.7%	49.9%
Other Non-Operating Revenues	20,000	2,565	-	2,565	17,435	12.8%	12.8%
Interest Income	56,500	24,139	-	24,139	32,361	42.7%	42.7%
Total Agency Revenues	12,237,236	5,866,424	266,046	6,132,470	6,276,905	47.9%	50.1%
Contributions for Debt Service	4,960,117	3,667,967	63,239	3,731,206	1,228,911	73.9%	75.2%
TOTAL REVENUE	17,197,353	9,534,391	329,285	9,863,676	7,505,816	55.4%	57.4%

The Agency received 55.4% of total budgeted revenues and budget performance was at 57.4% of budget when outstanding receivables were included. Table 1 - Agency Revenues identifies the source of revenue received. Agency Revenues and Contributions for Debt Service received year-to-date total \$9.53M. Of this amount, \$5.19M represents service charges through December and \$3.67M debt service payments received from all JPA members and San Quentin Prison (SQP), as well as \$63.2K debt service outstanding from SQP.

The remaining \$668.7K in operating receipts and \$266K in operating revenues outstanding represents the following:

Contract Services: Receipts totaled \$326.7K and outstanding receivables totaled \$246.5K for services provided by the Agency under contract to sanitary districts and other government entities for pump station and collection system operations and maintenance, and for FOG &

Pollution Prevention source control services. Budget performance for revenues received was 22.9% and less than straight line year-to-date performance as it reflects five months of invoices to SD#2, SQP and San Quentin Village (SQV) for wastewater services, and one quarter of source control program invoice activity. In January, staff will prepare and send December's contract service and second quarter source control invoices.

Capacity Charges: CMSA received \$172.1K in capacity charges through November 2016 for a total of 30 residential connections (7 from SRSD, 4 from RVSD and 19 from SD#2).

Program Revenues: There was \$57.2K in receipts with no outstanding receivables. CMSA administers the Safety Director and Countywide Education programs. Services performed and costs incurred by CMSA are allocated and invoiced quarterly to districts that participate and invoiced in accordance with each program agreement. Budget performance was at 44.3% and was less than straight line year-to-date as the Agency invoices the Countywide Education participants for actual services and expenses the month following each quarter. Invoices through December will be sent out for the both programs in January.

Safety Director: The Agency invoices Novato Sanitary District (NSD) for its share of the safety director salary and benefit costs at the beginning of each quarter and invoices incidental program expenses and outside safety training costs at the end of each quarter.

Countywide Education: Program participants are invoiced the month following the end of each quarter for program expenses incurred during that quarter. The frequency and amount of expenditures are a function of the events that are scheduled throughout the year. For example, promotional items are purchased in the third and fourth quarter of the prior fiscal year for the upcoming fiscal year's program events.

Haulers, Permits and Inspection Fees: There were \$86K in receipts and \$19.5K in outstanding invoiced revenues. Revenues are for septic receiving facility use charges, organic waste disposal, industrial waste discharge permit fees, reimbursement of costs for pollution prevention program inspections, and other services through December 2016.

Other Non-Operating Revenue: The Agency received a total of \$2.6K from sources that included CSRMA for a workers' comp dividend payment (\$337), a Metropolitan Life dividend payment (\$76), a CalCARD prompt payment incentive rebate (\$829) and proceeds from the sale of disposed assets (\$352), recycled metal (\$952) and RV facility use (\$10). Other types of non-operating revenues can include pooled liability dividends, SDI disability reimbursements, and funds from other miscellaneous revenue sources.

Interest Income: The Agency budgeted interest earnings assuming a 0.4% rate on \$13.75M deposited at LAIF and a 0.42% interest rate on \$357.4K deposited at CAMP. Year-to-date interest income totals \$24.1K. Interest rates earned on the Agency's short term investments with CAMP was 0.72% on December 31st. The second quarter does not include LAIF earnings as the State Treasurer posts LAIF interest earned 15 days after the end of each quarter.

Debt Service: Debt service contributions were received from member agencies in the first quarter FY 17 for payment on the CMSA Refunding Revenue Bonds Series 2015. SQP is invoiced \$108.2K each month for wastewater services. Of this amount, \$31.6K is for debt service, the remaining \$76.6K is for SQP wastewater treatment and pump station maintenance contract services. There was \$63.2K outstanding receivable for debt service on December 31st. Principal and interest debt service was paid for the obligation due September 1st (principal \$2.195M, interest \$900.2K). An \$872.8K interest only payment will be due March 1, 2017.

Table II – Revenues & Expenditures for Contracted Agency Services

Table II shows the revenue and expenditure status for services CMSA provides under contract to other local agencies. The presentation of the information is similar to the revenue information in Table I. The actual expense incurred by CMSA excludes the contract administration overhead charge that ranges from 5%-22% depending on each specific contract. The SQP wastewater service contract's treatment fee does not include an overhead charge as it is based on wastewater flow and strength; however, the SQP pump station maintenance operations fee does include an overhead charge. Invoices for services during the second quarter and the month of December will be prepared and mailed in January.

Service Contract	FY 17 Budgeted Revenue	Actual Revenue Received	Invoiced Outstanding	Total Revenue	Actual CMS Expenses	Frequency of Invoicing
SQSP Wastewater Services	813,946	203,486	135,658	339,144	333,244	Monthly through Dec
SQSP Pump Station Maintenance	105,473	26,368	17,579	43,947	38,187	Monthly through Dec
SD#2 Pump Stations	394,063	71,162	92,435	163,596	142,868	Monthly through Nov
SQ Village Wastewater Services	33,056	5,990	866	6,856	5,623	Monthly through Nov
Revenue for Safety Director	85,000	41,986	-	41,986	38,813	Quarterly through Dec
Countywide Education Program	43,990	15,175	-	15,175	13,196	Quarterly through Sept
LGVSD - FOG & Pollution Prevention	20,000	8,104	-	8,104	6,691	Quarterly through Sept
RVSD - FOG	19,000	3,713	-	3,713	3,382	Quarterly through Sept
SRSD - FOG	23,000	4,716	-	4,716	4,293	Quarterly through Sept
TCSD - FOG	2,100	1,185	-	1,185	979	Quarterly through Sept
SD #2 - FOG	9,500	1,388	-	1,388	1,263	Quarterly through Sept
NSD - Dental Amalgam	3,500	-	-	-	-	Quarterly
Almonte SD-FOG	1,500	625	-	625	514	Quarterly through Sept
TOTAL SERVICE CONTRACT REVENUE	1,554,128	383,899	246,537	630,437	589,052	

Table III – Operating Expenditures by Category

Description	FY 17 Budget	2nd	Year- to-Date Actual Expenditures	PO	Total Expenditures*	Budget Remaining	% Spent
		Quarter Budget (50%)		Encumbrances & Pending Payments			
Salaries & Wages	5,283,600	2,641,800	2,678,457	-	2,678,457	2,605,143	50.7%
Benefits	2,575,700	1,287,850	1,381,826	6,111	1,387,936	1,187,764	53.9%
Chemicals & Fuel	1,146,800	573,400	510,184	84,542	594,726	552,074	51.9%
Biosolids Management	373,920	186,960	125,246	31,160	156,406	217,514	41.8%
Permit Testing & Monitoring	168,800	84,400	53,083	9,877	62,960	105,840	37.3%
Repairs & Maintenance	382,500	191,250	144,351	46,366	190,717	191,783	49.9%
Insurance	275,900	137,950	165,220	38,260	203,480	72,420	73.8%
Utilities	372,600	186,300	99,594	59,508	159,102	213,498	42.7%
General & Administrative	1,000,660	500,330	336,788	291,535	628,323	372,337	62.8%
TOTAL OPERATING EXPENSES	11,580,480	5,790,240	5,494,749	567,359	6,062,108	5,518,372	52.3%

* Actual and Encumbered

Table IV – Operating Expenses by Department

Description	FY 17 Budget	2nd	Year- to-Date Actual Expenditures	PO	Total Expenditures*	Budget Remaining	% Spent
		Quarter Budget (50%)		Encumbrances & Pending Payments			
Administration**	4,484,300	2,242,150	2,267,612	252,454	2,520,065	1,964,235	56.2%
Environmental Services	1,408,880	704,440	575,166	50,885	626,051	782,829	44.4%
Maintenance	1,881,100	940,550	899,571	47,851	947,422	933,678	50.4%
Operations	3,173,800	1,586,900	1,442,818	153,169	1,595,988	1,577,812	50.3%
Engineering	632,400	316,200	309,582	63,001	372,583	259,817	58.9%
TOTAL OPERATING EXPENSES	11,580,480	5,790,240	5,494,749	567,359	6,062,108	5,518,372	52.3%

* Actual and Encumbered

** Fringe benefits for CMSA staff and the Agency's insurance expense are reflected in this department

Total operating expenditures were 52.3% of budget at the end of December 2016. This included \$5.49M for actual expenses and \$567.4K outstanding purchase orders, contracts, and other obligations. With the exception of Insurance and General & Administrative, year-to-date expenditures for the other categories of expense were within 4% or of the straight-line projected budget performance target of 50% at the end of December. Except Administration and Engineering, budget performance for each department was less than or equal to the 50% performance target.

Salary & Wages and Benefits: Total salary and benefit expenses 50.7% and 53.9% of budget were respectively, and represented expenditures through the pay period ending December 31, 2016 (14 of 26 payrolls or 53.8%).

Chemicals & Fuel: Expenditures were 51.9% of budget with \$510.2K of actual and \$84.5K in pending payments for chemicals delivered through January 3, 2017. Ferric usage has been higher due to recent wet weather events. Nitrate usage for collection system odor control remains above 50% of budget due to the dry weather flows and warm weather conditions through this past September.

<u>Chemicals</u>	<u>Expenditures as % of Budget</u>	<u>Comments</u>
Ferric Chloride	69%	9 deliveries through December 2016
Polymer-Cationic	35%	2 deliveries through December 2016
Odor Control	42%	3 deliveries through December 2016
Nitrate	60%	23 deliveries through October 2016
Hydrogen Peroxide	51%	12 deliveries through December 2016
Sodium Hypochlorite	47%	28 deliveries through January 3, 2017
Sodium Bisulfite	52%	19 deliveries through December 2016

Biosolids Management: Expenditures were 41.8% of budget and included \$125.2K actual expenditures and \$31.2K in estimated encumbrances for hauling services and tipping fees at beneficial reuse sites through December 2016. Biosolids management expenses vary, and are primarily dependent upon seasonal weather-related circumstances: 1) land application during the months of April to late October results in lower reuse tipping fee costs when compared to alternate daily cover at the Redwood Landfill and biofertilizer production at Lystek, and 2) the volume for disposal is lower during the warmer weather spring and summer months.

Permit Testing & Monitoring: Expenditures were 37.3% of budget and included \$53.1K in actual expenditures and \$9.9K in encumbrances for NPDES permit sampling and other contract laboratory analysis costs. Expenditures for this category vary; sampling costs can range widely from \$150 to \$3,000 each based on the type and frequency of analyses performed. Billing delays often occur during the wet weather season when it takes longer to receive test analyses due to a work back-log at the contracting labs. When the outside laboratory does not provide test analyses in the timeframe specified in the contract, a fee reduction is received for the tests performed.

Repairs & Maintenance: Expenditures were 49.9% of budget and included \$144.4K in actual expenditures and \$46.4K in outstanding PO encumbrances. Expenditures alone are not necessarily a good indicator of the repair and maintenance activities that are taking place. For example, periods of high expenditures reflect the purchasing of materials and supplies to prepare for upcoming planned maintenance, while periods of low expenditures can relate to staff performing planned maintenance utilizing available parts inventory.

Insurance: This category was at 73.8% of budget because most of the Agency's insurance coverages are paid early in the fiscal year. The below schedule provides the payment status for insurance coverage. Insurance premiums are paid when policies are renewed and the expenses are prorated between fiscal years based on the policy's coverage time period.

Description	FY 17 Budget	Status
Property Insurance	55,600	FY 17 paid in full
General Liability & Auto	46,300	FY 17 paid in full (FY18 Pre-paid through 12/31/17)
Pollution Liability	1000	FY 17 paid through April 2017
Employee/Commissioners Bond	2,200	FY 17 paid in full
Workers Compensation	170,000	FY 17 paid in full

Utilities: Expenditures were 42.7% of budget with \$99.6K in actual payments and \$59.5K of prorated estimates for electricity (purchased from Marin Clean Energy through PG&E), natural gas, water, and solid waste through December 2016.

General & Administrative (G&A): Expenditures were 62.8% of budget and included \$336.8K actual expenses and \$291.5K in PO encumbrances. Year-to date is higher due to unanticipated recruitments for three positions. The G&A expense category includes professional services (legal, financial, regulatory, etc.), operating permits, memberships in local, state and national wastewater organizations, employee certifications, training, telephone, internet and office expenses.

Table V – Capital Improvement Program

Description	FY 17 Budget	Actual	PO Encum- brances	Total Expenditures	Budget Remaining	% Spent*
Salaries & Benefits	181,800	30,247	-	30,247	151,553	16.6%
Facility Improvements	1,450,500	85,873	9,577	95,450	1,355,050	6.6%
General Equipment	368,400	95,319	28,136	123,455	244,945	33.5%
Liquids Treatment Equipment & Systems	1,240,910	263,719	280,065	543,783	697,127	43.8%
Solids Treatment & Energy Generation Equipment & Systems	951,390	128,375	185,226	313,601	637,789	33.0%
TOTAL	4,193,000	603,533	503,003	1,106,536	3,086,464	26.4%

*Actual and Encumbered

CIP expenditures were 26.4% of budget and comprised actual expenditures of \$603.5K and encumbrances totaling \$503K for executed purchase orders and contracts for the following activities: Maintenance Facility Modification, Agency Vehicle Replacement, Plant Lighting, Process Instrumentation, Aeration System Rehabilitation, Gates Rehabilitation, Odor Control Improvement, Critical Buried Pipe Inspection, PG&E Interconnection Modification Project, Organic Waste Receiving Facility Vault Relining, and various other capital improvement program activities. The attached second quarter Capital Improvement Program report includes project expenditures, encumbrances, and activity status.



BOARD MEMORANDUM

January 6, 2017

To: CMSA Commissioners and Alternates
From: Kevin Lewis, Assistant Maintenance Supervisor
Chris Finton, Treatment Plant Manager
Approved: Jason Dow, General Manager
Subject: **FY 2017 Asset Management Program – Second Quarter Report**

Recommendation: Informational, provide comments or direction to the General Manager, as appropriate.

Summary: Staff prepares quarterly Asset Management (AM) reports to highlight the progress made on implementing the Agency's Asset Management Program (Program) in October, January, and April, and the annual report is presented in July.

Second Quarter Highlights

1. Organic Waste Receiving Facility (OWRF) Slurry Mixing Pump Replacement – This facility utilizes open faced chopper pumps to break up and mix organic waste materials prior to anaerobic digestion. Due to the abrasive and acidic nature of these wastes, the mixing pump's internal parts tend to wear at an accelerated rate. Staff installed a new style mixing pump which can better withstand the acidic nature of the mixed organic waste, and replacement parts for these pumps are easier to obtain and less costly than the originally installed pumps. The Agency will analyze the performance of this pump against the original pumps over the next several months. This work was completed in conjunction with the OWRF storage tank relining project.
2. Biotower Feed Pump Rehabilitation Work – The Agency utilizes biotower feed pumps to convey primary effluent up to and across the biotowers, the first stage in the Agency's biological process used to reduce the biochemical oxygen demand (BOD). There are four pumps, all originally installed in 1985, and all have been in service to varying degrees since then. A condition assessment was performed on all four pumps in 2015 and staff identified pump #4 as showing early signs of bearing failure. This past quarter, technicians disassembled the pump, performed a visual inspection, and took comprehensive measurements of internal wear components to compare with factory specifications. The pump's shaft was sent out to a specialized maintenance facility which used a spray-metal process to restore the shaft to factory specifications. The

pump was then reassembled by staff using all new bearings, grease seals, and a packing wear sleeve. The refurbished pump was reinstalled on its base and laser aligned to ensure a long bearing service life.

3. Paradise Pump Station Sewage Pump – The Variable Frequency Drive (VFD) motor for dry weather pump #2 faulted during a routine station inspection. Agency electricians determined, and the pump’s manufacturer representative concurred, that the pump’s low resistance to ground was an indication that the pump’s motor winding insulation was bad. The standard repair would be to remove and replace the failed motor, but this was not feasible as the pump and motor are one assembly. To complicate matters, this model of pump was no longer in supported by its manufacturer and a new model would be required. It was determined that the best course of action was for staff to use the equipment vendor’s replacement pump specifications to design and build piping modifications in the pump station to accommodate the new pump. Once the new pump was received, staff confirmed that the new pump and the modified station piping were correctly aligned. The pump is currently in service and operating.

Asset Inventory

The Asset Parts Inventory is comprised of critical spare parts for Agency equipment, and consumable items designated for CMSA’s contract collection agencies–Sanitary District #2 (Corte Madera), San Quentin State Prison, and San Quentin Village Sewer Maintenance District. Spare parts for CMSA and San Quentin Village are kept at CMSA site-specific parts rooms, Sanitary District #2 parts and equipment are stored at Paradise pump station, and San Quentin State Prison parts and equipment are stored at the San Quentin pump station.

Staff conducted a comprehensive review of Agency assets tracked within the computerized maintenance management systems (CMMS). This quarterly exercise is performed to verify active assets within the system. As Agency-managed projects or regularly scheduled maintenance work is completed; both new and old assets must be accounted for in an asset inventory count. Along with entering new and removing obsolete assets from the asset tree, staff removed improperly grouped or classified assets, and removed additional non-critical assets valued under \$5,000, the Agency’s established tracking limit for assets within the CMMS system. In all, a total of 63 items were entered, reclassified, or removed from the CMMS asset tree this past quarter.

Asset Locations	Total Assets
CMSA	2,316
Sanitary District #2	241
San Quentin Prison	27
San Quentin Village	4

Parts Inventory	Parts Quantity	Total Value
CMSA	20,661	\$1,768,259
Sanitary District #2	1,447	\$135,873
San Quentin Prison	21	\$25,029
San Quentin Village	2	\$1,214

Asset Improvements, Repairs, and Refurbishment Work

1) CMSA Capital Improvement Project Work

Projects in the table below are capital projects that were completed or were in progress over the past quarter. CMSA staff performed work alongside contractors to complete the OWRF Slurry Mixing Pump No. 1 Replacement and OWRF Sump Relining projects.

Project Name	CMSA Staff Cost	Total Cost	Status
OWRF Slurry Mixing Pump No. 1 Replacement	\$3,017	\$13,842	Complete
OWRF Sump Relining Project	\$11,500	\$99,518	Complete
Biotower Pump No. 4	\$8,956	\$12,482	Complete
Primary Influent Gates	\$1,200	\$206,852	Complete
Primary Sludge Pump No. 5	\$1,151	\$9,846	Complete
Recycled Water Fill Station	\$1,534	\$4,016	Complete

2) CMSA Asset Management Improvements

Projects in the table below are considered routine, recurring, and usual maintenance work for the preservation and protection of Agency assets. CMSA labor and material costs are included to determine the overall cost to perform a specific task.

Area	Equipment	Improvement	Total Cost	Comments
Headworks	Grit Classifiers	Annual preventive maintenance	\$13,260	Replaced cables, augers, and wear parts as needed. Rebuilt auger gearbox on classifier No. 4.
Aeration	All Process Tanks	Installation of safe access gates	\$7,864	Removed sections of railing, welded in posts and mounted gates with locking mechanisms.
Return Activated Sludge Pump Room	RAS Pump No. 6	Refurbished pump	\$4,902	Reconditioned shaft, and replaced bearings, grease and mechanical seals.
Energy Generation	Cogenerator	2,000 hour maintenance procedure	\$2,159	Replaced oil and air filters, sparkplugs, and lubricants, and performed bore scope.
Energy Generation	Ventilation Fans	Annual preventive maintenance	\$6,700	Replaced drive belts, filters and clips, greased bearings and fabricated jacking bolts.

Area	Equipment	Improvement	Total Cost	Comments
Disinfection	Metering Pump	Refurbished pump	\$4,228	Replaced diaphragm, check balls, housings, seals, and lubricant.
Dechlorination	Sodium Bisulfite (SBS) Spill Vault	Converted to safely accept SBS solution deliveries	\$1,479	Refurbished inspection hatch and jams, installed fill port and tubing, and modified pump discharge line.
Gallery B & C	Sump Pumps	Duplex sump pump installation	\$4,981	Modified piping, added hard floats, and programmed sump control panel.
Gallery C	Irrigation Water Supply	Dedicated low-dose chlorinated water supply	\$7,993	Piping modifications to supply header, and added a flowmeter.
Solids Handling	Digester Recirculation Grinder	Annual preventative maintenance	\$8,909	Installed new grinder cartridge, and cleaned and inspected piping.
Solids Handling	TWAS Pumps No. 1 and 2	Annual preventative maintenance	\$4,920	Replaced lobes, wear plates, housings and lubricants.
Effluent Pump Station	Above Ground Fuel Storage Tank	Weatherproofing	\$1,832	Removed old caulking, sealed cracks, and applied liquid rubber coating.

3) CMSA Maintained Assets (San Quentin Prison, Sanitary District #2, San Quentin Village)

Maintenance work performed over the quarter on collection agency assets by CMSA staff, an approved contractor, or service provider.

Asset Owner	Asset	Improvement	Total Cost	Comments
Sanitary District No. 2	Paradise Pump Station	Pump replacement	\$30,045	Installed new style pump and performed pipe modifications.
Sanitary District No. 2	Lucky Dr. Pump Station	Check valve replacement	\$2,694	Installed new check valve and inspected piping.
San Quentin Prison	Influent channel	Covered unguarded holes	\$900	Installed aluminum plate covers to prevent injury.

Work Orders – Second Quarter FY 2017

A work order is a written request that a preventive, planned corrective, or unplanned corrective maintenance task or project be performed. Work orders are typically generated and sent internally from one department to another. Shown in the table below are the types of work orders prepared by staff, the work orders completed, and the total labor hours, by type, to complete the work orders.

Work Order Type	No. of WO's	% of Total WO's	Labor Hrs.	% of Total Hrs.
Preventative Maintenance	222	40.00%	893.50	10.04%
Corrective Planned	191	34.41%	1,583.25	17.80%
Corrective Unplanned	52	9.37%	245.00	2.75%
Improvement Project Work	3	0.54%	300.50	3.38%
Safety	12	2.16%	109.50	1.23%
Staff Professional Development/ Meetings	24	4.32%	312.50	3.51%
Facilities Administration/ Housekeeping	22	3.96%	807.50	9.08%
Process Control and Facility Operations	29	5.23%	4,644.25	52.21%
Total	555	100%	8,896.00	100%



BOARD MEMORANDUM

January 6, 2017

To: CMSA Commissioners and Alternates

From: Jason Dow, General Manger

Subject: December 15, 2016 Storm Event

Recommendation: Informational, provide comments or direction to the General Manager, as appropriate.

Discussion: Marin County experienced a short duration, high intensity storm event on Thursday, December 15, 2016, that resulted in 3.4 inches of rain in San Rafael and a peak wastewater influent flow rate of 119.3 million gallons per day (MGD) at CMSA. Operations staff tracked the storm’s path the previous night and throughout the morning, and had prepared the treatment facilities and effluent pump station for an anticipated significant influent flow rate increase.

Collection system response during the December 15 event was nearly similar for each satellite collection agency, with a slow increase through the morning then rapid growth between 11am to 1pm, peaking about 4pm, as shown in the attached graph from the CMSA process control system. Peak flow rates for each agency are shown in the table below and occurred at different times during the storm event, so when added together the peak flowrates exceed the 119.3 MGD CMSA peak flow rate.

Satellite Collection Agency	Peak Flow Rate (MGD)
Ross Valley Sanitation District	68.4
San Rafael Sanitation District	50.6
Sanitary District #2	11.3
San Quentin State Prison	3.3

Each major wet weather event is different in terms of its intensity level and duration within the CMSA service area’s collection system. Operations staff utilize a Wet Weather Standard Operating Procedure (WWSOP) Manual to prepare for storm events, operate the treatment systems during events, and take systems and equipment out-of-service as influent flows subside. After each wet weather event, Operations and Maintenance staff discuss how systems and equipment were brought on-line and operated during the event and identify how to make operational improvements and/or process control adjustments in the future. Due to the intensity of the December 15 event and the collection system response, Operations staff will be

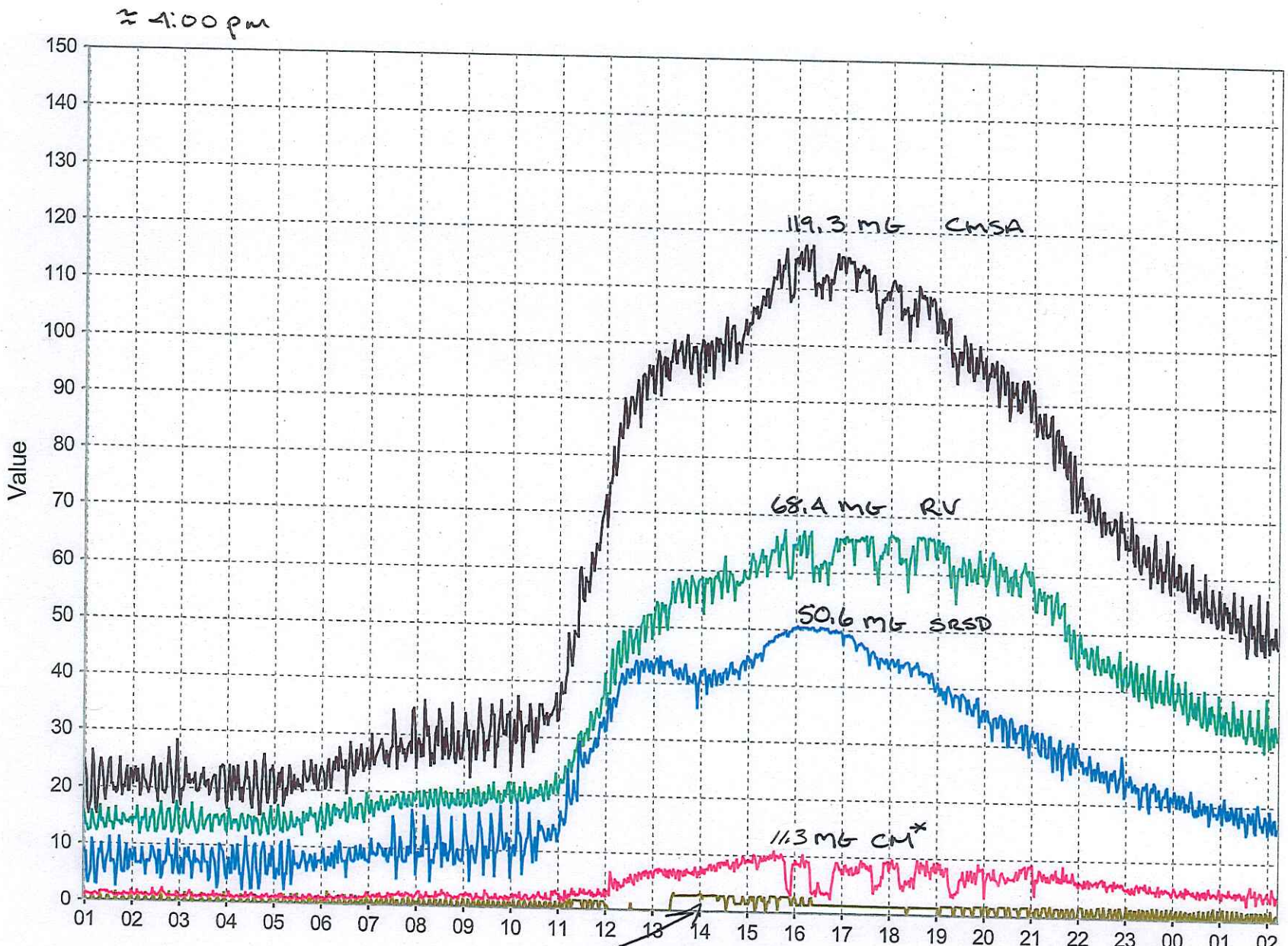
revising sections of the WWSOP to modify operation of the effluent pump station's control strategy and when to bring primary clarifiers on-line prior to an event to minimize blending channel flow surges that have the potential to disrupt the disinfection and dechlorination chemical control systems.

The December 15 event peak flow rate was the highest measured at the Agency, and the table below shows the five historic highest flow events with their corresponding dates.

Date	Peak Flow Rate (MGD)
12/15/2016	119.3
12/2/2012	116.8
1 /25/2008	115.1
12/31/2005	114.2
12/29/2003	109.2

Attachment:

- December 15-16 Storm Event Flow Graph



3.3 MG SPPS

[Dec 15-16, 2016]

CMFM PSI ≈ 77psi

Fiber ISSUES, so @ may NOT be accurate as of now
 - start ...



BOARD MEMORANDUM

January 6, 2017

To: CMSA Commissioners and Alternates

From: Jason Dow, General Manager *JD*

Subject: 2016 Performance Metric Report

Recommendation: Accept the Agency's 2016 Performance Metric Report.

Summary: Staff prepares monthly and annual performance metric reports for the Agency's core business and other provided services. These reports present performance metrics with their definition, measurement, and goals and target ranges in the areas of treatment and process, employee, environmental and regulatory compliance, and public education and outreach. Monthly reports are included in the Board meeting agenda packet and the annual report in presented in January.

2016 Performance Highlights: The Agency's staff and business operations continue to perform at a high level, with the highlights and comparison tables of selected metrics over the past several years shown below.

- ▶ CMSA has met our NPDES permit requirements for twelve consecutive years.
- ▶ Approximately 4.33 billion gallons of wastewater was treated to a high level, with over 98% of the conventional pollutants removed. Normally, the primary reason for annual wastewater volume variances is attributable to the number, duration, and intensity of wet weather events each year, which contribute a significant amount of stormwater and groundwater infiltration into the sewer collection system. In 2015, the volume is lower than the prior year due to the increased water conservation efforts of MMWD's customers in the CMSA service area.

	2016	2015	2014	2013	2012	2011
Billion Gallons Treated	4.33	3.31	4.25	3.44	4.45	4.35

- ▶ 6,702 wet tons of biosolids were produced and beneficially reused either as soil amendment and fertilizer, or as alternate daily cover material (ADC) at the Redwood Landfill. Biosolids production variances can be due to the amount of settled material flushed from collection systems during major rain events, dewatering system performance, and digester draining and cleaning operations. The lower amount in 2013 was due to digester cleaning and less settled material being transported to CMSA from the collection system due to the low rainfall. The increase in 2016 is likely due to increased deliveries of organic waste materials.

	2016	2015	2014	2013	2012	2011
Wet Tons of Biosolids	6,702	5,867	5,947	5,458	6,483	6,344

- ▶ 104.7 million cubic feet of biogas was produced and had an equivalent natural gas procurement value of approximately \$296,123. The increase in biogas production is a direct result of the Agency receiving additional quantities of organic waste materials (FOG, food, soy whey, etc.) each year.

	2016	2015	2014	2013	2012	2011
Biogas Production – million cubic feet	104.7	82.2	79.9	64.5	57.6	53.7

- ▶ Operations and Maintenance staff completed 12,794 hours of preventative (PM) and planned and unplanned corrective (CM) maintenance related work. 2013 was the first year of tracking maintenance work order labor hours. The large increase in 2014 and continued increases through 2016 are due to several factors including increasing tracking accuracy, expanding the preventative program, and tracking operations department work orders in the asset management program.

	2016	2015	2014	2013
Work Order Hours	12,794	11,525	10,507	7,511
PM/CM ratio	0.78	0.84	0.69	0.69

- ▶ Overtime was only 1.6 % of regular hours worked, the lowest in several years and well below the reported industry average of 5%.

	2016	2015	2014	2013	2012	2011
Overtime %	1.6%	2.0%	2.4%	2.4%	2.3%	2.3%

- ▶ CMSA employees received 3,099 hours of safety, process control, work practice, leadership, mechanical/technical equipment, project related, employment law, and industry specific training. The increases over the past two years are the result of additional tracking of department specific job training for new employees and for existing employees preparing to meet advancement criteria.

	2016	2015	2014	2013	2012	2011
Training Hours	3,099	2,354	1,898	1,965	1,569	1,579

- ▶ Environmental compliance staff performed 23,679 laboratory analyses for process control, NPDES permit reporting, quality assurance/quality control, and for member agency sanitary sewer overflows. The number of some analyses will decrease in future years as staff makes adjustments to how the measurements are tracked and reported.
- ▶ Environmental compliance staff performed 982 field inspections of businesses for compliance under our pretreatment, pollution prevention, and FOG programs. The increase in field inspections beginning in 2013 is the result of providing pollution prevention program support services to local agencies. We anticipate the number will remain relatively constant in future years.

	2016	2015	2014	2013	2012	2011
Environmental Compliance Field Inspections	982	1,031	971	874	843	856

► Our public education activities reached 7,766 people – elementary school students at our Schools Program presentations, students and stakeholder groups that tour the Agency, and members of the public who visit the public education booth at environmentally focused events throughout the county. The significant decrease in 2015 and 2016 primarily were due to the cancellation of some county-wide events that we regularly attend and lower outreach booth attendance at the July Marin County Fair.

	2016	2015	2014	2013	2012	2011
Public Outreach – number of people	7,766	6,950	10,036	9,381	10,570	7,651

► Staff posted 52 odor alerts to our website, and the Agency received one odor complaint.

2015/2016 Organizational and Staff Awards: CMSA and its staff continue to receive recognition from regional, state, and national industry associations.

National Association of Clean Water Agencies (NACWA) Platinum Peak Performance Award - for having no permit exceedances for the past *eleven* consecutive years. CMSA also had no permit exceedances in 2016, and will be receiving the NACWA twelve-year Platinum Peak Performance award this summer.

Government Finance Officers Association (GFOA) Certificate of Achievement for Excellence in Financial Reporting - for our FY 14/15 Comprehensive Annual Financial Report. CMSA has received this award for *thirteen* consecutive years.

GFOA Popular Annual Financial Reporting Award – for our FY 14/15 Popular Annual Financial Report. This is the *fifth* consecutive year the Agency has received this award.

GFOA Distinguished Budget Presentation Award – for our FY 15/16 Adopted Budget. This is the *fourth* consecutive year the Agency has received this award.

2016 CWEA Redwood Empire Section awards:

- Treatment Plant of the Year (Medium)
- Engineering Achievement of the Year – *Chemical Storage Room Rehabilitation Project*
- Safety Program of the Year (25-75 employees)
- Newsletter of the Year
- Public Education Program of the Year: Marin Wastewater Agencies
- Operator-in-Training (Murray McKinnie) – *Abraham Clark*
- Electrical/Instrumentation Person of the Year – *John Farr*
- Mechanical Technician of the Year – *Anthony Smith*
- Pretreatment, Pollution Prevention, and Stormwater (P3S Person of the Year) – *Jose Gutierrez*
- Community Engagement and Outreach Person of the Year – *Gretchen Mueller*
- Research Achievement of the Year – *Rob Cole (Biogas Study by Cal State Fullerton)*

Attachments:

- 2016 Performance Metric Report

CY2016 ANNUAL PERFORMANCE METRICS

TABLE I. TREATMENT/PROCESS METRICS

Metric	Definition	Measurement	Target/Goal
1) Wastewater Treated	Volume of wastewater influent treated and disposed; in billion gallons (Bg)	4.33 Bg	1.98 – 9.84 Bg
2) Biosolids Production	Biosolids reused as Alternate Daily Cover at the Redwood Landfill, in wet tons (wt) Biosolids reused at Land Application site, in wet tons (wt) Lystek Biofertilizer production facility (wt)	4,173.7 wt 2,153.5 wt 374.7 wt	4,320 – 7,980 wt
3) Conventional Pollutant Removal	Removal of the conventional NPDES pollutants - Total Suspended Solids (TSS) and Biological Oxygen Demand (BOD) a. tons of TSS removed b. % removal of solids (annual average) c. tons of organics removed (BOD) d. % removal of organics (annual average)	5,741.8 tons 98.5% 5,696.2 tons 98.2 %	> 85% > 85%
4) Priority Pollutants Removal	Diversion of priority NPDES metals from discharge to the S.F. Bay: a. % Mercury (annual average) b. % Copper (annual average)	96.6 % 94.8 %	88 – 99 84 – 98
5) Biogas Production	Biogas generated in our anaerobic digesters - in million cubic feet (Mft ³) Natural gas (methane) equivalent of the biogas - in million cubic feet (Mft ³)	104.7 Mft ³ 67.0 Mft ³	60 to 102 Mft ³ 38.4 to 64.8 Mft ³
6) Energy Produced	Energy produced from cogeneration of generated biogas and purchased natural gas - in megawatt hours (MWh) Cogeneration system runtime on biogas – <i>in hours (hrs); % time during year</i> Biogas value (natural gas cost equivalent)	5,069 MWh 7,629 hr.; 86.8% \$296,123	4,560 to 5,520 MWh 4,320hr; 50% \$84,000 to \$288,000
7) Efficiency	The cost to operate and maintain the treatment plant per million gallons of wastewater treated - in dollars per million gallons Energy used, kilowatt hours, per million gallons treated	\$1,139/MG 1,544 kWh/MG	\$451-\$1,830/MG (wet - dry) 670 - 2,400 kWh/MG

Table II – EMPLOYEE METRICS

1) Employee Training	Hours of internal training – safety, web-based, project, vender, etc. Hours of external training – employment law, technical, regulatory, etc.	Internal = 2,056 hr External = 1,043 hr	variable
2) Work Orders	Preventative maintenance (PM) labor hours Planned corrective maintenance (CM) labor hours; % of CM+UCM hrs. Unplanned corrective maintenance (UCM) labor hours; % of CM+PM hrs. Ratio of PM to total corrective maintenance (CM + UCM)	5,600 hrs. 6,020 hrs. (83.7%) 1,174hrs. (10.1%) 0.78	3,300 – 4,800 hrs. ≥ 70% total CM hrs. ≤ 30% total hours. ≥ 0.45
3) Overtime Worked	Overtime hours worked % of regular work hours	1,408.75 1.6%	< 5%

CY2016 ANNUAL PERFORMANCE METRICS

Table III - ENVIRONMENTAL AND REGULATORY COMPLIANCE METRICS

Metric	Definition	Measurement	Target/Goal
1) Permit Exceedances	# of NPDES permit exceedances	0	0
2) NPDES Analyses	# samples analyzed by the CMSA laboratory for NPDES compliance monitoring	5,018	4,932 – 7,200
3) Process Analyses	# samples analyzed by the CMSA laboratory for process control reporting and monitoring	14,223	9,600 – 18,000
4) Quality Control Testing	# of CMSA performed laboratory analyses for QA/QC purposes. Accuracy of QA/QC tests	4,199 99.8%	4,164 – 6,600 > 98%
5) Water Quality Sample Analyses	# of ammonia, coliform (total and fecal), enterococcus, and/or sulfide analyses performed for the CMSA member agencies (SSOs, etc.)	239	as-needed
6) Pollution Prevention Inspections	Inspections of industrial and commercial businesses in the Agency's pretreatment and pollution prevention programs and Novato Sanitary District's Mercury Reduction Program – 277 businesses regulated	371	variable
7) FOG Program Inspections	Inspections of food service establishments (FSEs) in the Almonte, TCSD, SD2, RVSD, SRSD, and LGVSD service areas – approx. 500 FSEs in program, 310 are regulated – either permitted or have waivers.	611	300 – 840
8) Permits Issued/Renewed	Permits issued for the pretreatment, pollution prevention, and FOG source control programs, and for groundwater discharge	68	variable

Table IV- Public Outreach

Metric	Definition	Measurement	Target/Goal
1) Public Education Events	Attendance at public education outreach events; # of booth visitors	3,227	3,500/year
2) School Events	Participation or sponsorship in school outreach events; # of attendees	4,071	variable
3) Agency Tours	Tours given to students and the public; # of people	468	variable
3) Odor Notifications	Number of odor alerts posted to the Agency website due to process or operational changes	52	12-120
4) Odor Complaints	Number of odor complaints received from the public	1	0



BOARD MEMORANDUM

January 6, 2017

To: CMSA Commissioners and Alternates
From: Brian Thomas, Technical Services Manager
Approved: Jason Dow, General Manager *JJD*
Subject: **Solids Handling Building Ventilation Improvements Project – Construction Contract Award (CMSA Contract No. 17-07)**

Recommendation: Award the construction contract for the Solids Handling Building Ventilation Improvements Project to Buhler Commercial for the low bid amount of \$238,695, and authorize the General Manager to execute the contract agreement.

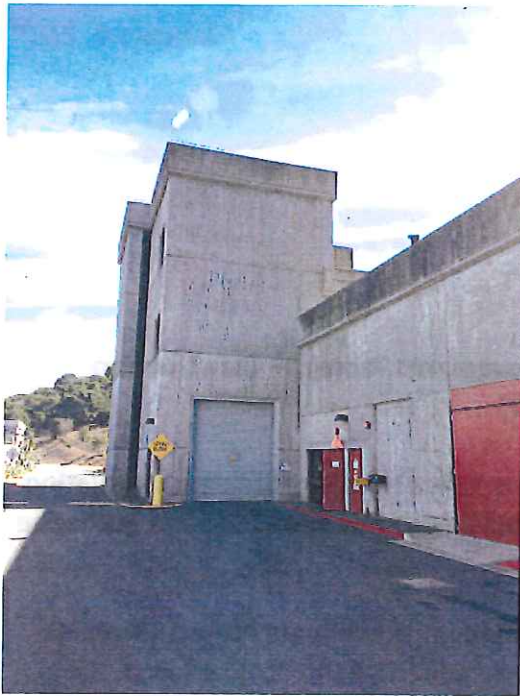
Summary: The Board adopted the Solids Handling Ventilation Improvements Project (Project) contract documents and authorized the General Manager to advertise the Project for public bidding at the November 2016 meeting. The Notice Inviting Bids was issued on November 14, 2016 and bids were opened on December 20, 2016. Four bids were received, opened, and reviewed by staff. A bid summary is attached for reference. The lowest, responsive, responsible bidder is Buhler Commercial (Buhler) located in San Francisco for the total bid amount of \$238,695. If the construction contract is awarded, the Notice to Proceed will be issued no later than January 18, 2017, and construction will be substantially completed by July 17, 2017.

Fiscal Impact: The Agency's 10-Year Capital Improvement Program (CIP) allocates \$370,000 in FY 17 for the Project's construction activities, inspection, and engineering services during construction. The engineer's estimate of probable construction cost was \$303,000. Buhler's low bid proposal is \$64,305 below the engineer's estimate and \$131,305 below the CIP budget amount.

Background: Biosolids are dewatered in centrifuges and are temporarily stored in hoppers in the Solids Handling Building (SHB). Each day, biosolids are loaded from the hoppers into a semi-truck trailer for transportation to various beneficial reuse sites. Operations staff has reported irritation from exposure to the truck's diesel exhaust fumes, biosolids dust, and odors. Temporary improvements have been implemented to partially ventilate the working area where the biosolids loading controls are located.

The Project's scope of work includes installation of supply and exhaust fans with distribution ducting in the SHB in order to significantly reduce operator exposure to the diesel fumes and biosolids dust when loading the hauling trucks from the biosolids hoppers. The Project's ventilation system is also sized to minimize the potential for explosive atmospheric conditions

to develop in specific rooms in the SHB, in compliance with the National Fire Protection Association (NFPA) Standard 820. Photos of the SHB exterior and loading bay are shown below.



Solids Handling Building Exterior



Biosolids truck loading area and hoppers

Bid Protest: On December 20, 2016, the Agency received the attached bid protest letter from the second lowest bidder, Greentech Industry. Their protest letter referenced a provision in CMSA's standard contract documents that requires designated subcontractors to have a valid California Contractor's license number. Buhler listed Electrical Express as their electrical subcontractor whose license status is listed as suspended on the California Contractor State License Board (CSLB) website. Electrical Express' license is suspended for failure to provide workers' compensation insurance documentation to the CSLB. The CSLB website states "Ask the contractor for proof of workers' compensation and contact the insurance company to verify coverage."

Buhler submitted the attached letter responding to the bid protest on December 27, 2016. Their response letter includes an insurance certificate showing Electrical Express did have active workers' compensation insurance during the bid period. In a separate correspondence from Buhler, they also provided additional workers' compensation insurance policy documents for Electrical Express. Staff called the CSLB and confirmed they are approximately one month behind in processing data for contractor license renewals. Therefore, Buhler has sufficiently responded to the issue raised in the bid protest and no Board action is needed.

Alignment with Strategic Plan: This project supports Goal 1 – Objective 1.3 in the Agency’s FY 17 Strategic Business Plan.

Goal One: CMSA will continue to operate and maintain its wastewater facilities to produce high quality effluent and biosolids, within a changing regulatory environment.

Objective 1.3: Manage the Agency’s assets

Attachments

- A) 12/20/2016 Bid Opening Summary
- B) 12/20/2016 Greentech Industry Inc. Bid Protest Letter
- C) 12/27/2016 Buhler Bid Protest Response Letter

Central Marin Sanitation Agency
Solids Handling Building Ventilation Improvements
CMSA Contract No. 17-07
Bid Opening Results
12/20/2016 11:00AM

Bidder	Bid Amount
Green Tech Industry Inc.	\$ 287,850
Bell Products Inc	\$ 410,274
Blocka Construction Inc.	\$ 354,890
Buhler Commercial	\$ 238,695

S. Wanta
Bids Opened By

B. Thomas
Bids Read By



Greentech Industry Inc.
 1850 Gateway Blvd #265, Concord, CA 94521
 (510) 922-1100 Off
 (510) 922-8898 Fax
nickj@greentechindustry.net

12/20/2016

Protest

Dear Jacky Wong,

This letter is a formal protest submitted by GreenTech Industry Inc for the project "Solids Handling Building Ventilation Improvements".

We are protesting the bid was placed by Buhler Commercial.

By the specs 00100-3 CMSA Contract No. 17-07 Solid Handling Building Ventilation Improvements: "In accordance with California Public Contract Code Section 4100, et seq., each bid shall have listed in Section 00430, DESIGNATION OF SUBCONTRACTORS, the name, type or trade, valid California Contractor's license number, portion of work to be performed, and location of the place of business of each subcontractor who will perform work or labor or render service to the bidder in or about the construction of the work or improvement, or of any subcontractor licensed by the State of California who, under subcontract to the bidder, will specifically fabricate and install a portion of the work or improvement according to detailed drawings contained in the Contract Documents, in an amount in excess of one-half of one percent of the bidder's total bid .(highlighted is only needed on highway and road projects) The bidder shall be solely responsible to correct errors in the listing of the California Contractor's license number within 24 hours of bid opening. If the bidder identifies an inadvertent error in their listed subcontractor California Contractor License Number, the bidder will have 24 hours after the bid opening to provide the corrected Contractor's License Number to the Owner. Submit information to: Attn: Jacky Wong, CMSA Project Engineer The bidder's failure to submit a corrected California Contractor's license number in compliance with the process set forth above will cause the bid to be deemed nonresponsive and rejected. If the Contractor fails to designate in its proposal a subcontractor for any portion of the work as required above, the bidder shall be deemed to have agreed to perform such portion of the work itself and shall not be permitted to subcontract that portion of the work without the written permission of the Owner in accordance with applicable law ..."

Buhler Commercial placed "ELECTRICAL EXPRESS INC" as an electrical sub-contractor, whose license is under suspension (Attachment 1) which should be the reason for rejection their bid.

Signature.....

Nick Jelev
 Director
 GreenTech Industry Inc

Contractor's License Detail for License # 979105

⚠️ DISCLAIMER: A license status check provides information taken from the CSLB license database. Before relying on this information, you should be aware of the following limitations. (hide/show disclaimer)

- CSLB complaint disclosure is restricted by law (B&P 7124.6) If this entity is subject to public complaint disclosure, a link for complaint disclosure will appear below. Click on the link or button to obtain complaint and/or legal action information.

Business Information

ELECTRICAL EXPRESS INC
P O BOX 16082
SAN FRANCISCO, CA 94116
Business Phone Number:(415) 720-6224

Entity Corporation
Issue Date 12/04/2012
Expire Date 12/31/2018

License Status

License is under suspension for the following reasons:

License is under suspension for failure to comply with Workers Comp. A workers' compensation certificate or exemption statement may have been received by the Board but not yet processed. Once the certificate or exemption statement is processed the suspension will be lifted retroactively to the effective date of the certificate or exemption statement. Ask the contractor for proof of worker's compensation and contact the insurance company to verify coverage.

Classifications

C10 - ELECTRICAL

Bonding Information

Contractor's Bond

This license filed a Contractor's Bond with SURETEC INDEMNITY COMPANY.

Bond Number: 242558

Bond Amount: \$15,000

Effective Date: 11/06/2016

Contractor's Bond History

Bond of Qualifying Individual

This license filed Bond of Qualifying Individual number **231280** for VEIKO HORAK in the amount of **\$12,500** with SURETEC INDEMNITY COMPANY.

Effective Date: 11/06/2015

BQI's Bond History

Workers' Compensation

This license has workers compensation insurance with the HARTFORD FIRE INSURANCE COMPANY

Policy Number:72WECPK4208

Effective Date: 11/08/2015

Expire Date: 11/08/2016

Workers' Compensation History

Other

Personnel listed on this license (current or disassociated) are listed on other licenses.

- Per B&P 7071.17 , only construction related civil judgments reported to the CSLB are disclosed.
- Arbitrations are not listed unless the contractor fails to comply with the terms of the arbitration.
- Due to workload, there may be relevant information that has not yet been entered onto the Board's license database.



COMMERCIAL CONSTRUCTION

December 27, 2016

Central Marin Sanitation Agency
Attn: Jacky Wong
1301 Andersen Drive
San Rafael, CA 94901

CMSA Bid Protest Response

Dear Mr. Wong:

In response to the bid protest, received on 12/21/16 from Greentech Industry, Inc. for the SOLIDS HANDLING BUILDING VENTILATION IMPROVEMENTS, CMSA CONTRACT NO. 17-07 please see below.

- 1) On the CSLB website, Electrical Express Inc. license suspension statement says **"A workers' compensation certificate or exemption statement may have been received by the Board but not yet processed... Ask the contractor for proof of worker's compensation and contact the insurance company to verify coverage."** See attached certificate showing workers compensation coverage from 11/8/16 to 11/8/17. This insurance can be verified by contacting Verna Brautigam, Limitless Insurance Solutions, Inc, 840 Hinckley Rd Suite 201, Burlingame, CA 94010. (650) 259-7515. Verna@limitlessins.com.
- 2) Electrical Express Inc. contractors license is currently listed as suspended because the CSLB has yet to process their Workers Compensation renewal, due to long processing lead times. The subcontractor's workers comp renewal has been provided to the CSLB and is attached.
- 3) Subcontractor has not lapsed worker's compensation insurance. See attached certificate with renewal date of 11/8/16.
- 4) The CSLB has confirmed long processing lead times via phone. This can be verified by calling the CSLB directly at (800) 321-2752.

I hope this resolves any issues and we look forward to a successful project.

Sincerely,

Steve C. Buhler, President
Buhler Commercial



Due to workload, there may be relevant information that has not yet been entered onto the Board's license database.

Business Information

ELECTRICAL EXPRESS INC
P O BOX 16082
SAN FRANCISCO, CA 94116
Business Phone Number:(415) 720-6224

Entity Corporation
Issue Date 12/04/2012
Expire Date 12/31/2018

License Status

License is under suspension for the following reasons:

- License is under suspension for failure to comply with Workers Comp. A workers' compensation certificate or exemption statement may have been received by the Board but not yet processed. Once the certificate or exemption statement is processed the suspension will be lifted retroactively to the effective date of the certificate or exemption statement. Ask the contractor for proof of worker's compensation and contact the insurance company to verify coverage.

Classifications

C10 - ELECTRICAL

Bonding Information

Contractor's Bond

This license filed a Contractor's Bond with SURETEC INDEMNITY COMPANY.

Bond Number: 242558.



CERTIFICATE OF LIABILITY INSURANCE

SNW
R002DATE (MM/DD/YYYY)
12/20/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER SUPERIOR ACCESS INS SRVC INC/PHS 181840 P: (866) 467-8730 F: (888) 443-6112 PO BOX 33015 SAN ANTONIO TX 78265	CONTACT NAME: PHONE (A/C, No, Ext): (866) 467-8730		FAX (A/C, No): (888) 443-6112
	E-MAIL ADDRESS:		
INSURED ELECTRICAL EXPRESS INC DBA ELECTRICAL EXPRESS PO BOX 16082 SAN FRANCISCO CA 94116		INSURER(S) AFFORDING COVERAGE INSURER A: Sentinel Ins Co LTD	NAIC# 11000
		INSURER B:	
		INSURER C:	
		INSURER D:	
		INSURER E:	
		INSURER F:	

COVERAGES**CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:						EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COM/OP AGG \$ \$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	UMBRELLA LIAB <input type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input type="checkbox"/> RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y/N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		72 WEC PK4208	11/08/2016	11/08/2017	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Those usual to the Insured's Operations. License# 979105

CERTIFICATE HOLDER

Contractors State License Board
 PO BOX 26000
 SACRAMENTO, CA 95826

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Joe Taylor

SUPERIOR ACCESS INS SRVC INC/PHS
PO BOX 33015
SAN ANTONIO TX 78265

Contractors State License Board
PO BOX 26000
SACRAMENTO CA 95826



BOARD MEMORANDUM

January 6, 2017

To: CMSA Commissioners and Alternates

From: Jason Dow, General Manger 

Subject: CMSA Amended Joint Powers Agreement – JPA Manager Review Comments

Recommendations: Review and discuss the JPA managers' comments on the amended CMSA Joint Powers Agreement, and provide direction to staff.

Summary: In July 2015, the JPA managers group began the process to review the amended CMSA Joint Powers Agreement (JPA). Their work focused on identifying provisions within the JPA and areas in its Exhibits, Attachments and Figures for potential revision to reflect the current and future delivery of wastewater services in central Marin County. This collaborative work was performed at the monthly JPA manager meetings, and at the December 2016 meeting the managers agreed that CMSA's Board should review their comments and provide direction on the Board's interest with initiating a discussion between the JPA agencies on potentially revising the JPA given the managers' work product. If the CMSA Board is interested in pursuing that objective, the JPA managers will propose alternative methods amongst the JPA agencies to discuss and review the suggested JPA revisions, as well as other changes, to each of their respective governing Boards.

Discussion: CMSA's JPA became effective in October 1979, and has been amended six times over the past thirty seven years. Five of those amendments were made prior to 1990, and the last amendment was made in 2006 to align the term of the JPA with that of the CMSA revenue bonds. Several of the provisions in the JPA were important when drafted but are no longer applicable to CMSA's operation or business, while others have been replaced in practice by CMSA Board adopted financial and personnel policies.

Exhibits in the JPA list the facilities and assets that were constructed during the Central Marin Clean Water Grant Program in the early 1980s, and how these costs were allocated amongst the federal and state grant programs, JPA agencies, and San Quentin State Prison. Some information has been supplemented and clarified in two separate Memorandums of Understanding (MoU) between CMSA and the JPA agencies. These MoUs define each JPA agency's ownership, operational, and maintenance responsibilities for wastewater collection system assets that are listed in the JPA Exhibits, unintentionally not included in the JPA, and for others that were constructed after CMSA began operation in May 1985.

A summary of the noteworthy suggested revisions to the JPA are summarized below by section, and a marked-up version of the JPA showing all the suggested changes and some comments are attached.

Recitals: All of the Whereas statements explain the history and need to form the CMSA. Consider preparing new Whereas statements to describe activities since the JPA was executed and the current state of wastewater services. For example: Larkspur annexation into RVSD, CMSA providing wastewater services to San Quentin, JPA amended six times, and current CMSA provided services.

Section 1. Definition of Terms: These need to be updated and some deleted.

Section 3. Purpose: Revised to define the current purpose of the CMSA operation and delivered services, such as treating wastewater and biosolids, producing renewable power, recycling water, recovering resources, etc.

Section 4. Term and Effect: The current term of the JPA is through January 1, 2036. This date can be kept the same or adjusted. References to pre-JPA wastewater service agreements between agencies should be removed.

Section 5. Powers: Remove section pertaining to receiving grants, and authority of CMSA Treasurer to sign checks as it conflicts with Board policy and staff separation of duties. Verify all Clean Water Act and Sanitary District references are accurate and applicable. Document current CMSA renewable resource use practices and activities.

Section 7. Commission Membership and Officers: References to contract authorization and use of funds need to align with Board adopted Financial Policies or should be removed.

Section 8. Commission Voting: For the Board to approve or pass any measure, the JPA requires four affirmative votes regardless of how many commissioners are at the meeting. It would be helpful if this section was revised to allow the commission to approve business with the majority of the meeting attendees. For example: If four commissioners are present, three are needed to approve a measure.

Section 14. Operating Fund: Change the responsibility of determining how dwelling units are calculated from CMSA to the JPA agencies.

Section 15. Construction and Land Acquisition Fund: This section established how design and construction costs for CMSA were allocated amongst the member agencies. Delete entire section as it is no longer applicable.

Section 16. Ownership of Property: Many revisions to this section, most of which pertain to clarifying that CMSA owns the land and facilities located on specific parcel numbers, and

surplus operating and capital funds. This section has been interpreted different in the past by different stakeholders.

Section 17. Functional Responsibilities: Requirement that each JPA agency will control hydrogen sulfide generation in their respective collection system to one part per million is removed, and each agency grants CMSA access to its odor control facilities that are located at specific pumps stations.

Section 18. Indemnification: CSRMA recommends that this section also include minimum liability insurance requirements and limits for CMSA and the JPA agencies.

Section 21. Settlement of Disputes: The only dispute resolution method in the JPA is binding arbitration. It is valuable to include additional resolution methods that provide a progressive sequence of activities to address disputes.

Section 22. Withdraw or Dissolution: This section should be revised given CMSA has the only wastewater treatment facility in central Marin that can effectively serve the JPA member and San Quentin. The distribution of assets and liabilities provisions need to be clarified and the distribution methodology explained in detail.

Section 26. Personnel: Nearly all of the provisions and requirements in this section are addressed in CMSA Board adopted Personnel Policies and Procedures Manual. A revised section should define the Board and General Manager's personnel responsibilities, and reference the Personnel Manual.

Exhibit A: Shows the estimated Central Marin Wastewater Grant Program costs, and how each facility's local share costs are allocated to each JPA member agency and San Quentin. If the JPA is revised this section should be removed or included in an appendix for historical reference.

Exhibit B: Replace this Exhibit with the above referenced MoUs, and update the two figures of the service area.

Attachment:

- Amended CMSA Joint Power Agreement with JPA Manager Comments

CENTRAL MARIN SANITATION AGENCY

AMENDED JOINT EXERCISE OF POWERS AGREEMENT
(with JPA Manager comments and revisions)

December 2016

This Agreement, dated ~~October 15, 1979~~, is by and between SANITARY DISTRICT NO. 1 of MARIN COUNTY, SAN RAFAEL SANITATION DISTRICT, SANITARY DISTRICT NO. 2 of MARIN COUNTY, and the CITY OF LARKSPUR.

RECITALS

(move all these Whereas statements to an exhibit since they are dated) Suggestion - add new Whereas statements to reflect JPA execution date and amendment dates, CMSA's operations since 1985, JPA members operate and maintain collection systems, and JPA revising/amendment process, state of the industry and its trends, and the JPA agencies aligned with them, etc.

~~WHEREAS, the wastewater treatment facilities of agencies discharging sewage wastes into the San Pablo/San Francisco Bays are in need of substantial modification and improvement requiring an expenditure of public funds; and~~

~~WHEREAS, an extensive study has been made of the Central Marin area sewage treatment needs; said study has recommended the construction of a new regional plant at the site known as CM-5; and~~

~~WHEREAS, the signators to this Agreement are the public agencies having the responsibility for sewage treatment in the Central Marin area; and~~

~~WHEREAS, each of the parties hereto has power to acquire, construct and operate sewage collection, interceptor and outfall lines and plants and facilities for the treatment and disposal of sewage, and the agencies propose by this Agreement to exercise said power jointly for the purpose of providing for the more efficient treatment and disposal of the sewage produced in each agency, all to the economic and financial advantage of each agency and otherwise for the benefit of each agency and each of the agencies is willing to plan with the other agencies for future sewage treatment and disposal facilities which will protect all of the agencies; and~~

~~WHEREAS, the Agency is to be formed for the purpose of planning, administering, and coordinating sewage treatment and disposal services throughout the Agency area; and~~

~~WHEREAS, SANITARY DISTRICT NO. 1 of MARIN COUNTY by Resolution No. 676 of the SANITARY DISTRICT NO. 1 governing board has voluntarily joined the Agency; and~~

~~WHEREAS, SAN RAFAEL SANITATION DISTRICT by Resolution No. 487 of the SAN RAFAEL SANITATION DISTRICT governing board has voluntarily joined the Agency; and~~

~~WHEREAS, SANITARY DISTRICT NO. 2 of MARIN COUNTY by Resolution No. 6-79 of the SANITARY DISTRICT NO. 2 governing board has voluntarily joined the Agency; and~~

~~WHEREAS, CITY OF LARKSPUR by Resolution No. 57/79 of the CITY OF LARKSPUR governing board has voluntarily joined the Agency; and~~

~~WHEREAS, SANITARY DISTRICT NO. 1 of MARIN COUNTY, SAN RAFAEL SANITATION DISTRICT, SANITARY DISTRICT NO. 2 of MARIN COUNTY and CITY OF LARKSPUR own and operate certain sewerage works, part of which may be used in an integrated system works throughout the Agency; and~~

~~WHEREAS, the Agency will be responsible for compliance with established standards of the State and/or Federal government for wastewater discharge requirements; and~~

~~WHEREAS, the discharge of this responsibility requires the centralization of authority to fix standards and to plan, administer and coordinate operation of an integrated sewerage system, either directly or through contractual relationships with other government entities; and~~

~~WHEREAS, it is in the interest of the Members to enter into this Agreement relating to the construction, ownership, maintenance and operation of sewerage facilities and other matters relating thereto:~~

NOW, THEREFORE, THE PARTIES HEREBY AGREE AS FOLLOWS:

Section 1. Definition of Terms

Wherever the following terms are used in this Agreement they shall have the following meaning unless otherwise specifically indicated by the context in which they appear:

1. "ACT" means the provisions of Chapter 5, of Division 7 of Title 1 of the Government Code (commencing with Section 6500) pertaining to joint powers agreements.
2. "AGENCY" means the Central Marin Sanitation Agency.
3. "DISTRICT NO. 1" means SANITARY DISTRICT NO. 1 of MARIN COUNTY, a municipal or public corporation, a party to this Agreement.
4. "SAN RAFAEL" means SAN RAFAEL SANITATION DISTRICT, a municipal or public corporation, a party to this Agreement.
5. "DISTRICT NO. 2" means SANITARY DISTRICT NO. 2 of MARIN COUNTY, a municipal or

public corporation, a party to this Agreement.

6. "LARKSPUR" means CITY OF LARKSPUR, a municipal or public corporation, a party to this Agreement.
7. ~~"CM-5" means ALTERNATIVE CM-5 for CENTRAL MARIN SANITATION AGENCIES as described in the EASTERN MARIN/SOUTHERN SONOMA WASTEWATER FACILITIES PLAN ADDENDUM, July 1979.~~
- ~~8. "STEP 2" means, as described in Federal and State guidelines, the design phase of the regional facilities.~~
- ~~9. "STEP 3" means, as described in Federal and State guidelines, the construction phase of the regional facilities.~~
10. "COMMISSION" means the governing board of Central Marin Sanitation Agency.
11. "JOINT FACILITIES" means those sewerage wastewater facilities used or capable of being used by two or more Members. (consider deleting this term, as MoUs define asset responsibilities)
12. "LAW" means the Joint Exercise of Powers Law, Section 6500 et seq. of the Government Code of the State of California.
13. "MEMBER" means any party to this Agreement.
14. "OPERATION AND MAINTENANCE" means the regular performance of work required to assure continuous functioning of the sewerage wastewater system and corrective measures taken to repair facilities to keep them in operating condition.
15. "ORDER" means the duly adopted Resolutions and Orders (we don't issue orders) of the Agency.
16. "REGIONAL CHARGE" means a charge by the Agency to the Members based on sewage wastewater flow and strength. The revenue from such charges to be used by the Agency to pay for the cost associated with the wastewater treatment and disposal of sewage services, including but not limited to acquisition of facilities, construction expenses, and operational, and administrative costs.
17. "SEWER SERVICE CHARGE" means a charge to a property owner or occupant of designated premises for the use of the sanitary sewerage sewer system.
18. "CONNECTION CHARGE" means a one-time charge to a property owner for connection

to the sanitary sewerage system for the first time or for construction of additional improvements which will add to the quantity or strength of sewage-wastewater flow.

19. "DWELLING UNIT" means one unit as measured or estimated by the amount of sewage wastewater generated by a single-family residence or equivalent, relating to the flow and strength as **determined by the Agency**.
20. "SOLE USE FACILITIES" means those wastewater facilities owned, used, operated and/or maintained by a single Member. (consider deleting this term, as MoUs define asset responsibilities)
21. "STANDARDS" means the terms and conditions of use of the Agency facilities as specified by the Agency.

Section 2. Creation of Agency

There is hereby created a public agency to be known as the "Central Marin Sanitation Agency", herein called Agency. The Agency is formed by this Agreement pursuant to the provisions of Article 1, Chapter 5, Division 7, Title 1 of the Government Code of the State of California relating to the joint exercise of powers common to public agencies. For the purposes of this Agreement, the Agency is a public agency separate from the parties hereto.

Section 3. Purpose

The purpose of ~~this Agreement is to create an~~the agency which willis to plan, acquire, construct, maintain and operate facilities, for either joint or sole use, for the collection, treatment, reclamation and disposal of sewage-wastewater and other wastewater for the benefit of lands and inhabitants within the collective boundaries of the Members., and to capture and utilize the renewable resources derived from the wastewater treatment process, including but not limited to biogas, recycled water, and biosolids

~~Member by signature to this Agreement authorizes the Agency to design, construct, operate and maintain the project known as CM-5 as described in Eastern Marin/Southern Sonoma Wastewater Facilities Plan Addendum, July 1979.~~

Section 4. Term and Effect

This Agreement shall become effective when ~~all of the eligible the~~ Members ~~shall~~ have executed this Agreement and shall continue in force and effect until terminated by an Agreement pursuant to Section 22 or until January 1, 2036 **(longer term?)**, whichever is earlier. However this Agreement may be renewed, modified or terminated by mutual agreement. ~~The existing 1960 Agreement between Sanitary District No. 1 and Sanitary District No. 2 and the existing Agreement between Sanitary District No. 1 and the City of Larkspur are hereby~~

~~rescinded, such rescission to take effect at the time that the Regional Treatment Plant is fully operative, provided, however, that paragraph 3(c) of the Agreement between Sanitary District No. 1 and the City of Larkspur shall remain in effect.~~

Section 5. Powers

- A. The Agency shall have the power and authorization to plan, acquire, construct, maintain and operate facilities for either joint or sole use, for collection, treatment, reclamation and disposal of ~~sanitary sewage and similar~~ wastewaters for the benefit of lands and inhabitants within its boundaries. ~~The Members will relinquish to, and the Agency will assume for the benefit of the Members, responsibility for all functions pertaining to the treatment, reclamation and disposal of sewage and similar wastewater.~~ The Agency may enter into contracts to perform any or all of these functions.

(Expand powers to include receiving organic materials for anaerobic digestion, biosolids reuse, production and distribution of recycled water, utilization of biogas to produce energy for internal use and external sale, and capture of other renewable resources for use or sale)

(Appropriate boundaries should be defined, and include at a minimum SQ state prison and SQ Village area)

- B. ~~The Agency is authorized to provide wastewater related services to local agencies outside of its boundaries, if the services provide a financial benefit to the Agency, JPA members, and their mutual customers. Service examples include public education, pollution prevention/source control, and operations and maintenance of facilities.~~
- C. The Agency is hereby authorized, in its own name, to do all acts necessary for the exercise of said power for said purposes, including but not limited to any or all of the following: to make and enter contracts; apply for and accept grants, advances and contributions; to employ agents and employees; to acquire, construct, manage, maintain and operate any **Agency** buildings, works or improvements; to acquire, hold or dispose of property; to sue and be sued in its own name, to incur debts, liabilities, or obligations; to issue bonds, notes, warrants, and other evidences of indebtedness to finance costs and expenses incidental to the projects of the Agency; and to exercise jointly the common powers of the parties hereto set forth above. No such debts, liability, or obligation of the Agency shall constitute a debt, liability or obligation of any Member. The Agency has no power to levy or cause to be levied ad valorem property taxes. The Agency has the power of eminent domain.

~~C. The Agency is hereby authorized in its own name, to accept Federal and State grants on behalf of the Members for improvements necessary to the sole use facilities of Members, excluding Marin Bay Plant, as described in the Eastern Marin/Southern Sonoma Wastewater Facilities Plan Addendum, July 1979. The Agency may plan,~~

~~acquire and construct said sole use facilities but it will be each and every Member's responsibility to maintain and operate said sole use facilities belonging to that Member.~~

(Can be removed since grants were received, members' sole use facilities constructed, and CMSA built.)

(Replace section with authority to accept grants and loans on behalf of member agencies for the delivery of regional projects.)

D. The powers are subject to the restrictions upon the manner of exercising the powers of the Sanitary District Act of 1923, Division 6, of the Health and Safety Code of the State of California, as amended. The Agency specifically excepts Health and Safety Code Section 6487 from its restrictions so that CMSA may make its own provisions regarding payment of **invoices, bills, debt service**, and warrants. Specifically, these provisions are contained in Section 5.F. of this Joint Powers Agreement.

(Confirm Sanitary District Act if most appropriate legal authority)

*

E. The Agency shall have the power to carry out a pretreatment program in accordance with Parts 307(b) and (c) and 402(b)(8) of the Federal Government's Clean Water Act (October 18, 1972) and Part 403 of the Federal Government's General Pretreatment Regulations for Existing and New Sources of Pollution.

(Check if CWA references are accurate, and we should add a reference for the new source control requirements of the RWB – pollution prevention, mercury reduction, FOG, etc.)

~~F. Pursuant to Government Code Sections 6505.5 and 6505.6, the CMSA is authorized to appoint an employee of the Agency (CMSA) to act as treasurer and auditor for CMSA. and such employee is authorized to sign checks and warrants from the CMSA account for any sums due from CMSA. This authority includes the signing of payroll checks, signing checks for other bills of CMSA and all sums payable on outstanding bonds and coupons of CMSA. All checks and warrants signed by the treasurer and auditor shall be approved by the CMSA Board.~~

All CMSA checks (except checks from the petty cash fund) shall be signed by two individuals. CMSA may appoint an employee to sign checks ~~with the treasurer~~. All individuals who sign checks shall be bonded.

The employee appointed by CMSA as treasurer ~~and auditor~~ is subject to the powers and restrictions contained in Government Code Sections 6500 et seq. CMSA reserves the right to withdraw the appointment of such employee as treasurer ~~and auditor~~.

Section 6. Governing Body of the Agency

The Agency shall be governed by the Central Marin Sanitation Agency Commission. The Commission shall, on behalf of the Agency, adopt a budget annually, both for capital outlay and maintenance and operation; ~~approve make-all~~ contracts for the Agency; establish rates and charges; grant easements, licenses or permits for the use of the property of the Agency; ~~approve demands for payment by the Agency~~; designate an administrator; contract for services as necessary; and take such other actions as are necessary or convenient to carry out the purpose and intent of this Agreement.

(Revise: Board approves contracts that exceed designated staff signature authority; Board doesn't approve payments as these are approved by staff through financial policy authorization; Board appoints general manager)

Section 7. Commission Membership and Officers

- A. The Commission shall consist of six commissioners, two appointed by the governing board of District No. 1, two appointed by the governing board of San Rafael, one appointed by the governing board of District No. 2, and one appointed by the City Council of Larkspur.
- B. Each commissioner may be an elected official of the governing body of the City or District he/she represents, or may be such other resident of the City or District as selected by the Member. A commissioner shall serve in such a manner and for such term as each Member may determine, and may be removed at the pleasure of the Member appointing such person. The Commission shall annually choose commissioners to serve as Chairman and Vice-Chairman. The commissioners shall annually choose a Secretary who shall be a commissioner. Each Member shall determine its method of selection of the person representing the City or District. An elected official or resident of the City or District may be designated by the Member to serve as an alternate to any commissioner.
- C. The Commission may appoint and employ an Administrator-General Manager who shall perform such duties as may be imposed by the Commission and who shall report to the Commission in accordance with such rules and regulations as the Commission may adopt.
- D. The Chairman shall sign all contracts on behalf of the Agency and perform such other duties as may be imposed by the Commission. The Commission may delegate to the Administrator-General Manager the power to sign contracts on behalf of the Agency after approval by the Commission. The Vice-Chairman shall act in the absence of the Chairman. The Secretary shall countersign all contracts on behalf of the Agency; perform such other duties as may be imposed by the Commission; and keep minutes of all meetings and cause a copy of the minutes to be forwarded to each of the

commissioners and each of the Members.

(Revise - Chair and Secretary only sign contracts that exceed staff signature authority)

E. The Commission shall appoint a Treasurer/Controller. Said power of appointment may be vested with the Administrator by action of the Commission. The Treasurer shall have the duties and obligations set forth in Section 6505.5 of the Government Code of the State of California.

~~F. Pursuant to Government Code Section 53952, the CMSA Board may, by resolution, establish a revolving fund in an amount not to exceed \$1,000 to be used to make change and pay small bills directly. Such resolution shall (1) state the purposes for which the fund may be expended; (2) designate the officer of CMSA who shall have authority to make disbursements and account for receipts and disbursements; (3) state the necessity for the fund; and (4) designate the maximum amount of the fund.~~

~~1. The Board shall require the filing of a bond by the officer for whose use the fund is created for an amount not less than the amount of itself. Such bond shall be executed by the officer as principal and by an admitted surety insurer.~~

2. The above designated officer shall keep receipts for all expenditures over \$1.00.

G. The CMSA Board may, by resolution, establish a payroll revolving fund. Such resolution shall (1) state the purpose for which the fund may be expended; (2) designate the officer of CMSA who will serve as ~~auditor and~~ treasurer; (3) designate the ~~auditor/~~ treasurer as the officer who shall have the authority to sign payroll disbursement; (4) state the necessity for the fund; and (5) designate the maximum amount of the fund.

Section 8. Commission Voting

Each commissioner shall be empowered to cast one vote on each measure. Four commissioners shall constitute a quorum. Four affirmative votes are required for passage of any measure, except that any of the following measures shall require the affirmative vote of five commissioners for passage:

(a) approving the withdrawal of any Member.

(b) approving the dissolution of the Agency.

Requiring four affirmative votes to pass any measure is limiting if there are vacancies at a meeting. Revise: Majority of commissioners present can approve a measure.

Section 9. Duties of the Commission

- A. The duties of the Commission shall be:
- (a) to make all policy decisions and exercise all the powers of the Agency.
 - (b) to submit full and regular reports to the Members,
 - (c) to adopt and/or revise from time to time such rules and regulations for the conduct of its affairs as may be required. (Board of Commissioners' Policies).
- B. Agency shall have the power to compensate commissioners in accordance with the provisions of the Sanitary District Act of 1923, as amended.

Section 10. Meetings of the Commission

- A. Regular meetings of the Commission shall be held at such times and places as shall be established by the Commission by resolution.
- B. All meetings of the Commission including regular, ~~adjourned-regular-and,~~ special meetings, and emergency meetings shall be called, noticed, held and conducted in accordance with the provisions of the Ralph M. Brown Act, Section 54950 through 54960 of the Government Code of the State of California, and other applicable provisions of law.

Section 11. Accountability of Funds, Reports and Audits

There shall be strict accountability of all funds and a monthly report of all receipts and disbursements of the Agency. The Commission shall cause annual audits of the accounts and records of the Agency to be prepared. The fiscal year of the Agency shall end at midnight on June 30, of each year. The Agency shall establish and maintain all necessary funds and accounts which shall be open to inspection at all reasonable times by each of the Members and the general public.

Section 12. Bonding Persons Having Access to Property

- A. Officer(s) or person(s) who have charge of, handle or have access to any property of the Agency, may be required to file an official bond with the Agency in such a manner as may be established by the Commission. Should an existing bond of any said officer(s) or person(s) be extended to cover the obligation provided herein, said bond shall be the official bond of said officer(s) or person(s) required to be posted herein. The premium on any such bond or bonds shall be an appropriate expense of the Agency. Any payment to the Treasurer required in the operation of the Agency shall be an

~~appropriate charge against the Agency.~~

- B. The ~~Administrator~~General Manager shall have the responsibility of any and all property of the Agency and shall review and recommend approval or denial of all claims and demands for the disbursement of Agency funds prior to submittal of said claims and demands to the Commission for approval.

Section 13. Bonds

- A. The Agency shall have power and authority to issue and sell revenue bonds in accordance with the following:
- (a) Article 2, Chapter 5, Division 7, Title 1 of the Government Code, commencing with Section 6540.
 - (b) Chapter 6, Division 2, Title 5 of the Government Code, commencing with Section 54300; and
 - (c) Chapter 5, Part 3, Division 5 of the Health and Safety Code, commencing with Section 4950.
 - (d) Such other relevant provisions of law as may now or hereafter be applicable.
- B. For purposes of referendum and vote on an Agency-wide basis, the boundaries of the Agency shall be the consolidated boundaries of its Members. Under applicable law, the Agency may form improvement districts in which event the boundaries thereof shall be determinative with respect to referendum and voting. Bond elections shall be conducted pursuant to the Uniform District Election Law and applicable provisions of the Elections Code.
- C. The Agency shall have and exercise all powers conferred on "local agencies" by the provisions of the law with respect to such revenue bonds.
- D. Revenues required to provide moneys for bond principal, interest and redemption of other bond funds in connection with revenue bonds issued by the Agency shall be from sources determined by the Commission, including regional charges, contract services fees, and other Agency revenue sources ~~.derived from sewer connection and service charges levied throughout the benefiting service area and shall be based on dwelling unit or equivalent as hereinabove defined and determined.~~ The amount and allocation of such charges shall be determined by the Agency.

Section 14. Operating Fund

- * A. An operating fund shall be established and maintained which shall be used to pay all administrative and incidental expenses incurred by the Agency, ~~together with all~~ costs of maintenance and operation arising from the operation of ~~Joint the Agency's~~ Facilities, and all capital replacement and rehabilitation costs of the Agency's facilities. ~~By resolution, the operating fund may be utilized prior to completion of joint sewerage facilities to allow the necessary administrative, financial and management information systems to be in place and functioning upon the operation of said facilities.~~ Revenues for the operating fund shall be derived from Regional Charges periodically charged to each Member by the Agency, which Regional Charges the Members hereby agree to pay. The periodic Regional Charge for each Member ~~will be determined by the Agency~~ and shall be based upon the relative volume and quality strength of wastewater generated by each Member. Volume will be determined based upon continuous measuring to measure total volume generated during the period. Quality Strength will be determined by periodic monitoring measurement of the wastewater influent's Total Suspended Solids (TSS) and Biological Oxygen Demand (BOD), and considered in determining Member Charges if deemed appropriate by the Commission. At the option of the Commission, contributions from Members may be based on dwelling units.
- B. Each Member, in turn, shall be responsible for deriving the revenue necessary to pay its Regional Charges to the Agency.
- C. Each single-family dwelling shall be assigned one dwelling unit. All other structures, or portions thereof used for purposes other than as single-family dwellings, shall be assigned a number of such units, as determined by the Agency Member based upon:
- (1) water meter readings and/or use of water from nonmetered sources;
 - (2) visual inspection to determine the relative extent to which water may be used for purposes which do not produce discharge into wastewater facilities;
 - (3) the chemical and/or other composition of the wastewater produced;
 - (4) other methodologies established and agreed upon by the members.
 - ~~(4) the peaking and ebbing cycle of the wastewater flows; and~~
 - ~~(5) any requirements imposed by the Federal and State governments or agencies thereof.~~

The Commission Members shall establish the formula for computation for determination of what constitutes a dwelling unit.

* (deletion)

* D. Sewer connection and service charges may be collected either by a Member or the Agency by contract with the Member.

* E. The Commission may periodically direct the Members to reassess the number of dwelling units.

Section 15. Construction and Land Acquisition Fund

~~A. A construction fund shall be established and maintained which shall be used to pay costs associated with design and construction and administrative expenses resulting from the construction of sewerage works by the Agency for the Members. Revenues for the construction fund shall be derived from payments by the members in accordance with the Members' shares of the total capital costs associated with project Alternative CM-5. The estimated cost share assignments to the Members are as shown in Exhibit "A", Tables 1 through 8. By signature to this contract Members are committed to pay their local shares of the cost of the project CM-5.~~

~~B. At the time of submittal of a Final Revenue Program to the State Water Resources Control Board (80% construction completion) of a revised cost of construction, final contributions from Members shall reflect these actual capital cost allocations.~~

~~C. Agency shall reimburse District No. 1 for any and all expenses incurred by District No. 1 beyond its proportionate share pertaining to the acquisition of the North Point Site. These expenses shall include all direct costs of this acquisition and development of CM-5 for the regional plant and shall include, but not be limited to, legal fees, engineering fees and appraisal fees.~~

Section 16. Ownership of Properties

With respect to the ownership of sewerage wastewater assets and facilities and compensation therefore, the Members and Agency agree that:

1. Sewerage Works Wastewater Assets Other Than Treatment-CMSA Facilities

Upon the effective date of this Agreement the Members will grant to the Agency the use of all sewerage works wastewater facilities, if any, as described in Exhibit "B" (and MoUs) insofar as necessary for the operation of Joint Facilities. Each member will retain ownership and responsibility for operation and maintenance of all its sewerage workswastwater collection system assets so listed. The Agency will operate and maintain the 54" Ross Valley force maininterceptor upstream from the treatment plant to the junction with the San Quentin force mainjunction box, as described in the MoUs. Exhibit "B", as amended by Amendment No. 1 of the Joint Powers Agreement, dated July 21, 1982, and as amended by this Agreement, is attached hereto and incorporated herein by reference.

2. Sewerage-CMSA Facilities Financed by Agency Funds
The Agency shall own entirely all facilities located at assessor's parcel numbers (~~and~~ ~~018-180-46~~), including but not limited to property, buildings, wastewater and biosolids treatment facilities, resource recovery facilities, the land and marine outfall, and support assets.

3. Sole Use Facilities
Members shall retain ownership of and operate and maintain their respective Sole Use Facilities including wastewater ~~collector~~ collection systems, provided, however, that the Agency and any Member may, by agreement, provide for operation and maintenance of that Member's Sole Use Facilities, all or in part, by the Agency. Any such agreement must provide that all costs associated with the operation and maintenance of such Sole Use Facilities by the Agency shall be charged to and paid by the Member.

- ~~4. Capital Reserve Funds
Excess capital funds, if any, from annual capital replacement (as per Federal Regulations) requirements, or from other sources are the property of the Agency and, after approval by the Commission, may be used for capital improvements of facilities operated by the Agency. Capital reserve funds shall be invested and interest earnings therefrom may be placed in the operating fund to reduce annual charges.~~

5. Operating and Capital ons, Administration and Maintenance Surplus Funds
~~Excess administration, operation, capital, and maintenance funds of the Agency, if any, from whatever source, are the property of the Agency. After provisions, if any, for a reasonable working reserve, the Commission may allocate all or a share of such funds to reduce the amounts required for the following year's budget.~~

- ~~6. Employees (Not Applicable)
It shall be the policy of the Agency to attempt to employ, as employees of the Agency, such of those employees of the Member entities whose primary responsibility is the operation and maintenance of treatment facilities.~~

Section 17. Functional Responsibilities

With respect to the administration, operation and maintenance of sewerage wastewater facilities within the Member boundaries and the performance of functions related thereto, the Members and Agency agree as follows:

1. The Member will be responsible for review of new connection permit applications, collection and accounting for permit fees, inspection of connections and all record-keeping attendant thereto, and retain all fees associated therewith. The Agency may

perform these functions directly by contract with Members.

2. The Agency will ~~assume~~ have full responsibility for the operation and maintenance of ~~CM-5~~ all its wastewater treatment and disposal, biosolids processing and dewatering, and resource recovery facilities and other sewerage-wastewater facilities specified in this Agreement.
3. The Member will have total responsibility for its ~~collector-sewer~~ wastewater collection and transport systems.
4. The Member will be responsible for all billing and collection of sewer connection and service charges and associated record-keeping, accounting, and delinquency follow-up.
- ~~5. It is the responsibility of Members to assure that sewage generated from their Sole Use Facilities will not exceed one part per million sulfides. In the event that this standard is exceeded, the responsible Member shall pay the additional cost which results from the correction of this condition to the Agency~~
5. The members shall provide Agency access to its odor control facilities that are located at member agency pump stations.

Section 18.

A. Agency Indemnification

Agency shall indemnify, defend, and hold Members harmless from any claims or liability arising out of or relating to the ~~functioning business~~ of ~~the~~ Agency pursuant to this Agreement. Agency shall maintain liability insurance in sufficient amounts as determined by the Commission for personal injuries, and property damage naming Members as additional insureds.

B. Member Indemnification

Members individually shall indemnify, defend and hold Agency and other Members harmless from any liability arising out of or relating to the individual Member's actions pursuant to this Agreement. Members shall maintain liability insurance in sufficient amounts as determined by the Commission for personal injuries, and property damage naming Agency as additional insured. (Do the members list CMSA as additional insured?)

Section 19. Records and Accounts (could be revised)

~~The Agency shall cause to be kept accurate and correct books of account~~ financial records, showing in detail the costs and expenses of any new construction, extra construction or

reconstruction and the maintenance and operation of the ~~Joint Facilities and Sole Use Facilities~~ Agency's facilities, if any, and all financial transactions of the Members relating to the Joint and Sole Use Facilities, which books of account shall correctly show any receipts and also any costs, expenses or charges to be paid by all or any of the Members hereunder. Said ~~books records of account~~ shall be open to inspection at all times by any representative of any of the Members, or by any accountant or other person authorized by any Member to inspect said books of account. The Commission shall, in accordance with Section 6505 of the Law, cause the ~~books of account and other~~ financial records of the Agency to be audited annually by an independent certified public accountant. All records shall be kept in accordance with ~~accepted good accounting practice~~ generally accepted accounting practices.

Section 20. Amendments

This Agreement may be amended only by Agreement approved and executed by all of the parties thereto.

Section 21. ~~Settlement of Disputes~~ Dispute Resolution Process (legal review needed)

If a dispute arises as to the construction, interpretation or implementation of any provision of this Agreement, the issues in dispute or matter requiring action shall be submitted to binding arbitrations subject to the following dispute resolution process.

- Managers from each agency shall meet and attempt to resolve the dispute;
- Each agency shall appoint two Board members and their managers to an ad hoc committee to meet and attempt to resolve the dispute;
- Each agency shall assign a representative(s) to participate in mediation.
- Binding Arbitration

For such purposes, an agreed upon mediator/arbitrator shall be selected by all Commissioners, or in the absence of agreement, the Commission by majority vote shall select ~~a an~~ mediator/arbitrator and the commissioner or commissioners in dissent shall select an mediator/arbitrator. The two mediators/arbitrators so selected shall select a third mediator/arbitrator. The mediator/arbitrator or three mediators/arbitrators acting as a panel shall proceed to arbitrate the matter in accordance with the provisions of Title 9 of Part 3 of the Code of Civil Procedure.

Section 22. Withdrawal or Dissolution

How realistic are this section's scenarios today? The rationale for this section may have made sense in 1979 when RVSD and SRSD had operating treatment plants.

If this section remains in a new Agreement, we should really think about what the distribution of assets means and how it's determined. It is highly unlikely a JPA member with a collection system will withdraw since there are no other POTWs in the region that could accept a JPA agency's flow without a major expansion of capacity, not to mention the JPA expense to

construct the facilities to transport the water to another facility.

Upon vote of the Commission, a Member may withdraw from the Agency. With a Member's withdrawal or upon dissolution of the Agency, there shall be partial or complete distribution of assets and discharge of liabilities as follows:

- (a) Withdrawal: Upon withdrawal of any Member from the Agency, the withdrawing Member shall receive its proportionate share of the assets of the Agency and shall contribute its proportionate share as it comes due toward discharge of any liabilities incurred by the Agency as the same appear on the books of the Agency.
- (b) Dissolution: Upon dissolution of the Agency, each Member shall receive its proportionate share of the assets of the Agency and shall contribute its proportionate share as it comes due toward discharge of any liabilities incurred by the Agency as the same appear on the books of the Agency.

The distribution of assets may be made in kind or assets may be sold and the proceeds thereof distributed to a Member at the time of withdrawal or to all Members at the time of dissolution provided that all facilities and rights in facilities assigned or transferred by any Member to the Agency shall be reconveyed to said Member free and clear of all encumbrances and liens of any kind.

Upon withdrawal of a Member from the Agency or upon dissolution of the Agency, the responsibility of the Member or Members to contribute to the discharge of enforceable liabilities incurred by the Agency shall be limited to the proportion that the contributions made by each Member bears to the total contributions made by all to the Agency from the effective date of this Agreement to the date of withdrawal or dissolution.

Section 23. Miscellaneous

The section headings herein are for convenience only and are not to be construed as modifying or governing the language in the sections referred to.

This Agreement is made in the State of California and under its Constitution and laws, and it is to be so construed.

To preserve a reasonable degree of flexibility, many parts of this Agreement are stated in general terms. It is understood that the Commission may from time to time adopt and implement rules and regulations, ordinances, policies, and procedures to further define the rights and obligations of the Members and of the Agency to carry out the purposes of this Agreement.

Section 24. Partial Invalidity

If any one or more of the terms, provisions, promises, covenants, or conditions of this Agreement shall to any extent be adjudged invalid, unenforceable, void, or voidable for any reason whatsoever by a court of competent jurisdiction, each and all of the remaining terms, provisions, promises, covenants, and conditions of this Agreement shall not be valid and enforceable to the fullest extent permitted by law.

Section 25. Successors

This Agreement shall be binding upon and shall inure to the benefit of the parties and the successors of the parties hereto.

**

Section 26. Personnel

A. Authority to Hire and Dismiss Employees:

- ~~1. The Board of Commissioners shall be the appointing authority for the General Manager. The General Manager shall serve at the pleasure of the Board. The Board of Commissioners shall be the appointing authority for management personnel designated by the Board and those persons shall serve at the Board's pleasure. (not done – all staff hired by GM)~~
2. The General Manager is hereby empowered to hire all **non-management** personnel subject to the requirements of the Personnel **Rules and Regulations** Policies and Procedures.
- ~~3. The General Manager shall have the power to reprimand, suspend, reduce in compensation or dismiss any **non-management** personnel subject to such employee's right of appeal to the Board. **All management personnel serve at the pleasure of the Board of Commissioners and, thus, are at will employees.**~~

B. Review of Employee Performance (this could be removed as it is detailed in the Agency's Personnel Policies)

1. The Board of Commissioner shall annually review the performance of the General Manager ~~and all upper management personnel directly responsible to the Board.~~
- ~~2. The General Manager shall review the performance of all other management~~ employees annually and make a written evaluation for the employee's personnel file.
3. Employees will be annually evaluated in writing by their respective supervisor(s) with approval of such review by the General Manager. Such evaluation will be

placed in the employee's personnel file.

C. Personnel ~~Rules and Regulations~~ Policies and Procedures

The Board of Commissioners shall have the authority to adopt personnel ~~rules and regulations~~ policies and procedures and make amendments thereto by a majority vote of the Board.

D. Administration of Employer-Employee Relations

The Board of Commissioners shall have the authority to adopt a procedure for the administration of employer-employee relations and make amendments thereto by a majority vote of the Board.

~~E. Grievance Procedure (In MoU for represented employees, and Personnel Policies)~~

~~The Board of Commissioners shall have the authority to adopt a grievance procedure for its employees and may make amendments thereto by a majority vote.~~

~~F. Procedure for Disciplinary Action (In MoU for represented employees, and Personnel Policies)~~

~~The Board of Commissioners shall have the authority to adopt a procedure for disciplinary action which shall serve to review the action of the General Manager. The Board shall have the right to make amendments thereto by a majority vote of the Board.~~

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed and attested by their proper officers thereunto duly authorized and their official seals to be hereto affixed, as of the day and year first above written.

Exhibit "A"

TABLE 1
CENTRAL MARIN WASTEWATER MANAGEMENT PROGRAM
ESTIMATED PROJECT COST

Facility	Total Estimated Project Cost (1)	Estimated Grant Participation	Estimated Local Funding Needs
Central Marin treatment plant	\$ 58,710,000	\$ 46,570,000	\$ 12,140,000 (2)
Plant Outfall	15,800,000	13,430,000	2,370,000
San Rafael Force Main	3,400,000	2,890,000	510,000
Force Main to Tunnel	2,400,000	2,040,000	360,000
Catalina Pump Station	315,000	265,000	50,000
No. Francisco Pump Station	60,000	50,000	10,000
So. Francisco Pump Station	500,000	425,000	75,000
San Quentin Force Main	600,000	510,000	90,000
Tunnel to Plant	3,700,000	2,975,000	725,000
Land Acquisition for Bay Outfall & Transport	300,000	- 0 -	300,000
Greenbrae Pump Station	3,000,000	2,550,000	450,000
Kentfield Pump Station	300,000	255,000	45,000
San Quentin Pump Station	1,500,000	1,275,000	225,000
	<u>\$ 90,585,000</u>	<u>\$ 73,235,000</u>	<u>\$ 17,350,000</u>

(1) For information only, estimated local cost from CMSA's
Approved 1982-83 Budget

(2) Includes Land Acquisition Cost, Site Improvements
and Contingency

Exhibit "A" 1 of 8

Exhibit "A"

TABLE 2
CENTRAL MARIN WASTEWATER MANAGEMENT PROGRAM
ESTIMATED LOCAL AGENCY SHARE OF TREATMENT PLANT COST

Facility	Treatment Plant Parameter Allocations							Total Local Cost	100%
	Flow ²		BOD ²		SS ²				
	% of Cost	Cost	% of Cost	Cost	% of Cost	Cost			
Central Marin Treatment Plant (Incl. land)	57.1%	\$6,930,000	18.0%	\$2,185,000	24.9%	\$3,025,000	\$12,140,000		
Local Agency Share of Param.	% of Cost	Flow Cost	% of BOD	BOD Cost	% of SS	SS Cost	Total Agency Plant Cost (1)	Weighted % of STP	
San Rafael SD	38.6%	\$2,675,000	40.7%	\$ 890,000	45.1%	\$1,365,000	\$ 4,930,000	40.5%	
SD #1	37.4	2,590,000	34.1	745,000	34.3	1,035,000	4,370,000	36.0	
SD #2	9.9	685,000	9.0	195,000	9.1	275,000	1,155,000	9.6	
Larkspur (incl. Murray Park)	6.4	445,000	6.0	130,000	5.9	180,000	755,000	6.3	
San Quentin Prison	7.7	535,000	10.2	225,000	5.6	170,000	930,000	7.6	
Totals	100.0%	<u>\$6,930,000</u>	100.0%	<u>\$2,185,000</u>	100.0%	<u>\$3,025,000</u>	<u>\$12,140,000</u> (3)	100.0%	

Exhibit "A" 2 of 8

- (1) For information only, estimated local cost from CMSA's Approved 1982-83 Budget
- (2) Based upon data from Eastern Marin Southern Sonoma Wastewater Facilities Plan Addendum of July 1979.
- (3) Includes Land Acquisition Costs, Site Improvements & Contingency

Exhibit "A"

TABLE 3
CENTRAL MARIN WASTEWATER MANAGEMENT PROGRAM
SUMMARY OF ESTIMATED LOCAL COST SHARES

Local Agency Cost Shares

Facility	Total Local Cost (1)	Cost Allocation Basis	San Rafael SD	SD No. 1	SD No. 2	Larkspur	San Quentin Prison	Total
Central Marin Treatment Plant	\$ 12,140,000	Flow, BOD, SS	40.5 %	36.0 %	9.6 %	6.3 %	7.6 %	100.0 %
Plant Outfall	2,370,000	Flow	38.6	37.4	9.9	6.4	7.7	100.0
San Rafael Force Main	510,000	Use	100.0	--	--	--	--	100.0
Force Main to Tunnel	360,000	Flow & Use	--	69.7	18.4	11.9	--	100.0
Catalina Pump Station	50,000	Use	100.0	--	--	--	--	100.0
No. San Francisco Pump Station	10,000	Use	100.0	--	--	--	--	100.0
So. San Francisco Pump Stations	75,000	Use	100.0	--	--	--	--	100.0
San Quentin Force Main	90,000	Flow & Use	--	--	--	--	--	100.0
Tunnel to Plant	725,000	Flow & Use	--	--	--	--	100.0	100.0
San Quentin Pump Station	225,000	Use	--	60.9	16.1	10.4	12.6	100.0
Greenbrae Pump Station	450,000	Use	--	100.0	--	--	100.0	100.0
Kentfield Pump Station	45,000	Use	--	100.0	--	--	--	100.0
	<u>\$ 17,050,000</u>							
Land Acquisition Costs for outfall, tunnel and transport	300,000							
	<u>\$ 17,350,000</u>							

(1) For information only, estimated local cost from CMSA's Approved 1982-83 Budget

(2) Includes Land Acquisition Cost, site improvements and contingency

Exhibit "A"

TABLE 4
CENTRAL MARIN WASTEWATER MANAGEMENT PROGRAM
SAN RAFAEL SANITATION DISTRICT LOCAL COST SHARE

Facility	Total Project Cost	SRSD Cost Share Percent*	SRSD Cost (1)
Central Marin Treatment Plant	\$12,140,000	40.5 %	\$4,865,000
Plant outfall	2,370,000	38.6	915,000
SRSD force main	510,000	100.0	510,000
Catalina pump station	50,000	100.0	50,000
No. Francisco pump station	10,000	100.0	10,000
So. Francisco pump station	75,000	100.0	75,000
Land Acquisition for outfall & transport	300,000		75,000
	<u>\$15,455,000</u>		<u>\$6,500,000</u>

*Refer to Table 2 for summary

(1) For information only, estimated local cost from CMSA's
Approved 1982-83 Budget.

Exhibit "A" 4 of 8

Exhibit "A"

TABLE 5
CENTRAL MARIN WASTEWATER MANAGEMENT
SANITARY DISTRICT NO. 1 - ROSS VALLEY
ESTIMATED LOCAL COST SHARE

Facility	Total Local Cost (1)	SD No. 1 Cost Share Percent*	SD No. 1 Cost (1)
Central Marin Treatment Plant	\$12,140,000	36.0%	\$4,400,000
Plant outfall	2,370,000	37.4	885,000
Force main to tunnel	360,000	69.7	250,000
Tunnel to plant	725,000	60.9	440,000
Kentfield pump station	45,000	100.0	45,000
Greenbrae pump station	450,000	100.0	450,000
Land Acquisition Costs for outfall & transport	300,000		135,000
	<u>\$16,390,000</u>		<u>\$6,605,000</u>

*Refer to Table 2 for summary

Exhibit "A" 5 of 8
(1) For information only, estimated local cost from CMSA's
Approved 1982-83 Budget

Exhibit "A"

TABLE 6
 CENTRAL MARIN WASTEWATER MANAGEMENT PROGRAM
 SANITARY DISTRICT, NO. 2 - CORTE MADERA
 ESTIMATED LOCAL COST SHARE

Facility	Total Local Cost (1)	SD No. 2 Cost Share Percent*	SD No. 2 Cost (1)
Central Marin Treatment Plant	\$12,140,000	9.6%	\$ 1,160,000
Plant outfall	2,370,000	9.9	235,000
Force main to tunnel	360,000	18.4	65,000
Tunnel to plant	725,000	16.1	115,000
Land Acquisition Costs for outfall, tunnel, & transport	<u>300,000</u>		<u>35,000</u>
	<u>\$15,895,000</u>		<u>\$ 1,610,000</u>

*Refer to Table 2 for summary

Exhibit "A" 6 of 8

(1) For information only, estimated local cost from CMSA's
 Approved: 1982-83 Budget

Exhibit "A"

TABLE 7
CENTRAL MARIN WASTEWATER MANAGEMENT PROGRAM
CITY OF LARKSPUR
ESTIMATED LOCAL COST SHARE

Facility	Total Local Cost (1)	Larkspur Cost Share Percent*	Larkspur Cost(1)
Central Marin Treatment Plant	\$12,140,000	6.3%	\$ 765,000
Plant outfall	2,370,000	6.4	150,000
Force main to tunnel	360,000	11.9	45,000
Tunnel to plant	725,000	10.4	75,000
Land Acquisition Costs for outfall, tunnel & transport	<u>300,000</u>		<u>25,000</u>
	<u>\$15,895,000</u>		<u>\$1,060,000</u>

*Refer to Table 2 for summary

Exhibit "A" 7 of 8

(1) For information only, estimated local cost from CMSA's
Approved 1982-83 Budget

Exhibit "A"

TABLE 8
 CENTRAL MARIN WASTEWATER MANAGEMENT PROGRAM
 SAN QUENTIN STATE PRISON
 ESTIMATED LOCAL COST SHARE

Facility	Total Local Cost (1)	San Quentin Prison Cost Share Percent*	San Quentin Prison Cost (1)
Central Marin Treatment Plant	\$12,140,000	7.6 %	\$ 955,000
Plant outfall	2,370,000	7.7	185,000
Tunnel to plant	725,000	12.6	90,000
San Quentin force main	90,000	100.0	90,000
San Quentin pump station	225,000	100.0	225,000
Land Acquisition Costs for outfall, tunnel and transport system	300,000		30,000
	<u>\$15,850,000</u>		<u>\$1,575,000</u>

*Refer to Table 2 for summary

Exhibit "A" 8 of 8

(1) For information only, estimated local cost from CMSA's Approved 1982-83 Budget

Exhibit "B"

Description of Sole Use Facilities

To be Owned and Maintained by the Member Agencies
 Except San Rafael Sanitation District IA-1 and
 Ross Valley Force Main IIA-1

Sole Use Facilities

No.	Description	Member Owner (Maint. Responsibility)
<u>SAN RAFAEL FORCE MAINS</u>		
IA-1	45" Force Main serving San Rafael from the Central Marin Treatment Plant upstream to the junction with the 10" Force Main to the South Francisco Pump Station (IG)	San Rafael S.D. (CMSA)
IA-2	45" Force Main serving San Rafael from the junction with the 10" Force Main to the South Francisco Pumping Station (IG) upstream to the junction with the 36" Force Main (IB)	San Rafael S.D. (SRSD)
IB	36" Force main serving San Rafael from the junction with the 42" Force Main (IA-2) upstream to the junction with the 27" Force Main from the North Francisco Pumping Station (IE)	San Rafael S.D. (SRSD)
IC	12" Force Main from Force Main IB to the Simms Street Pumping Station (No. 10)	San Rafael S.D. (SRSD)
ID	12" Force Main from Force Main IB to the West Railroad Pumping Station (No. 12)	San Rafael S.D. (SRSD)
IE	27" Force Main from Force Main IB to the North Francisco Pumping Station (No. 7)	San Rafael S.D. (SRSD)
IF	10" Force Main from Force Main IB to the Catalina (Cayes) Pumping Station (No. 13)	San Rafael S.D. (SRSD)
IG	10" Force Main from Force Main IA-1 to the South Francisco Pumping Station (No. 11)	San Rafael S.D. (SRSD).

Exhibit B to JPA
 (as amended)

ROSS VALLEY FORCE MAINS

IIA-1	54" Force Main serving the Ross Valley from the Central Marin Treatment Plant upstream to the junction with the Force Main serving San Quentin Force Main (Force Main IIF)	Ross Valley (SD #1) Corte Madera (SD #2) Larkspur (CMSA)
IIA-2	54" Force Main from Force Main 11A-1 upstream to the junction with the Force Main to Corte Madera (Force Main IIC-1) to Greenbrae Force Main IID-1	Ross Valley (SD #1) Corte Madera (SD #2) Larkspur (SD #1)
IIB	10" Force Main from Force Main IIA-2 to Pumping Station No. B	Ross Valley (SD #1) (SD #1)
IIC-1	20" Force Main from Force Main IIA-1 upstream to the Paradise Pumping Station	Corte Madera (SD #2) (SD #2)
IIC-2	6" Force Main from Force Main IIC-1 upstream to the Fifer Pumping Station	Corte Madera (SD #2) (SD #2)
IIC-3	4" Force Main from Force Main IIC-1 upstream to the Trailer Court Pumping Station	Corte Madera (SD #2) (SD #2)
IID-1a	30" Force Main from the junction of Force Main IIA-2 and Force Main IIC-1 upstream to the Greenbrae Pumping Station	Ross Valley (SD #1) (SD #1)
IID-1b	42" Force Main from the junction of Force Main IIA-2 and Force Main IIC-1 upstream to the junction with the 30" Force Main IID-2 and the 18" Force Main II-D	Ross Valley (SD #1) Larkspur (SD #1)
IID-2	36" Force Main from the junction with Force Main IID-1 to the Kentfield Pumping Station (No. 12)	Ross Valley (SD #1) (SD #1)
IIE	18" Force Main from the connection with Force Main IID-1 upstream to the Larkspur Pumping Station	Larkspur (Larkspur)
IIF	16" Force Main from the connection with Force Main IIA-1 upstream to the San Quentin Prison Pumping Station	Ross Valley (SD #1) (SD #1)

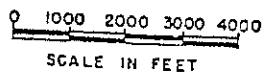
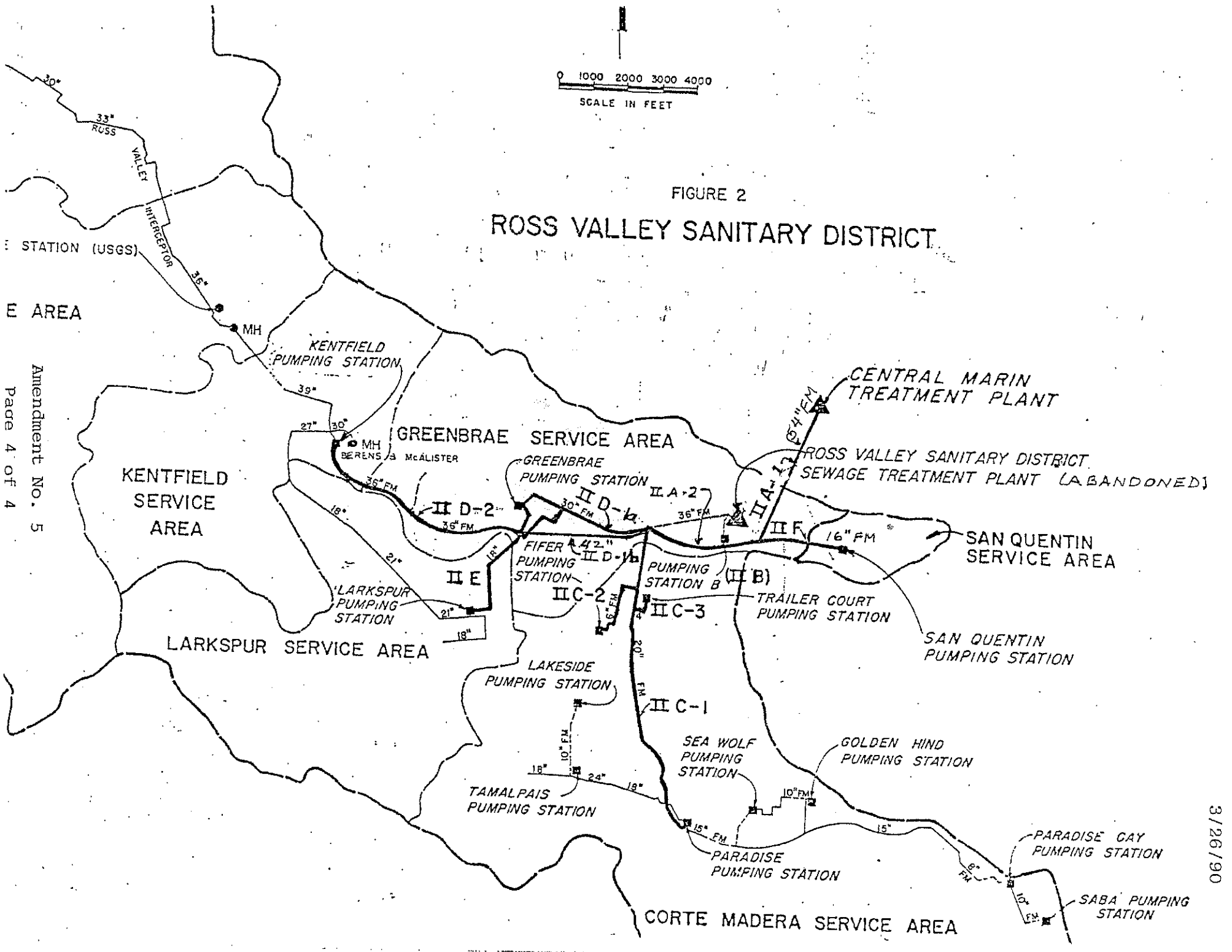


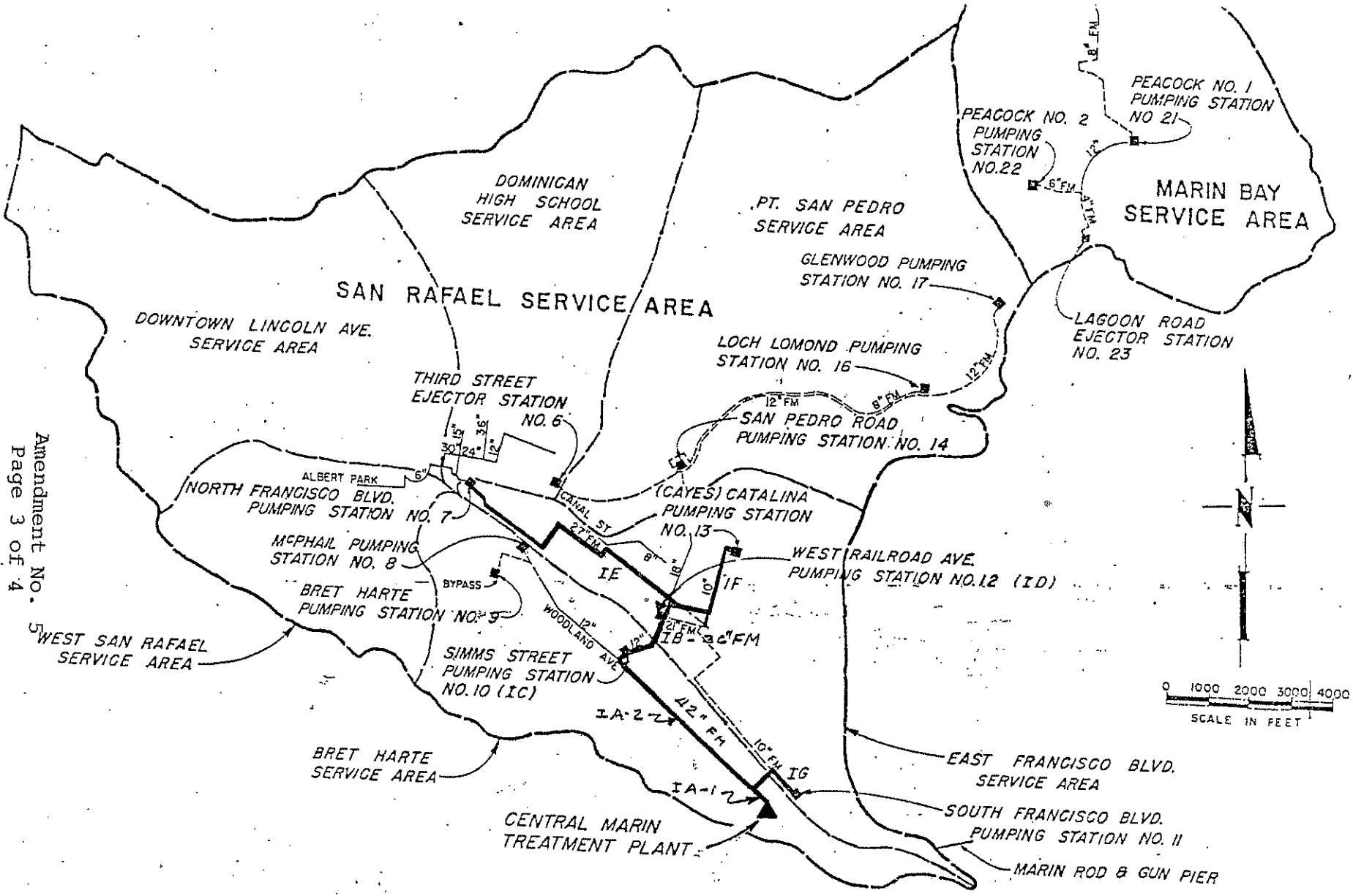
FIGURE 2

ROSS VALLEY SANITARY DISTRICT



Amendment No. 5
Page 4 of 4

3/26/90



Amendment No. 5
Page 3 of 4


FIGURE I
SAN RAFAEL SANITATION DISTRICT

3/26/90



BOARD MEMORANDUM

January 6, 2017

To: CMSA Commissioners and Alternates
From: Jason Dow, General Manager 
Subject: **Wastewater Blending Reduction Alternative Selection**

Recommendation: Select a wastewater blending reduction alternative for staff to present in the NPDES Permit's Report of Waste Discharge.

Summary: Carollo Engineers completed the blending reduction alternative analysis task in the Agency Facilities Master Plan scope of work, and staff presented its two storage and six treatment alternatives at the December Board meeting. After a substantive discussion on wastewater blending at CMSA and several of the blending reduction alternatives, the Board directed staff to bring the item back to the January meeting for further consideration of two treatment alternatives – Maintain Existing Secondary Treatment and Optimize Existing Secondary Treatment. A preferred alternative needs to be selected at the January Board meeting for incorporation into the Report of Waste Discharge (ROWD).

Discussion: CMSA's wastewater treatment facilities were designed to blend wastewater during significant wet weather rain events, when influent wastewater flows exceed the processing capacity of the secondary treatment systems. During blending, primary treated wastewater flows greater than approximately 30 million gallons per day (mgd) are passively diverted around the secondary system, and then combine with the secondary treated wastewater flow prior to disinfection, dechlorination, and discharge. From 2013 to 2016, CMSA's treatment plant experienced 27 blend events that lasted a total of 413 hours and had a total volume of 279 million gallons.

CMSA's National Pollution Discharge Elimination System (NPDES) permit expires on July 31, 2017, and requires the Agency to submit a permit reissuance application and ROWD by January 31, 2017. In the ROWD, the current NPDES permit states the Agency must select a preferred wastewater blending reduction alternative. The range in conceptual costs for the storage and treatment project alternatives reviewed at the December Board meeting is \$10.6 million to \$303 million.

A brief description of the Maintain Existing Secondary Treatment and Optimize Existing Secondary Treatment alternatives is presented below, along with their conceptual costs, approximate blending reduction amounts, and rationale for selection.

Maintain Existing Secondary Treatment: CMSA's secondary treatment system is comprised of two biotowers, four aeration tanks, and four secondary clarifiers as shown in Attachment C. This alternative would maintain the existing facilities, which have a design peak sustained treatment capacity of approximately 30 mgd.

Conceptual cost: \$0

Approximate Blending Reduction: 0%

Rationale for selection:

- 1) CMSA has complied with its NPDES final effluent permit limits for the past twelve consecutive years, and during that time had over 226 blending events.
- 2) Does not require the inclusion of additional capital funds in the Agency's next multi-year revenue plan.
- 2) Since about the mid-2000s, the JPA member agencies have continued to expand their capital programs to replace and rehabilitate their respective collection system pipelines to reduce sewer overflows and infiltration/inflow (I/I). Between FY 08/09 – end of December 2015, *39.69 miles* of pipeline were replaced or replacement projects were in design or under construction.
- 3) The member agencies have various programs to replace and/or incentivized property owners to replace or repair privately owned sewer lateral pipeline. Since the early 2000s through July 2015, over *21 miles* of laterals have been replaced.
- 4) In the future, the member agencies intend to perform the following activities that will continue to minimize sewer collection system I/I:
 - Install flow meters at pump stations or in the collection system pipelines to identify areas of high flows, caused by I/I, during wet weather events.
 - Smoke test areas within their collection system to identify storm drain connections to sewer laterals, and require property owners to disconnect the drain pipeline.
 - Televising portions of their collection system to identify pipeline defects for future replacement or rehabilitation.
 - Replace lower lateral sections when district pipelines are replaced.
 - Replace a minimum amount of gravity sewer pipelines per year.
 - Develop and implement sewer lateral inspection and rehabilitation programs.

If the Board selects this alternative, staff will provide the Agency's regulatory consultant with specific I/I reduction plans and information provided by each member agency for use in the No Feasible Alternative Analysis to Blending section of the ROWD.

Optimize Secondary Treatment: This alternative would increase the sustained peak secondary treatment capacity by optimizing the existing secondary treatment facilities, as shown in Attachment D. Improvements include replacement of the internal clarifier components (drive mechanism, surface skimmers, rake arms, center column, and sludge removal piping), installation of new components to improve performance, and replacement of the return

activated sludge removal pumps and piping with higher capacity. This approach would eliminate blending for those peak flow events where the influent flow rate is 37.5 mgd or less and would reduce the blended primary effluent volume for all other peak flow events.

Conceptual cost: \$11.4 million

Approximate Blending Reduction: 39% or 35.8 million gallons

Rationale for selection:

- 1) Reduces blending by approximately 39%, or two events per year.
- 2) Complies with the intent of the NPDES permit requirement for the Agency to select an alternative to reduce blending.
- 3) Replacement of original 1980 era clarifier internal components with those used in current designed systems.
- 4) Installation of a new energy dissipating inlet would reduce the clarifier inlet velocity and balance flow distribution to minimize hydraulic short circuiting and improve effluent quality.
- 5) Installation of a circular flocculation baffle provides additional mixed liquor flocculation to optimize sludge settlability, improving effluent quality.

If the Board chose this alternative, the Agency would need to include the \$11.4 million in the 2018 revenue plan, and the project would be phased over several years with design being completed the first year, then one or two clarifiers being retrofitted each following dry weather season.

Attachments:

- A) NPDES Permit Table 8 – Specific Tasks to Reduce Blending
- B) Treatment Alternatives Comparison
- C) Maintain Existing Secondary Treatment Diagram
- D) Optimize Existing Secondary Treatment Diagram

any noncompliance (Attachment D, Federal Standard Provision—Reporting, subsections V.E.1 and V.E.2) and mitigate any discharge from the Discharger's force mains in violation of this Order (Attachment D, Federal Standard Provisions—Permit Compliance, subsection I.C).

5. Other Special Provisions

a. Specific Tasks to Reduce Blending

The Discharger shall implement the following tasks to reduce blending:

Table 8. Specific Tasks to Reduce Blending

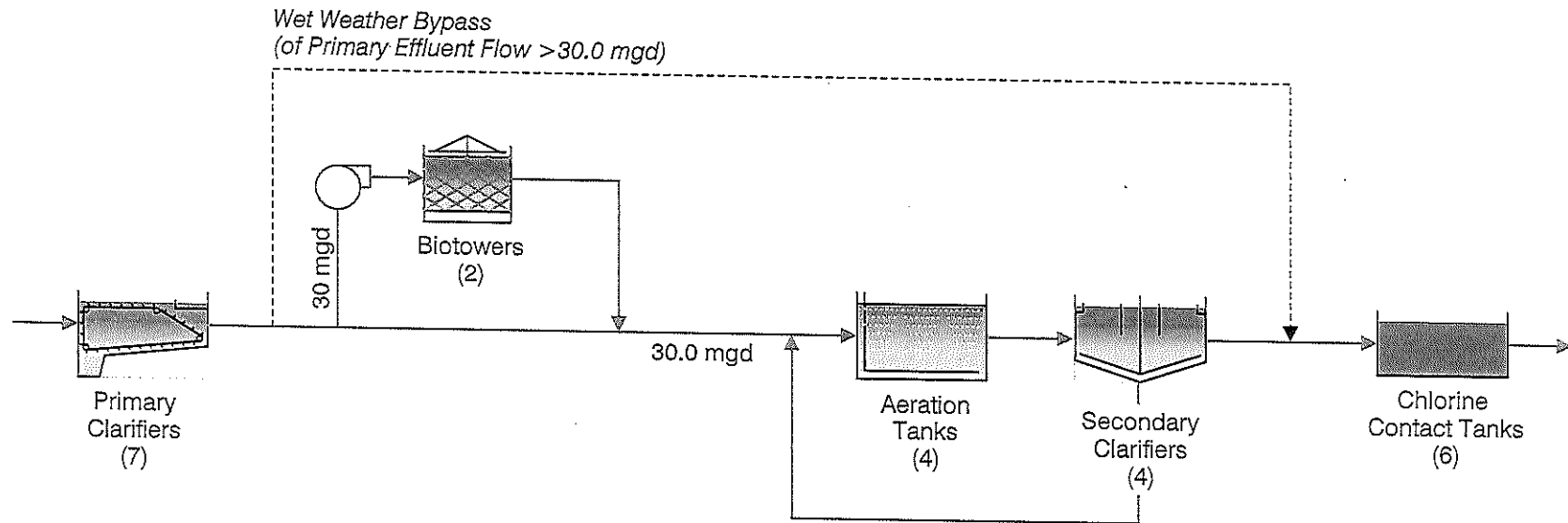
Task	Compliance Date
<p>1. Evaluate Effectiveness of Wet Weather Improvement Program. The Discharger shall evaluate and report on the effectiveness of its recently completed Wet Weather Improvement Program. The evaluation shall at a minimum consist of a table showing a summary of pre-Improvement Program data. The table shall be updated annually with the current year's data. The data shall include at a minimum (1) volume and duration of individual blending events, and (2) rainfall data for each of these blending events.</p>	<p>Annually, with Annual Self-Monitoring Report due February 1</p>
<p>2. Report Progress on Private Sewer Lateral Programs. The Discharger shall report any trends in the number and length of private sewer laterals replaced or repaired, and significant changes to existing private sewer lateral programs by its tributary collection system agencies in the Discharger's service area. This shall be based on data the Discharger obtains from its tributary collection system agencies.</p>	<p>Annually, with Annual Self-Monitoring Report due February 1</p>
<p>3. Monitor Influent Flow From Tributary Collection Systems. Beginning November 2012, the Discharger shall monitor flows from each tributary collection system agency to quantify infiltration and inflow (I/I) entering the Plant. The Discharger shall report electronically (such as with Excel) average daily and maximum hourly flows from each tributary collection system for each day.</p>	<p>Annually, with Annual Self-Monitoring Report due February 1</p>
<p>4. Describe Status of Capital Improvement Programs of Tributary Collection System Agencies. The Discharger shall request information from all tributary collection system agencies regarding existing and future capital improvement activities intended to reduce I/I. The Discharger shall annually report the information it receives. If, based on this information, the Discharger concludes that a tributary collection system agency is not making adequate improvements to reduce the need to blend, the Discharger shall note this conclusion in its annual report and work with that agency to encourage performance improvement. The Discharger shall describe its efforts to encourage improvement in its reports.</p>	<p>Annually, with Annual Self-Monitoring Report due February 1</p>
<p>5. Consider Flow-Based Rate Structure. The Discharger shall develop a flow-based rate structure that more accurately accounts for costs of treating and managing excess I/I flows from its tributary collection system agencies (charges are currently based on equivalent-dwelling units) and present this proposal to its Board of Directors for consideration.</p>	<p>August 1, 2013</p>

Task	Compliance Date
<p>6. Summarize Effectiveness of Wet Weather Improvement Program and Private Sewer Lateral Programs Performance. The Discharger shall re-evaluate the Wet Weather Improvement Program and the Private Sewer Lateral Programs based on data collected in tasks 1, 2, 3, and 4, and report its findings.</p>	<p>July 15, 2016</p>
<p>7. Update Capital Master Planning Alternatives Analysis for Blending Reduction. The Discharger shall update its capital master planning alternatives analysis for blending reduction to re-evaluate strategies to further reduce blending through capital improvements to the tributary collection systems (based on information received under Task 4, above), and at the Facility. The Discharger shall consider the current status of tributary collection system agency efforts to reduce I/I by requesting information from each tributary collection system agency regarding its efforts, including its budgets and expenditures. Based on the information provided, the Discharger shall identify a preferred alternative to further reduce blending. Selection shall be based on factors including, but not necessarily limited to, the need to blend (considering the effectiveness of the existing Wet Weather Improvement Program and the private sewer lateral programs), the alternative's foreseeable impact on the need to blend, and the alternative's estimated cost relative to the Discharger's and tributary collection systems agencies' abilities to finance the costs. (One means to assess a community's ability to fund wet weather improvements is to consult USEPA's CSO Guidance for Financial Capability Assessment and Schedule Development, EPA Publication Number 832-B-97-004.) The report shall include a feasible timeline for steps leading to implementation of the preferred alternative.</p>	<p>With Report of Waste Discharge due January 31, 2017</p>
<p>8. Prepare No Feasible Alternatives Analysis. The Discharger shall conduct a utility analysis if it seeks to continue to bypass peak wet weather flows around the secondary treatment units based on 40 CFR 122.41(m)(4)(i)(A)-(C). The utility analysis shall contain all elements described in USEPA's proposed guidance <i>NPDES Permit Requirements for Peak Wet Weather Discharges from Publicly Owned Treatment Works Treatment Plants Serving Separate Sanitary Sewer Collection Systems</i> (December 2005, or the most recent version).</p>	<p>With Report of Waste Discharge due January 31, 2017</p>
<p>9. Develop and Implement Public Notification Protocol. The Discharger shall develop and implement a public notification protocol to alert the public of blending events. The protocol shall provide a mechanism to notify the public within 24 hours of the start of a blending incident and provide an approximate duration and volume for the incident within 48 hours of it ending. The mechanism could involve, for example, Web site posting or emailing a list of parties who have expressed interest in this information. The Discharger shall submit the protocol to the Regional Water Board.</p>	<p>September 1, 2012</p>

b. Copper Action Plan

The Discharger shall implement pretreatment, source control, and pollution prevention for copper in accordance with the following tasks and time schedule.

Item	Alternative T-1 Maintain Existing Secondary Treatment	Alternative T-2 Optimize Existing Secondary Treatment	Alternative T-3 Expand Existing Secondary Treatment	Alternative T-4 Convert Biotowers and Activated Sludge to Run in Parallel	Alternative T-5 Install New High-Rate Biological Treatment With Ballasted Flocculation	Alternative T-6 Install Conventional Treatment for Blending Elimination
Secondary Treatment Wet Weather Capacity, mgd	30.0	37.5	45.0	60.0	73.6	125
Estimated Annual Blending Volume Reduction ⁽¹⁾						
% MG	0	39%	63%	86%	95%	100%
Average Annual Number of Blending Events ⁽¹⁾	9.0	7.4	6.1	4.1	2.5	0.0
Total Project Cost, in millions ⁽²⁾	\$0	\$11.4	\$55.0	\$28.9	\$72.6	\$303
Advantages	<ul style="list-style-type: none"> No additional project cost. 	<ul style="list-style-type: none"> Leverages existing assets and is cost-effective relative to other treatment alternatives. Improves overall process reliability year-round. Utilizes existing technologies. Replaces assets that would need to be replaced in the future. 	<ul style="list-style-type: none"> Improves overall process reliability year-round. Utilizes existing technologies. New facilities can be used for nutrient removal if needed in the future. 	<ul style="list-style-type: none"> Leverages existing assets. Significant reduction in blending volume but not average blending days. 	<ul style="list-style-type: none"> Significant reduction in blending volume. 	<ul style="list-style-type: none"> Eliminates all primary effluent bypass up to 125 mgd.
Disadvantages	<ul style="list-style-type: none"> No additional blending reductions. 	<ul style="list-style-type: none"> Construction must occur during dry weather over multiple years because only two secondary clarifiers can be modified per dry weather season. 	<ul style="list-style-type: none"> Expanded facilities must be in use during wet weather, which means process will be more susceptible to nitrifying. Not cost-effective compared to other treatment alternatives. Lose existing effluent storage pond Large footprint means Agency loses space that could have been allocated for other needs such as potential future regulations. Expensive additional facilities constructed for use during less than 3 percent of the year (on average). 	<ul style="list-style-type: none"> No facilities are currently in existence employing ballasted flocculation as a clarifier following trickling filters, so the technology is experimental. Requires significant operational change to accommodate wet weather events. Ballasted flocculation requires coagulant and polymer. Lost use of effluent storage pond. Expensive additional facilities constructed for use during less than 3 percent of the year (on average). 	<ul style="list-style-type: none"> Limited experience with this process configuration. Only 2 full scale facilities currently in service with 3rd in design. Maintaining adequate biological inventory for contact tanks means process will be more susceptible to nitrifying. Ballasted flocculation requires coagulant and polymer. Not cost effective. 	<ul style="list-style-type: none"> Additional land may be needed to site new facilities. Maintaining adequate biological inventory for contact tanks means process will be more susceptible to nitrifying. Not cost effective.
Notes: (1) Annual average of 93.0 MG with 9 events per year based on reported blending events over the past three water years (2013/14, 2014/15, and 2015/16). (2) Based on October 2016 SF ENR of 11578 and includes 30 percent allowance for estimating contingencies and 35 percent allowance for engineering, legal, administration, and permitting.						

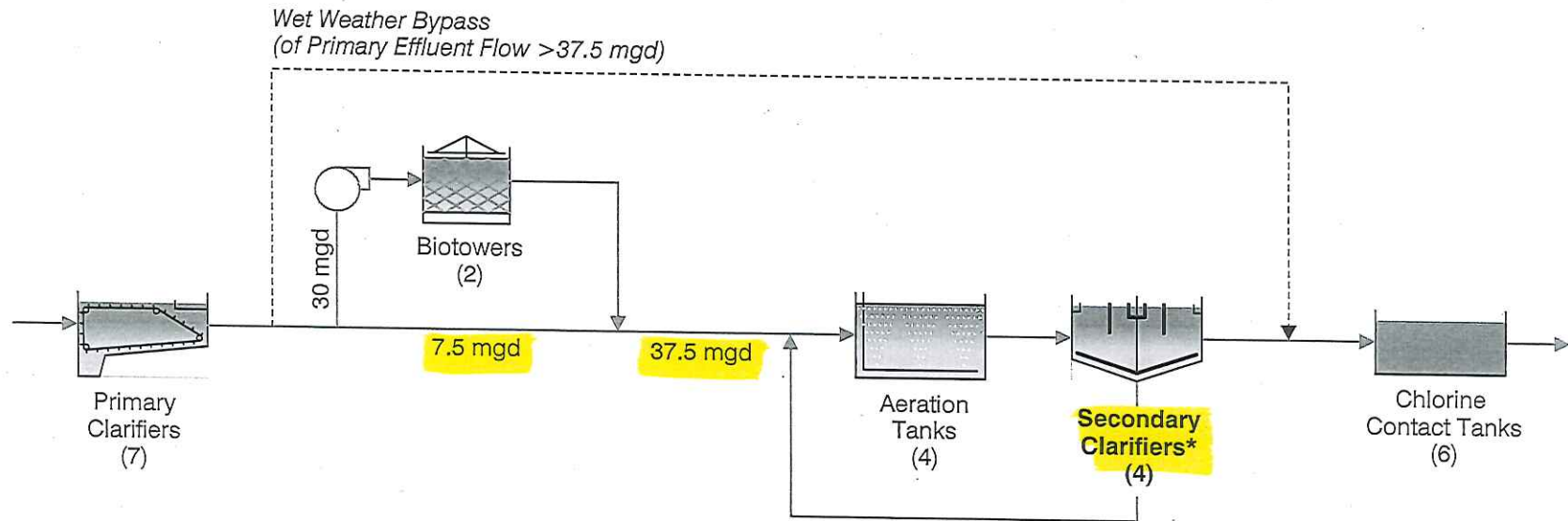


**ALTERNATIVE T-1
PROCESS FLOW DIAGRAM
MAINTAIN EXISTING SECONDARY
TREATMENT**

FIGURE 7.1

CENTRAL MARIN SANITATION AGENCY
2017 FACILITIES MASTER PLAN





NOTE:

* Rehabilitate with new mechanisms and associated RAS pumping and piping modifications to improve performance.

**ALTERNATIVE T-2
PROCESS FLOW DIAGRAM
OPTIMIZE SECONDARY TREATMENT**

FIGURE 7.2

CENTRAL MARIN SANITATION AGENCY
2017 FACILITIES MASTER PLAN

