



Central Marin Sanitation Agency

COMMISSION SPECIAL MEETING AGENDA

Thursday, March 14, 2019

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—February 12, 2019
- b) Treasurer's Report—Operating Account—February 2019
- c) Schedule of Investments and its Capital Reserve Summary—February 2019
- d) NPDES, Process, and Maintenance Report—February 2019
- e) Performance Metric Report—February 2019
- f) CMSA Investments Policy – Financial Policy #531

5. **Cogeneration System Predesign Completion**

Recommendation: Authorize staff to prepare a Professional Services Agreement with Carollo Engineers for the cogeneration system design services.



6. **Other Post-Employment Benefits (OPEB) Funding Plan**
Recommendation: Approve the Agency's proposed OPEB funding plan, and provide comments and/or direction to staff.
7. **Self-Insuring the Agency's Dental Benefits**
Recommendation: Consider the Agency's self-insured dental benefits proposal, and provide comments and/or direction to the General Manager.
8. **Draft San Quentin State Prison Wastewater Service Agreement**
Recommendation: Review the draft San Quentin State Prison Wastewater Service Agreement, and provide comments or direction to the General Manager, as appropriate.
9. **New Institutional Utility Laborer Classification for San Quentin Pump Station Maintenance**
Recommendation: Review the draft CMSA job description, and provide any comments or direction to the General Manager, as appropriate.
10. **March Informational Items**
11. **North Bay Watershed Association (NBWA) Report***
12. **Oral Reports by Commissioners/General Manager***
13. **Next Scheduled Meeting**
Tuesday, April 9, 2019 at 7:00 p.m. at the Agency office.
14. **Adjourn to Closed Session – Anticipated Litigation**
CONFERENCE WITH LEGAL COUNSEL
California Government Code Section 54956.9(d)(2)
Number of Potential Cases: One (1)
15. **Reconvene in Open Session**
Report on any action taken in Closed Session.

*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, February 12, 2019
at the Agency Office

1. Call Meeting to Order/Pledge of Allegiance

Chair DiGiovanni called the meeting to order at 7:00 p.m.

2. Roll Call

00:00:20

Present: Chair Dean DiGiovanni; Vice-Chair Michael Boorstein; Commissioners Eli Beckman, Maribeth Bushey, and Doug Kelly; Alternate Commissioner Dan Hillmer

(Note: Commissioner Bushey arrived at 7:10 p.m.)

Absent: None

Staff present: Jason Dow, General Manager, and Kate Brouillet, Recording Secretary

Public present: None

3. Open Period for Public Participation

00:00:40

There were no members of the public present.

Commissioner Kelly said that he conferred with the RVSD Board president and he would like to provide an edit to the verbiage for the statement that appears prior to the Consent Calendar items on the agenda.

GM Dow thanked Commissioner Kelly, and said that, once received, he would review it with Chair DiGiovanni and Agency counsel Jack Govi.

4. Consent Calendar

00:02:11

- a) Minutes—Regular Board Meeting—January 8, 2019
b) Treasurer’s Report—Operating Account—January 2019
c) Schedule of Investments and its Capital Reserve Summary—January 2019
d) NPDES, Process, and Maintenance Report—January 2019
e) Performance Metric Report—January 2019
f) Fiscal Year 2018-19 Second Quarter Budget Status Report
g) Brighthouse Investment Withdrawal

There was no discussion by the Board.

Comments from the Public:

There were no members of the public present.

ACTION: Alternate Commissioner Hillmer moved to approve Consent Calendar items #4a through #4g; second, Commissioner Beckman.

VOTE: The vote was passed unanimously.

ABSENT: Commissioner Bushey

5. 2018 Performance Metric Report

00:02:28

GM Dow said the Agency's performance in operations and maintenance activities, regulatory and environmental compliance, and public education and outreach met or exceeded the Agency's metric goals/targets. He referred to his staff report and reviewed the noteworthy metrics or variances, including NPDES permit compliance; biogas generation; planned and corrective maintenance hours; overtime percentage; staff training; pollution prevention inspections; public education events; and CWEA and financial awards.

The Board commented on the low overtime rate, recent rain levels, and public education events.

Comments from the Public:

There were no members of the public present.

ACTION: Commissioner Beckman moved to accept the 2018 Performance Metric Report; second, Commissioner Boorstein.

VOTE: The vote was passed unanimously.

ABSTAIN: Commissioner Bushey

6. Pavement Rehabilitation Project – Construction Contract Award (CMSA Contract No. 19-24)

00:12:30

GM Dow said the Board adopted the Pavement Rehabilitation Project contract documents at the December 2018 meeting, the notice inviting bids was issued on December 17, 2018, and bids were opened on January 23, 2019. He said five bids were received and reviewed by staff, and the low bidder was Team Ghilotti, located in Petaluma, for the total bid amount of \$182,777.

GM Dow stated that the Project's adopted FY 19 Capital Improvement Program (CIP) budget is \$200,000 for various pavement construction activities. He said a paving project was completed earlier this year for \$60,281, leaving \$139,719 in the CIP budget. GM Dow said that to fund this Project, staff plans on transferring approximately \$50,000 from other FY 19 CIP accounts after the Project is awarded.

The Board briefly discussed the project, the bid results, and the allocation of funds from other FY 19 CIP accounts.

Commissioner Kelly noted the cost savings due to separating the April 2018 paving project into two smaller projects for public bidding.

Comments from the Public:

There were no members of the public present.

ACTION: Commissioner Kelly moved to award the construction contract for the Pavement Rehabilitation Project (CMSA Contract No. 19-24) to Team Ghilotti, and authorize the General Manager to execute the contract agreement; second, Commissioner Bushey.

VOTE: The vote was passed unanimously.

ABSENT: None

7. Andersen Drive Landslide Repairs Project – Construction Contract Award (CMSA Contract No. 19-13) 00:18:40

GM Dow stated that public bids were opened for the Andersen Drive Landslide Repairs Project construction contract on January 24, and CF Contracting was the low bidder with a bid amount of \$412,450. He said the Project will be mostly funded by the Federal Emergency Management Agency (FEMA) and the California Governor’s Office of Emergency Services (Cal OES). He said the Notification of Obligation from FEMA and Cal OES, dated November 8, 2018, obligates \$454,582 to cover the design and construction costs. He said that the current overall Project cost including design, construction observation and testing, and construction management services would be about \$485,950, leaving approximately \$31,368 to be paid by the Agency. He said that staff may be able to obtain additional FEMA/Cal OES reimbursements for this amount, along with reimbursements for change orders and staff time, and will update the Board as the project cost becomes finalized.

The Board commented that the item was straightforward, and there was no discussion.

Comments from the Public:

There were no members of the public present.

ACTION: Commissioner Boorstein moved to award the construction contract for the Andersen Drive Landslide Repairs Project to CF Contracting, and authorize the General Manager to execute the contract agreement; second, Alternate Commissioner Hillmer.

VOTE: The vote was passed unanimously.

ABSENT: None

8. Primary Clarifiers Gates Rehabilitation Project – Adopt Contract Documents (CMSA Contract No. 19-19) 00:22:15

GM Dow stated that staff has prepared the construction contract documents for the Primary Clarifiers Gates Rehabilitation Project, and the scope of work includes replacing ten primary clarifier gate hydraulic actuators with electric motorized actuators, and installing gate accessories and a new electrical distribution and control system for the

gate actuators. He said the demolition of the existing hydraulic actuator systems and installation of new electrical actuator systems will be carefully sequenced by the Contractor, subject to prior review and approval by CMSA staff, to ensure that the minimum number of primary clarifiers are taken out of service at any given time. He said that once installed, each new gate actuator system will be fully field tested by the Contractor before being turned over to CMSA for permanent operation.

GM Dow said that the adopted FY 19 Capital Improvement Program includes \$436,400 in funding to construct the Project, and if the low bid is greater than the budget amount, staff will propose FY 19 CIP account budget transfers to the Board.

Chair DiGiovanni asked if the schedule of values for the equipment is included in the bids.

GM Dow confirmed that a schedule of values was included in these bids, and has been included as a standard component in CMSA bid documents.

Comments from the Public:

There were no members of the public present.

ACTION: Commissioner Hillmer moved to adopt the Primary Clarifiers Gates Rehabilitation construction contract documents, and authorize the General Manager to advertise the contract for public bidding; second, Commissioner Boorstein.

VOTE: The vote was passed unanimously.

ABSENT: None

9. Power Delivery Program Status Report

00:29:49

GM Dow stated that CMSA has completed the required PG&E interconnection work for the Power Delivery Program, passed the on-site witness test, and is awaiting the PG&E Permission to Operate letter. He said that once this letter is received, CMSA can apply for the California Energy Commission (CEC) Renewable Generator Certification that is required by MCE, and expand the organic waste receiving program. He said the \$80K that was set aside in an escrow fund for potential PG&E improvements for CMSA systems will be recovered, as the improvements were not required.

GM Dow reviewed the power sale aspect of the Project, and reported that the MCE PPA manager said due to the good progress made since the PPA execution he will extend the project completion date beyond March 29, 2019. GM Dow said that to complete the project, CMSA has to submit various documents to MCE.

GM Dow reported on the Cogeneration System Technology Assessment, and the various alternatives involved in determining the optimal cogeneration engine size and capacity.

GM Dow stated that the Cogeneration Project did not receive the minimum number of points to qualify for a FY 20 Clean Water State Revolving Fund (CWSRF) loan. He said that

priority is given to projects associated with drinking water sources, Delta water quality, water recycling, and impaired water bodies.

GM Dow reviewed the Digester Organic Loading Study, and said that a pilot study approach was recommended to determine the organic loading rate thresholds under CMSA's actual digester operating conditions. He said that staff is preparing a detailed study plan and procuring pilot equipment, and the study is expected to begin around April 2019 and will take up to nine months to complete. He said that three experienced wastewater engineering and technology firms, Carollo, Black & Veatch, and Veolia Water Technologies, have volunteered to donate staff time to serve as outside Technical Advisors.

The Board discussed various aspects of the program, including cogeneration engine size and capacity, other potential funding sources, the digester pilot study, feed stocks; and asked various questions.

GM Dow responded to the Board's questions.

Commissioner Bushey stated that she recommends that the Advisory Committee's first priority should be to objectively set a conservative margin of safety when using the pilot study results for full scale operations.

GM Dow agreed, and said he will make sure that the appropriate margin of safety is built into the study.

Comments from the Public:

There were no members of the public present.

ACTION: Commissioner Beckman moved to accept the power delivery program status report; second, Alternate Commissioner Hillmer.

VOTE: The vote was passed unanimously.

ABSENT: None

10. February Informational Items

00:53:18

Commissioner Beckman asked regarding item #3, if the PG&E bankruptcy would have any effect on Agency operations.

GM Dow said that he discussed this topic with SPURR and learned the bankruptcy shouldn't have any effect on natural gas distribution, and has not heard anything from PG&E that would indicate a disruption in electrical service.

Commissioner Bushey stated that the Agency should be prepared for an increase in PG&E's fees of approximately 10% for next year for both gas and electricity, and potentially the same for MCE.

GM Dow said he would direct staff to plan on those fee increases during the FY 19-20 budget development process.

11. North Bay Watershed Association (NBWA) Report **00:58:08**

Commissioner Boorstein said he attended the February 1, 2019 meeting and heard a presentation from Steven R. Ritchie, Assistant General Manager, Water Enterprise, San Francisco PUC, called "The Future of Regional Funding." He said they also went on a tour of the Casa Grande High School Fish Hatchery in Petaluma, which is an impressive program designed and maintained by the school students.

12. Oral Reports by Commissioners/General Manager **01:03:25**

GM Dow referred to his handout and reported:

- Agency Bond Counsel, Sarah Hollenbeck of PFM, provided a graph that shows that bond rates have gone down, and a 20-year bond issue rate is at 2.75-3%, lower than the Agency's projected bond-issuance rate of 3.5%.
- CASA is supporting non-flushable wipe legislation for the 2019 session, requiring proper product labeling and flushability to be dependent upon international disbursement criteria.
- CMSA's Lighting Replacement Project has resulted in a savings of 141,454 kWh annually to date.

Commissioner Kelly thanked Jason for taking him on a tour of San Quentin Prison Pump Station to see the potential new work area in the wet well.

GM Dow said that the a new San Quentin Prison Wastewater Service Agreement with the Department of Corrections is in review, and if approved by the CMSA Board, the agreement would allow CMSA to hire staff to clean the pump station's wet well screens.

13. Next Scheduled Meeting **01:14:33**

Note Special Meeting day: Thursday, March 14, 2019 at 7:00 p.m. at the Agency office.

Chair DiGiovanni adjourned the meeting at 8:15 p.m.

Respectfully submitted,

Kate Brouillet, Recording Secretary

Eli Beckman, Secretary

**Central Marin Sanitation Agency
Treasurer's Report - Operating Account
For the Month of February 2019**

I. Accounts Summary: Bank & Investment Accounts

Summary of Bank & Money Market Accounts

Westamerica Bank - Account Activity shown below	\$ 442,866.66
Local Agency Investment Fund (LAIF) - Refer to Schedule of Investments	17,088,164.15
California Asset Management Program (CAMP) - Refer to Schedule of Investments	371,164.96
Total Bank & Investment Accounts: Ending Balance on February 28, 2019	<u>\$ 17,902,195.77</u>

II. Account Activity for Westamerica Bank

Beginning Balance on February 1, 2019 3,562,755.52

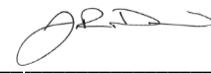
Cash Receipts (Deposits into Westamerica):

Transfers from LAIF	1,450,000.00
Permit and Inspection Fees	1,038.32
LGVSD - pollution prevention & FOG (FY19 2Q: October-December)	3,223.81
SRSD - FOG Program (FY19 2Q: October-December)	2,557.17
SD#2 FOG Program (FY19 2Q: October & December)	934.65
Mercury Reduction Program (NSD: FY19: December & January)	3,175.95
Revenue from Haulers & RVs	4,816.99
Revenue from Organic Waste Programs	13,954.73
Health & Safety Program Revenue (NSD: FY19 3Q Salary/Benefits)	9,967.78
SQSP Wastewater Services Contract (FY19: December & January)	169,361.34
SQ Village Operations & Maintenance Contract (FY19: December)	546.45
Interest Income: CalCARD Incentive Payment	352.43
Misc Revenue: CalPERS Medicare Part D Subsidy	1,087.31
COBRA Health Benefit Payments from separated employees/retirees	89.44
Expense Reimbursement from NSD for audio test	8.25
Total Cash Receipts	<u>\$ 1,661,114.62</u>

Cash Disbursements (Withdrawals from WestAmerica):

February 2019 Operating account disbursements register (see attached)	\$638,253.11
Regular Payroll paid 02/01/19	138,833.80
Regular Payroll paid 02/15/19	134,819.93
Transfers to EFTPS Federal Payroll Taxes (02/05, 02/20)	60,232.92
Final Separation Pay (2)	5,062.16
Transfers to LAIF (FY19 Q3: JPA Payments)	3,000,000.00
Wire to US Bank for 2015 Refunding Revenue Bonds interest payment due March 1st	803,744.69
Bank Fee	56.87
Total Cash Disbursements	<u>\$4,781,003.48</u>
Ending Balance on February 28, 2019	<u>\$ 442,866.66</u>

Prepared by: 
Kenneth Spray, Administrative Services Manager

Reviewed by: 
Jason Dow, General Manager

Central Marin Sanitation Agency
Operating Account Disbursements Register
For the Month of February 2019

Check Number	Date	Vendor/Payee	Amount	Description
18067				Last check # from prior month's register
18068	2/1/2019	Phillip Frye	224.41	Reimbursement for retiree health benefits by check
18069	2/1/2019	James L. Johnson	187.74	Reimbursement for retiree health benefits by check
18070	2/1/2019	Byron Jones	64.34	Reimbursement for retiree health benefits by check
18071	2/1/2019	California State Disbursement	250.50	EE Garnishment, PPE 01/26/2019 (Note A)
18072	2/1/2019	ICMA Retirement Trust-457	7,502.00	Deferred compensation contributions, PPE 01/26/2019 (Note A)
18073	2/1/2019	Navia Benefit Solutions	969.01	Flexible spending account, PPE 01/26/2019
18074	2/1/2019	SEIU Local 1021	1,048.26	Union dues, PPE 01/26/2019
18075	2/5/2019	Alliant Insurance Services	122.00	Agency vehicle insurance, second quarterly payment, 10/01-12/31/2018
18076	2/5/2019	Aramark Uniform Services	191.78	Replacement uniform items
18077	2/5/2019	Paul Bruemmer	536.60	Employee expenses eligible for Agency dental reimbursement
18078	2/5/2019	GHD Inc	10,831.56	Prof Svcs: Asset Management Program Evaluation, January 2019
18079	2/5/2019	Navia Benefit Solutions	710.00	Annual fee, and January 2019 monthly fee
18080	2/5/2019	P.G.& E.	16,651.26	Electricity service, 12/14/2018-01/14/2019 (2 invoices)
18081	2/5/2019	Pipette.com	412.05	Lab supplies and equipment
18082	2/5/2019	S&S Trucking	9,290.73	Biosolids hauling fee, January 2019
18083	2/5/2019	Kenneth R Spray	550.00	Employee expenses eligible for Agency dental reimbursement
18084	2/5/2019	Top Line Engineers Inc	41,505.00	Prof Svcs: Crack and Leak Repairs Project, contract fee and CCO #1
18085	2/8/2019	Aquadyne Associates	583.82	Float switches
18086	2/8/2019	City Electric Supply	21.26	Electrical parts
18087	2/8/2019	Electrical Equipment Co.,Inc.	1,157.23	Spare motor for polymer feed pumps
18088	2/8/2019	Grainger	7,046.37	Submersible sewage pumps, float switch, valve, flow meter, and misc. maint, electrical & safety supplies, December 2018
18089	2/8/2019	Hagel Supply Co.	687.11	Utility products and supplies, December 2018 and January 2019
18090	2/8/2019	Home Depot Credit Services	455.55	Landscaping & maintenance supplies, January 2019
18091	2/8/2019	IDEXX Distribution Inc	2,009.79	Lab testing supplies, January 2019 (6 invoices)
18092	2/8/2019	IEDA, Inc.	809.00	Labor relations consulting, February 2019
18093	2/8/2019	Jackson's Hardware	601.55	Chainsaw and fuel, January 2019
18094	2/8/2019	Marin Color Service	633.44	Paint and painting supplies, January 2019
18095	2/8/2019	Marin Office Supply	712.79	Office supplies, January 2019
18096	2/8/2019	Monica Oakley	1,062.50	Prof Svcs: Regulatory consulting, 12/29/2018-02/01/2019
18097	2/8/2019	Ben Northcroft	92.97	Employee expense reimb: Safety shoes
18098	2/8/2019	OCCUMETRIC	345.00	OIT recruitment: Pre-employment physical (1 employee)
18099	2/8/2019	Platt	1,449.60	Connectors, fittings, wire, and misc. electrical parts, December 2018 and January 2019 (2 invoices)
18100	2/8/2019	Ryan Herco Flow Solutions	259.26	Filters
18101	2/8/2019	Rock Steady Juggling	500.00	Pub Ed Program: Outreach at one school (Note B)
18102	2/8/2019	Univar USA Inc	21,358.04	Sodium Hypochlorite (3 deliveries), Sodium Bisulfite (2 deliveries)
18103	2/8/2019	VWR International	1,388.78	Thermometer dial, filters, deionized water, trays, and vials, January 2019 (6 invoices)
18104	2/8/2019	Water Components & Bldg. Supp.	1,186.31	SD2 PS: Sump pump replacement (Note B); glue, grout, flanges, & pump float, November & December 2018 (7 invoices)
18105	2/8/2019	Void	-	
18106	2/8/2019	Woodland Center Auto Supply	226.50	Agency vehicle oil and battery, January 2019
18107	2/20/2019	California Public Employee	3,590.16	Contribution to Retiree Health Benefits Trust Fund, February 2019 (Note C)
18108	2/20/2019	California State Disbursement	250.50	EE Garnishment, PPE 02/09/2019 (Note A)
18109	2/20/2019	ICMA Retirement Trust-457	7,502.00	Deferred compensation contributions, PPE 02/09/2019 (Note A)
18110	2/20/2019	Navia Benefit Solutions	969.01	Flexible spending account, PPE 02/09/2019
18111	2/20/2019	SEIU Local 1021	1,018.48	Union dues, PPE 02/09/2019
18112	2/20/2019	Amazing Solutions, Inc.	750.00	Finance software support, January 2019
18113	2/20/2019	Associated Power Solutions	1,350.00	Prof Svcs: PG&E Interconnection Agreement Relay Upgrades, final billing
18114	2/20/2019	California Air Resources Brd	735.00	SD2 PS: Portable Equipment Registration Program (Note B)
18115	2/20/2019	Carollo Engineers, Inc.	61,370.33	Prof Svcs: PG&E Interconnection Design, final billing; Cogeneration System Predesign Evaluation Project, January 2019
18116	2/20/2019	Cole-Parmer	340.75	Pressure switches

18117	2/20/2019	Comcast	193.38	Internet service, 02/04-03/03/2019
18118	2/20/2019	Dealers Industrial Equipment	1,845.10	Variable frequency drives (2 invoices)
18119	2/20/2019	David Ernst	607.00	Employee expenses eligible for Agency dental reimbursement
18120	2/20/2019	Chris Finton	250.00	Commuter Reimbursement Program, February 2019
18121	2/20/2019	Fisher Scientific	3,723.95	Laboratory filters, buffers, chemicals, and vials, January 2019
18122	2/20/2019	Hach Company	6,181.77	WIMS annual maintenance fee, 01/14/2019-01/13/2020; misc. chemicals and equipment
18123	2/20/2019	Intec Solutions, Inc.	2,025.00	SD2 PS: Emergency service call for repair of Paradise VFD (Note B)
18124	2/20/2019	Justifacts Credential	93.50	OIT recruitment: Background check (1 employee)
18125	2/20/2019	Koff & Associates, Inc.	3,752.00	Prof Svcs: Compensation Study, first invoice
18126	2/20/2019	Marin Independent Journal	257.30	Public Notice: Bid notices for Andersen Drive Landslide Repair and Pavement Rehabilitation Projects
18127	2/20/2019	Marin Sanitary Service	9,274.43	Yard waste, compost, rag bin, & dirt box services, January 2019 (4 invoices)
18128	2/20/2019	McInerney & Dillon, P.C.	154.00	Legal services, construction/contract law, January 2019
18129	2/20/2019	McMaster-Carr Supply Co.	5,719.46	Strut channels and mounts, hoses, pipes and fittings, pressure gauges, & misc. hardware and supplies, January 2019 (17 invoices)
18130	2/20/2019	Nitel Inc	1,046.89	Primary telephone & internet service, February 2019
18131	2/20/2019	Ricoh USA Inc	317.99	Admin copier lease, 01/23-02/22/2019
18132	2/20/2019	Safety-kleen Systems, Inc	470.80	Parts washer service (2 invoices)
18133	2/20/2019	Mike Silva	200.00	Commuter Reimbursement Program, February 2019
18134	2/20/2019	Anthony Smith	775.13	Employee expense reimb: CA Hazardous Waste Materials Conference
18135	2/20/2019	Thomas & Associates	1,590.74	Final vault replacement pump assemblies
18136	2/26/2019	Amazon	588.95	Computer and office supplies, January 2019
18137	2/26/2019	Aramark Uniform Services	494.91	Uniform service
18138	2/26/2019	AT&T Dataplan	400.67	Wireless service, 01/02-02/01/2019
18139	2/26/2019	Bay City Boiler & Engineering	210.78	Boiler rehabilitation parts
18140	2/26/2019	BKF Engineers	1,170.00	SD2 PS: Supplies, parts, & equipment (Note B)
18141	2/26/2019	Rebecca Brewer	159.98	Employee expense reimb: Safety shoes
18142	2/26/2019	CAL-CARD	6,491.39	State of California Purchase Card, December 2018-January 2019
18143	2/26/2019	Chemurgic Agricultural	5,307.93	Sodium Bisulfite (1 delivery)
18144	2/26/2019	CWEA TCP	564.00	Membership fee (3 employees)
18145	2/26/2019	Evoqua Water Tech LLC	558.54	Deionized water tank rental (2 invoices)
18146	2/26/2019	Galco Industrial Electronics	1,263.49	Polymer pump encoder; misc. maintenance parts, January 2019
18147	2/26/2019	Grainger	3,972.37	Solenoid valves, shackles, actuator, strut channel, & misc. supplies, November 2018-January 2019 (19 invoices)
18148	2/26/2019	Jose Gutierrez	791.50	Employee expense reimb: CWEA P3S Annual Conference
18149	2/26/2019	Thomas Hansen	142.36	Employee expense reimb: Mileage to pre-employment physical and DMV fee
18150	2/26/2019	Kone Inc	136.70	Elevator monthly service fee, February 2019
18151	2/26/2019	The Lab Depot	434.95	Process control chemicals
18152	2/26/2019	Lystek International LTD	12,592.47	Biosolids beneficial reuse fee, January 2019
18153	2/26/2019	Marin Municipal Water District	1,081.54	Water service, 12/11/2018-02/08/2019 (2 invoices)
18154	2/26/2019	Novato Chamber	150.00	Public Ed: Booth fee for Novato public outreach event (Note B)
18155	2/26/2019	Mary Jo Ramey	846.82	Employee expense reimb: CWEA Annual P3S Conference
18156	2/26/2019	Ricoh USA Inc	259.35	Lab copier lease, 02/09-03/08/2019
18157	2/26/2019	Rockwell Solutions	990.44	Parts for TWAS pumps
18158	2/26/2019	Thatcher Company of	11,164.46	Ferric Chloride (2 deliveries)
18159	2/26/2019	ULINE	447.78	Misc. utility and cleaning supplies
18160	2/26/2019	Univar USA Inc	56,624.14	Sodium Hypochlorite (7 deliveries), Sodium Bisulfite (6 deliveries)
18161	2/26/2019	Waste Management	17,097.52	Redwood Landfill biosolids reuse fee, January 2019
18162	2/26/2019	Watson-Marlow Inc	3,320.29	Organic Waste Receiving Facility spare parts
18163	2/26/2019	Wells Fargo Vendor	374.13	Maint copier lease, 02/13-03/12/2019
18164	2/26/2019	Western Exterminator Co.,Inc.	178.50	Pest control service, January 2019
18165	2/26/2019	Wiley Price & Radulovich	1,015.00	Prof Svcs: Employment law services, January 2019
18166	2/27/2019	Brandon Tire	285.98	Agency vehicle tires
18167	2/27/2019	Katherine Brouillet	72.94	Employee expense reimb: HR training
18168	2/27/2019	Dealers Industrial Equipment	1,714.83	VFDs for various applications
18169	2/27/2019	FactoryMation	212.60	Relay modules
18170	2/27/2019	Kaman Industrial Technologies	35,988.36	Primary clarifier gear box replacement (1 invoice); Air channel blower replacement and parts (2 invoices)
18171	2/27/2019	Praxair Distribution, Inc.	163.18	Propane

Payments by Automatic Clearing House:

2/1/2019	Payments to 25 retirees	7,564.01	Reimbursement for retiree health benefits
2/1/2019	CalPERS Medical ins	69,291.55	Medical insurance, February 2019
2/5/2019	CalPERS	36,738.71	Retirement pension contribution: Agency and employees, PPE 01/26/2019 (Note C)
2/19/2019	CalPERS	36,378.89	Retirement pension contribution: Agency and employees, PPE 02/09/2019 (Note C)
2/5/2019	Delta Dental	8,502.95	Dental insurance, January 2019
2/5/2019	Lincoln Life Ins	2,271.26	Life insurance, January 2019
2/5/2019	Vision Service Plan -(CA)	987.42	Vision insurance, January 2019
2/5/2019	EDD	12,565.12	State & SDI Taxes, PPE 01/26/2019
2/19/2019	EDD	12,088.82	State & SDI Taxes, PPE 02/09/2019
2/5/2019	NRS/PEHP-3 and Z	17,922.81	Deferred compensation and MARA contribution, PPE 01/26/2019
2/19/2019	NRS/PEHP-3 and Z	14,883.94	Deferred compensation and MARA contribution, PPE 02/09/2019
2/18/2019	Michael Owen Boorstein	675.00	Stipend for 02/12/2019 Board meeting and 01/11/2019 & 02/01/2019 NBWA Board meetings
2/18/2019	Maribeth Bushey	225.00	Stipend for 02/12/2019 Board meeting
2/18/2019	Dean DiGiovanni	225.00	Stipend for 02/12/2019 Board meeting
2/18/2019	Eli Beckman	225.00	Stipend for 02/12/2019 Board meeting
2/18/2019	Dan Hillmer	225.00	Stipend for 02/12/2019 Board meeting
2/18/2019	Doug Kelly	225.00	Stipend for 02/12/2019 Board meeting

Grand Total **638,253.11**

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 the Month Ended February 28, 2019**

Description	Book Value	Market Value (1)	% Port	Projected Year End
I. Pooled Investments with California Asset Management Program (CAMP)				
Money Market Funds (< 1 year in maturity)				
CAMP Cash Reserve Pool: 2.64% at 2/28/19				
b1. Operating Reserve (Unrestricted) (2)	\$ 21,164.96	\$ 21,164.96		Sum b1. Below
b2. Emergency Reserve (Unrestricted)	250,000.00	250,000.00		\$ 250,000
b3. Insurance Reserve (Unrestricted)	100,000.00	100,000.00		\$ 100,000
Total with CAMP	\$ 371,164.96	\$ 371,164.96	2.1%	
II. Pooled Investments with Local Agency Investment Fund (LAIF)				
Money Market Funds (< 1 year in maturity)				
Local Agency Investment Fund (LAIF): 2.355% at 1/31/19				
a1. Current Operating Fund	\$ 3,528,130.11	\$ 3,528,130.11		
b1. Operating Reserve (Unrestricted) (2)	\$ 2,934,335.04	\$ 2,934,335.04		\$ 2,955,500
c1. Capital Reserves (Restricted) (3)	\$ 1,088,366.00	\$ 1,088,366.00		\$ 993,301
c2. Capital Reserves (Unrestricted) (4)	\$ 9,537,333.00	\$ 9,537,333.00		\$ 7,258,146
Total with LAIF	\$ 17,088,164.15	\$ 17,088,164.15	97.9%	
TOTAL INVESTMENTS	\$ 17,459,329.11	\$ 17,459,329.11	100.0%	

NOTES:

(1) Market values are per the fiscal agent's respective monthly statements

(3) Includes capacity charges and debt service coverage

(2) Operating reserves calculated at 25% operating budget

(4) Includes capital fee charges

Statement of Compliance

The above portfolio of investments is in compliance with the Agency's investments policy, adopted annually, and California Government Code Section 53601, authorized investments, and 53646, investments policy. In addition, the Agency does have the financial ability to meet its cash flow requirements for the next six months.

Kenneth Spray, CPA



Administrative Services Manager

CENTRAL MARIN SANITATION AGENCY
CAPITAL RESERVES SUMMARY FOR THE SCHEDULE OF INVESTMENTS

Year-to-Date as of the Month Ended February 28, 2019

	Monthly Amounts Received (Used)	YTD Amounts Received (Used)
Restricted Capital Reserves Sources and Uses		
Capacity charges revenue	\$ -	\$ 230,300
Debt coverage collection revenue	-	993,302
	<hr/>	<hr/>
Total restricted capital reserve funding sources	-	1,223,602
Capacity charges usage for capital (1st)	(2,472)	(230,300)
Debt coverage usage for capital (2nd)	(155,492)	(895,413)
	<hr/>	<hr/>
Total restricted capital reserve uses	(157,964)	(1,125,713)
Net change		97,889
Balance - beg of year		990,477
Balance - end of year		<u><u>\$ 1,088,366</u></u>
 Unrestricted Capital Reserves Sources and Uses		
Capital fee revenue	\$ -	\$ 608,445
Unrestricted operating-reserve-transfer-in	-	703,289
SRF/FEMA cost reimb proceeds received	-	359,354
	<hr/>	<hr/>
Total unrestricted capital reserve funding sources	-	1,671,088
Capital fee usage to fund CIP (3rd)	-	-
Unrestricted capital reserve draw (4th)	-	-
	<hr/>	<hr/>
Total unrestricted capital reserve uses	-	-
Net change		1,671,088
Balance - beg of year		7,866,245
Balance - end of year		<u><u>\$ 9,537,333</u></u>
 Total capital reserve balances		 <u><u>\$10,625,699</u></u>
 Total approved CIP budget		 \$ 2,862,500
Total CIP funded from capital reserve sources		<u>1,125,713</u>
Total approved capital budget remaining		<u><u>\$ 1,736,787</u></u>

BOARD MEMORANDUM

March 8, 2019

To: CMSA Commissioners and Alternates

From: Chris Finton, Treatment Plant Manager

Approved: Jason Dow, General Manager

Subject: February 2019 NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report

Recommendation: Accept the February 2019 NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report.

I. NPDES Permit Compliance

Our NPDES permit testing for February 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 February 96-hour flow through bioassay test. CMSA's NPDES permit specifies quarterly monitoring for enterococcus bacteria and for each wet weather blend event, to verify compliance with established effluent limits. The enterococcus geometric mean for the month was 5.3 MPN, well below our monthly limit of 35 MPN.

II. Influent Flow

In February, powerful atmospheric river (AR) fueled storm events brought heavy rains, winds, and flooding to central Marin County. The Agency received a total of 12.7 inches of rain as recorded by the CMSA rain gauge. The treatment plant exceeded the maximum secondary capacity of 30 MGD during the month, and we reported six blend events on the Agency's website. The facility's average daily influent flow was 29.4 MGD.

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

February Monthly Influent Flows	San Rafael (SRSD)	Ross Valley (RVSD)	San Quentin (SQSP)	Corte Madera (SD#2)	CMSA Plant Total
Average Daily (MGD)	10.9 MGD	15.5 MGD	0.76 MGD	2.3 MGD	29.4 MGD
Total for Month (MG)	303.8 MG	433.5 MG	21.3 MG	65.4 MG	824.0 MG
Percent of Flow	37.0 %	53.0 %	2.0 %	8.0 %	100 %

Wet Weather Peak Flows*	San Rafael (SRSD)	Ross Valley (RVSD)	San Quentin	Corte Madera (SD#2)	CMSA
02/26 Total Days Flow	32.8 MG	42.2 MG	1.5 MG	4.8 MG	81.2 MG
Peak Flow Rate	40.4 MGD	55.9 MGD	3.0 MGD	6.0 MGD	116.0 MGD

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

III. Treatment Process

There was a significant amount of rain, 18 days, and February was a repeat of January with staff busy rotating process equipment in and out of service as needed throughout the month. Staff was kept busy operating the effluent pump station, which pumps effluent through the Agency outfall and into SF Bay. The station was online a total of 68 hours for the month. Operators were also occupied with receiving process chemicals, Sodium Bisulfite and Hypochlorite; the two AR events used a combined total of 46,000 gallons of both solutions to effectively treat the storm generated wastewater flows.

The Mixed Liquor Suspended Solids (MLSS) inventory averaged 1,145 mg/l in February, a 10% decrease in inventory from last month. This aligned with our target biomass concentration range of 1,100 to 1,200 mg/L.

Graph No. 3 shows the coliform most probable number (MPN), which represents the effectiveness of the disinfection process. All nineteen coliform samples collected in February were below our KPI of 30 MPN, and well below our daily permit limit of 10,000 MPN. The total coliform monthly geometric mean for February was 1.2 MPN, well below our permit's monthly limit of 240 MPN.

Graph No. 4 shows the Total Suspended Solids (TSS), which is a good indicator of the effluent quality. The TSS monthly average in February was 8.9 mg/l, which is 59.0% of our Key Performance Indicator (KPI) of 15 mg/l, and is 30.0% of our permit's monthly average limit of 30 mg/l. The higher than normal values as depicted on Graph 4 are attributed to significant storm generated flows during those time frames.

IV. Maintenance Activities

The cogeneration system was out of service from February 2 until February 28 for a scheduled maintenance procedure. The "Upper-End" procedure consisted of removing and replacing the cylinder heads, intercooler, and turbo-chargers, and emissions testing.

The majority of February's work activities were spent performing process equipment preventative maintenance. In addition, work included replacing two digester recirculation pumps; replacing soft start motors with VFD's on both digester mixing pumps; replacing two 10" isolation valves at the Organic Waste Receiving Facility during quarterly cleaning; replacing several pipe restraints damaged by vibrating piping; performing a quarterly inventory count of CMSA stockrooms; and cleaning recycled water strainers that were fouled due to blending. Utility staff continued a painting project to recoat fire suppression water and process piping in the Agency's gallery system.

Attachment:

- February 2019 NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report

NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report
February 2019



Cogeneration system off-line and receiving a scheduled Upper-End maintenance procedure

Monthly Compliance Summary Table

Central Marin Sanitation Agency

February, 2019

Final Effluent Monitoring

Parameter	Frequency	Units	Results	Limit
Carbonaceous BOD Highest Weekly Average	Weekly	mg/L	11.3	Maximum 40
Carbonaceous BOD Monthly Average	Monthly	mg/L	8.7	Maximum 25
Carbonaceous BOD Monthly Removal Rate	Monthly	%	90.8	Minimum 85
Total Suspended Solids Highest Weekly Average	Weekly	mg/L	14.2	Maximum 45
Total Suspended Solids Monthly Average	Monthly	mg/L	8.9	Maximum 30
Total Suspended Solids Monthly Removal Rate	Monthly	%	94.7	Minimum 85
Chlorine Residual Instant Limit	Instant	mg/L	ND	Maximum 0.0
Ammonia Monthly Average	Monthly	mg/L	15.6	Maximum 60
Ammonia Maximum Daily	Daily	mg/L	17.9	Maximum 120
pH Lower Limit	Continuous	SU	6.2	Minimum 6
pH Upper Limit	Continuous	SU	7.1	Maximum 9
Bacteriological Analysis				
Total Coliform Monthly Geometric Mean	3 X Week	MPN/100mL	1.2	Maximum 240
Total Coliform Daily Maximum	3 X Week	MPN/100mL	5.9	Maximum 10,000
Enterococcus Quarterly Geometric Mean	Quarterly	MPN/100mL	5.3	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	4.4	Maximum 85
Copper Monthly Average	Monthly	ug/L	4.4	Maximum 49
Cyanide Daily Limit	Monthly	ug/L	J1.0	Maximum 41
Cyanide Monthly Average	Monthly	ug/L	J1.0	Maximum 21
Mercury Weekly Average	Weekly	ug/L	0.0096	Maximum 0.072
Mercury Monthly Average	Monthly	ug/L	0.0096	Maximum 0.066
Mercury Monthly Loading	Monthly	kg/mo	0.02445	
Mercury Annual Loading (watershed permit)	Jan-Dec	kg/yr	0.03504	Maximum 0.11
Permit Analysis				
Dioxin - Total Equivalents (TEQ) Daily Maximum	1/Permit Cycle	ug/L	*	Maximum 2.8E-08
Dioxin - Total Equivalents (TEQ) Monthly Average	1/Permit Cycle	ug/L	*	Maximum 1.4E-08
Polychlorinated Biphenyls (PCBs) Daily Limit	1/Permit Cycle	ug/L	*	Maximum 0.017
Polychlorinated Biphenyls (PCBs) Monthly Limit	1/Permit Cycle	ug/L	*	Maximum 0.012
Semiannual and Quarterly Analysis				
Oil and Grease Daily Limit	Semiannual	mg/L	J1.6	Maximum 20
Oil and Grease Monthly Average	Semiannual	mg/L	J1.6	Maximum 10
Chronic Bioassay Toxicity	Quarterly	Tuc	ND	Maximum 20
Chronic Bioassay Toxicity (3 sample median)	Quarterly	Tuc	ND	Maximum 10
Flow Analysis	Daily Max	Hourly Max	5 minute Max	Monthly Average
Effluent Flow	78.3	110.1	112.7	28.9
Influent Flow	81.2	113.8	116.0	29.4
# Days Blended				12

* Monitoring Not Required This Month ND = None Detected X = Data not available at report time J = 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 to algae in the San Francisco Bay. The permit has a maximum daily limit of 120 mg/L and a monthly average limit of 60 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 typically we are required to take only 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 Equivalents:** These are 17 dioxin-like compounds that we analyze for twice per year which have permit limits.
- **Oils and Grease:** We are required to monitor our effluent for Oils and Grease quarterly.
- **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
February 2019

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>159.1</u>	mg/l
Average TSS out:	<u>58.9</u>	mg/l
Average Percent Removal Achieved:	<u>55.0</u>	%
Average Total Carbonaceous Biochemical Oxygen Demand (CBOD) in:	<u>129.2</u>	mg/l
Average BOD out:	<u>60.0</u>	mg/l
Average Percent Removal Achieved:	<u>39.6</u>	%
Average Plant Influent Flows:	<u>29.4</u>	MGD

Expected removal efficiencies as outlined in Metcalf & Eddy Wastewater Engineering Manual

Design 50-70% Removal

Design 25-40% Removal

Biotower Performance

Average TSS out:	<u>55.4</u>	mg/l
Average BOD out:	<u>50.2</u>	mg/l
Average Percent BOD Removal Achieved:	<u>12.1</u>	%

Design 25-30% Removal

Aeration Tanks/Activated sludge

Dissolved Oxygen set point:	<u>2.0</u>	mg/l
Average MLSS:	<u>1,145</u>	mg/l
Average MCRT:	<u>3.4</u>	Days
Average SVI:	<u>173</u>	

Secondary Clarifiers

Average WAS concentration:	<u>9,370</u>	mg/l
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Final Effluent

Average Effluent TSS for the month:	<u>8.9</u>	mg/l	(Maximum Limit: 30mg/l)
Week #1 weekly average	<u>4.3</u>		(Maximum Limit: 45mg/l)
Week #2 weekly average	<u>8.1</u>		"
Week #3 weekly average	<u>14.2</u>		"
Week #4 weekly average	<u>3.60</u>		"
Week #5 weekly average	<u>N/A</u>		"
Monthly average TSS removal efficiency through the plant was:	<u>94.7</u>	%	(Minimum Limit: 85%)
Average Effluent CBOD:	<u>8.7</u>	mg/l	(Maximum Limit: 25mg/l)
Week #1 weekly average	<u>5.3</u>		(Maximum Limit: 40mg/l)
Week #2 weekly average	<u>11.3</u>		"
Week #3 weekly average	<u>11.3</u>		"
Week #4 weekly average	<u>4.5</u>		"
Week #5 weekly average	<u>N/A</u>		"
Monthly average CBOD removal efficiency through the plant:	<u>90.8</u>	%	(Minimum Limit: 85%)
Disinfection Dosing Rate:	<u>5.6</u>	mg/l	monthly average
Total Coliform Monthly Geometric Mean:	<u>1.2</u>	MPN	(Maximum 240)
The Daily Maximum Total Coliform Count for the month:	<u>5.9</u>	MPN	(Maximum 10,000)
Enterococcus Monthly Geometric Mean:	<u>5.3</u>	MPN	(Maximum 35 MPN)
Effluent pH for the month:	Min	<u>6.2</u>	(Min 6.0)
	Max	<u>7.1</u>	(Max 9.0)

Digester Treatment

Average Thickened Waste Concentration from the RDT:	<u>5.7</u>	%		
Average percent of Volatile Solids destroyed:	<u>79.4</u>	%		
Cubic feet of biogas produced:	<u>7,986,650</u>	(Total)	<u>285,238</u>	(Daily Average)
Average temperature of the digester:	<u>101.9</u>	degrees Fahrenheit		

Executive Summary Process Performance Data
February 2019

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

Dewatering

Average Centrifuge Feed concentration:	<u>2.6</u>	%
Average Biosolids concentration:	<u>26.9</u>	%
Average TSS of the Centrate:	<u>204</u>	mg/l
Solids capture of the Centrifuge:	<u>99.3</u>	%
Polymer use per Dry ton of biosolids:	<u>12.40</u>	#/dry ton
Average polymer feed rate per run:	<u>3.64</u>	gpm
Average concentration of the polymer batches:	<u>0.328</u>	%
Average sludge feed rate per run:	<u>55.1</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 black graph line depicts the CMSA rain gauge recordings for the month.

Graph #2:

Depicts individual collection member agency flows.

The Y-axis is in the Wet Weather flow range of 0-50 MGD.

Graph #3:

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 1.2 MPN through February, which is less than our KPI median of 30 MPN and permit limit of 240 MPN.

Graph #4:

Depicts the total suspended solids in the effluent.

Our monthly average was 8.9 mg/l versus our KPI of 15 mg/l and permit monthly average limit of 30 mg/l. The higher than normal values as depicted on Graph 4 are attributed to significant storm generated flows during those time frames.

Graph #5:

Depicts the effluent CBOD which is measuring the oxygen demand of the wastewater.

The February effluent CBOD average was 8.7 mg/l, well below our NPDES limits of 40 mg/l weekly and 25 mg/l for the month. The higher than normal values as depicted on Graph 5 are attributed to storm specific events.

Graph #6:

Depicts the degree to which the biosolids have been dewatered.

Our biosolids % concentration exceeded our KPI of 25% for the entire month in February.

Graph #7:

Depicts the amount of Biogas that is produced in the digesters, and then used to produce electricity.

Biogas production in February averaged 285,238 cubic feet per day, which exceeded our monthly KPI of 200,000 cubic feet per day. As depicted on Graph 7, the lower biogas production numbers early in the month are attributed to receiving fewer FOG deliveries at that time, and the mid-month lower biogas production period was due to removing the Organic Waste Receiving Station from service for quarterly cleaning.

Graph #8:

This graph depicts the amount of energy produced through cogeneration versus the energy purchased from MCE for Agency operations.

The cogeneration system was removed from service on February 2 and remained offline until February 28 for a scheduled "Upper-End" maintenance procedure, as depicted on Graph 8.

Glossary of Terms Process Performance Data Sheet

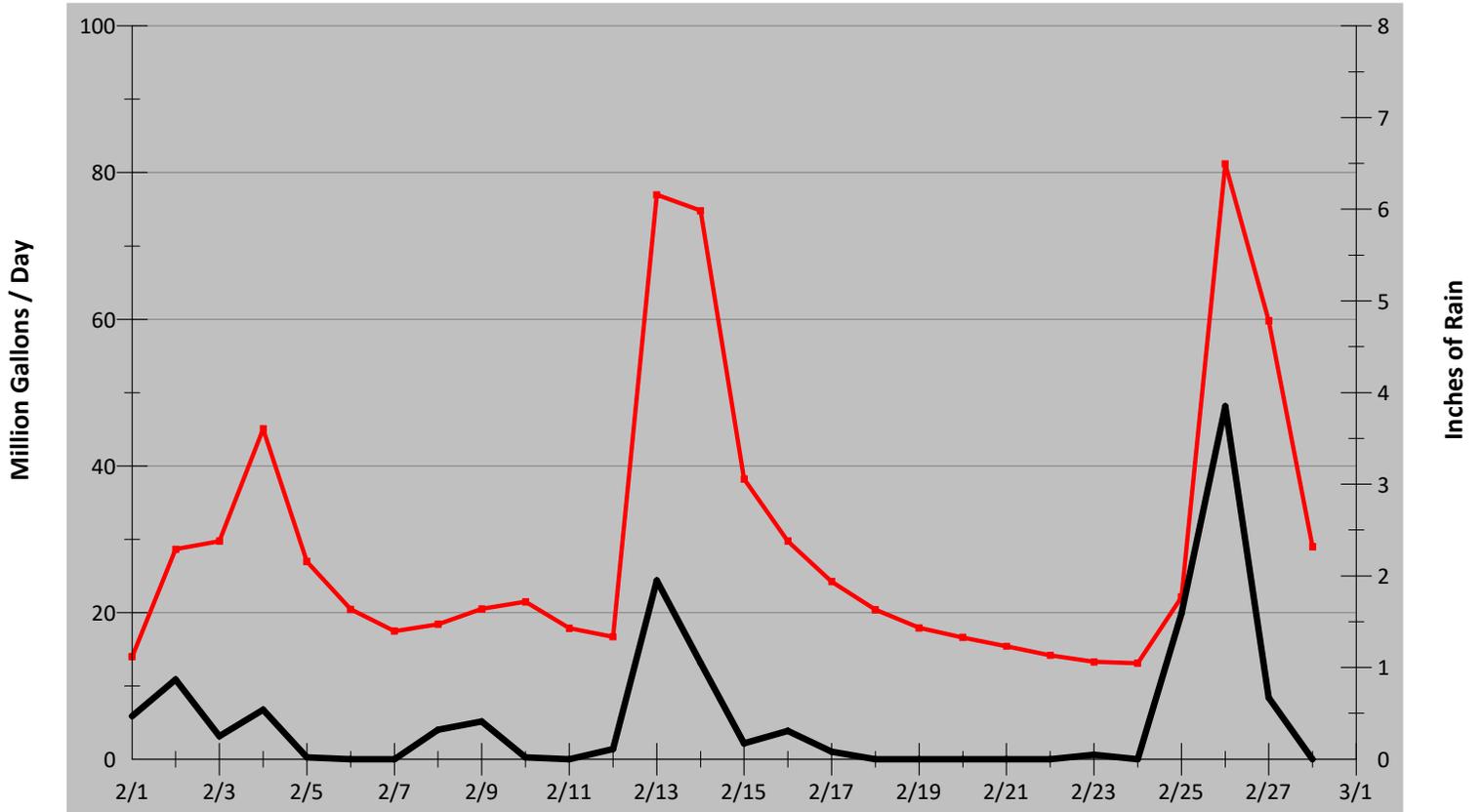
- **Aeration Tanks:** A biological process that takes place after the biotowers, where biomass (microorganisms) is mixed with the wastewater to feed on dissolved and suspended organic material. High speed blowers are used to provide compressed air to mix the tank contents.
- **Anaerobic Digesters:** 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.

Graph #1: CMSA Influent Flow

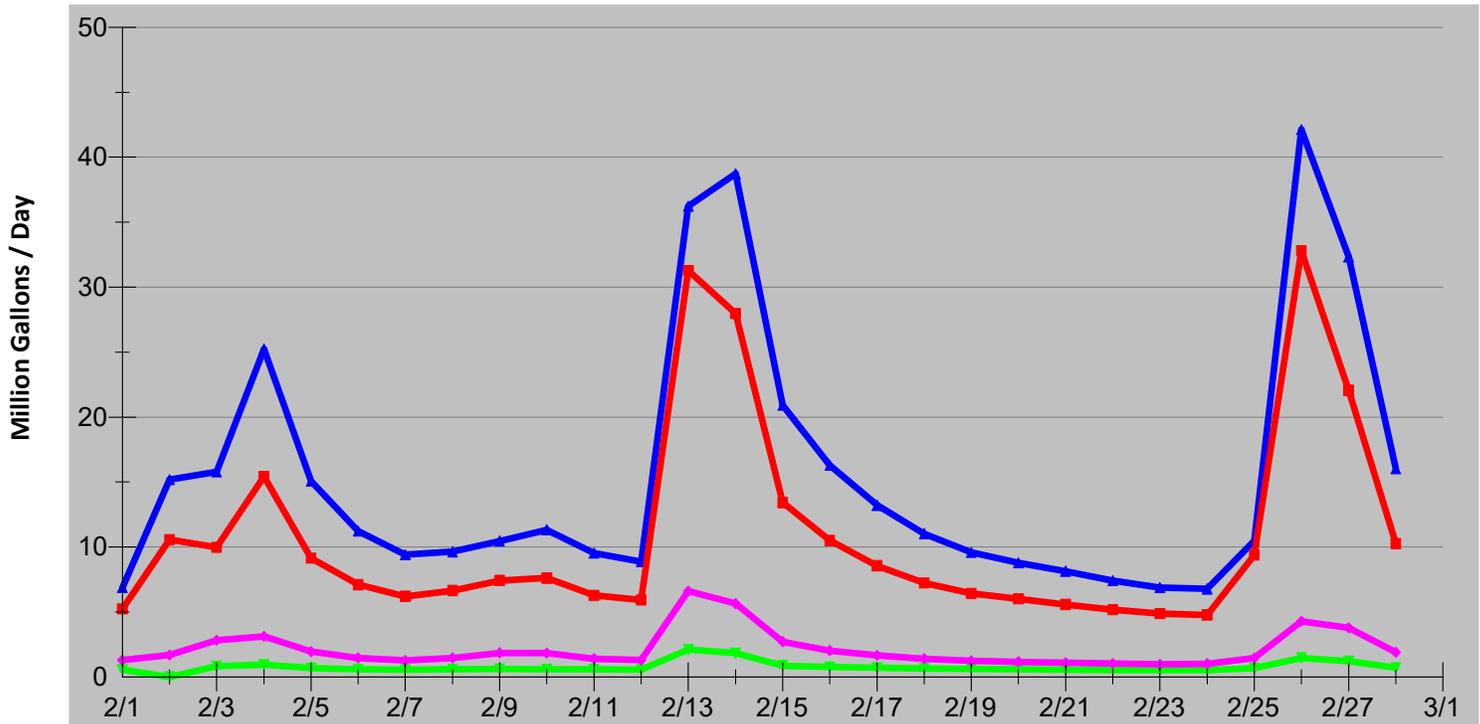


Date (2/1/2019 to 2/28/2019)

■ Flow (Daily Average) • Rainfall

(#1) CMSA Influent Flow

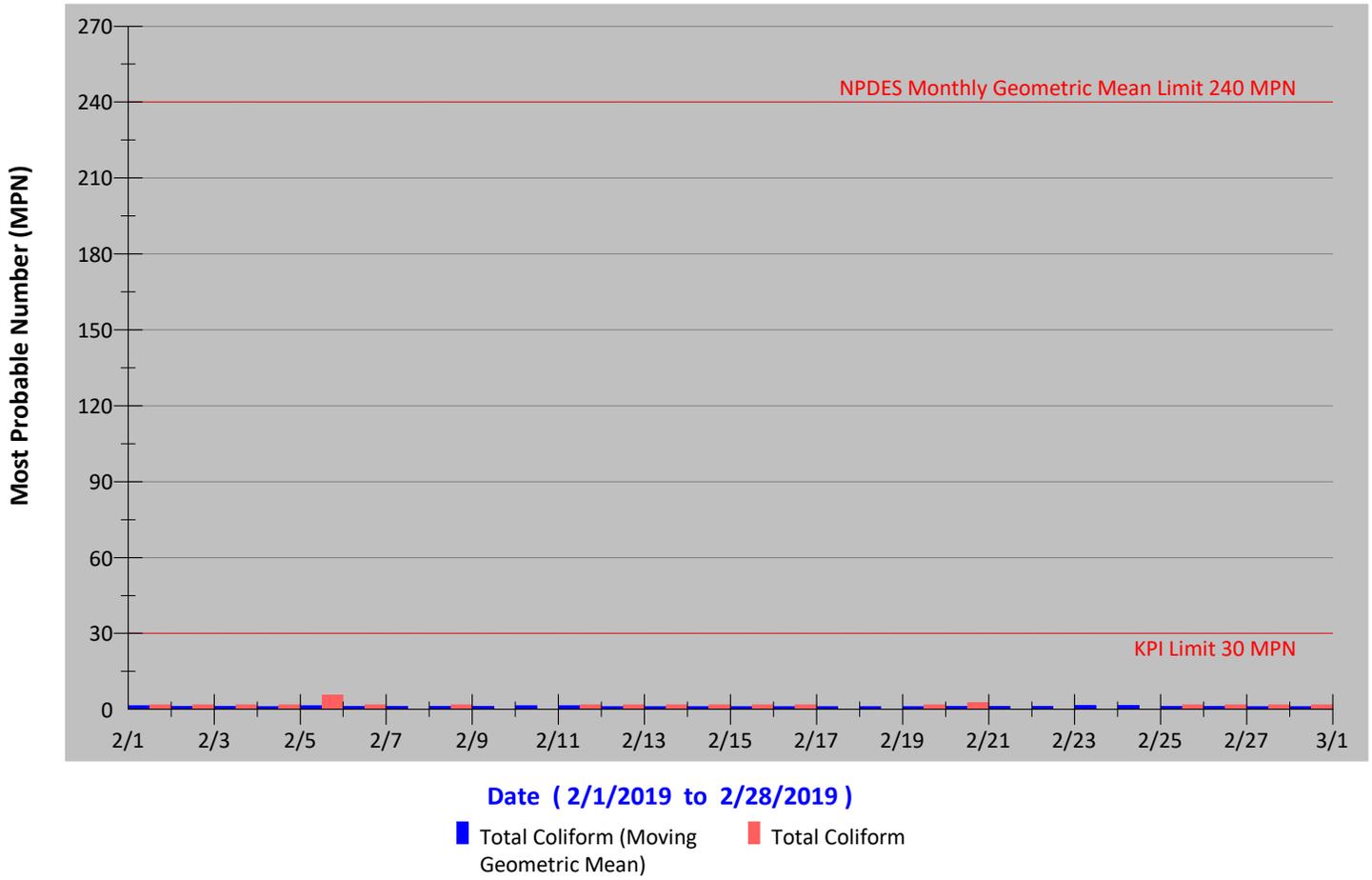
Graph #2: Collection System Influent Flows



Date (2/1/2019 to 2/28/2019)

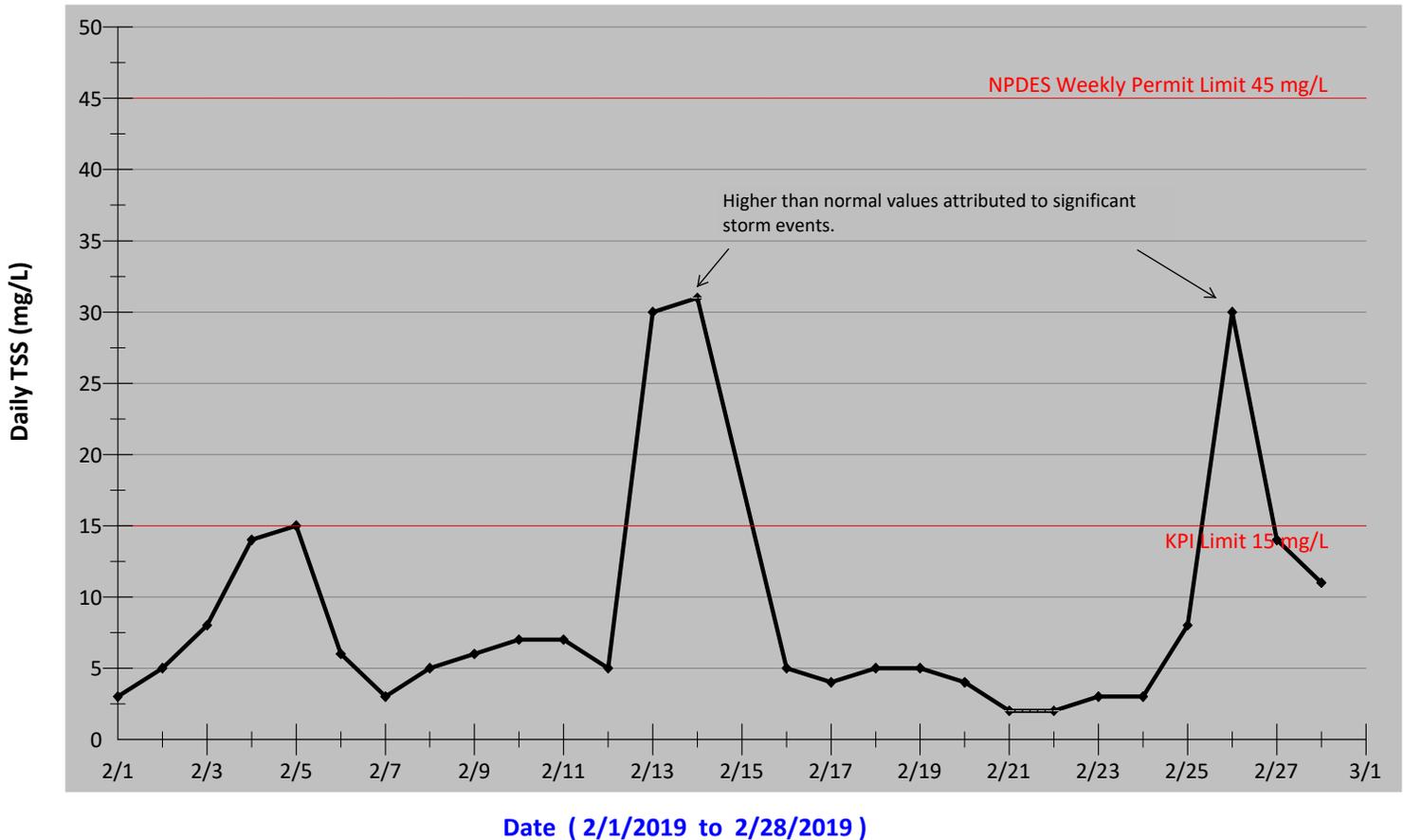
▲ RVSD Flow (Daily Average) ■ SRSD Flow (Daily Average) ▼ SQ Flow (Daily Average) ◆ SD#2 Flow (Daily Average -Par)

Graph #3: Total Coliform & Monthly Geometric Mean



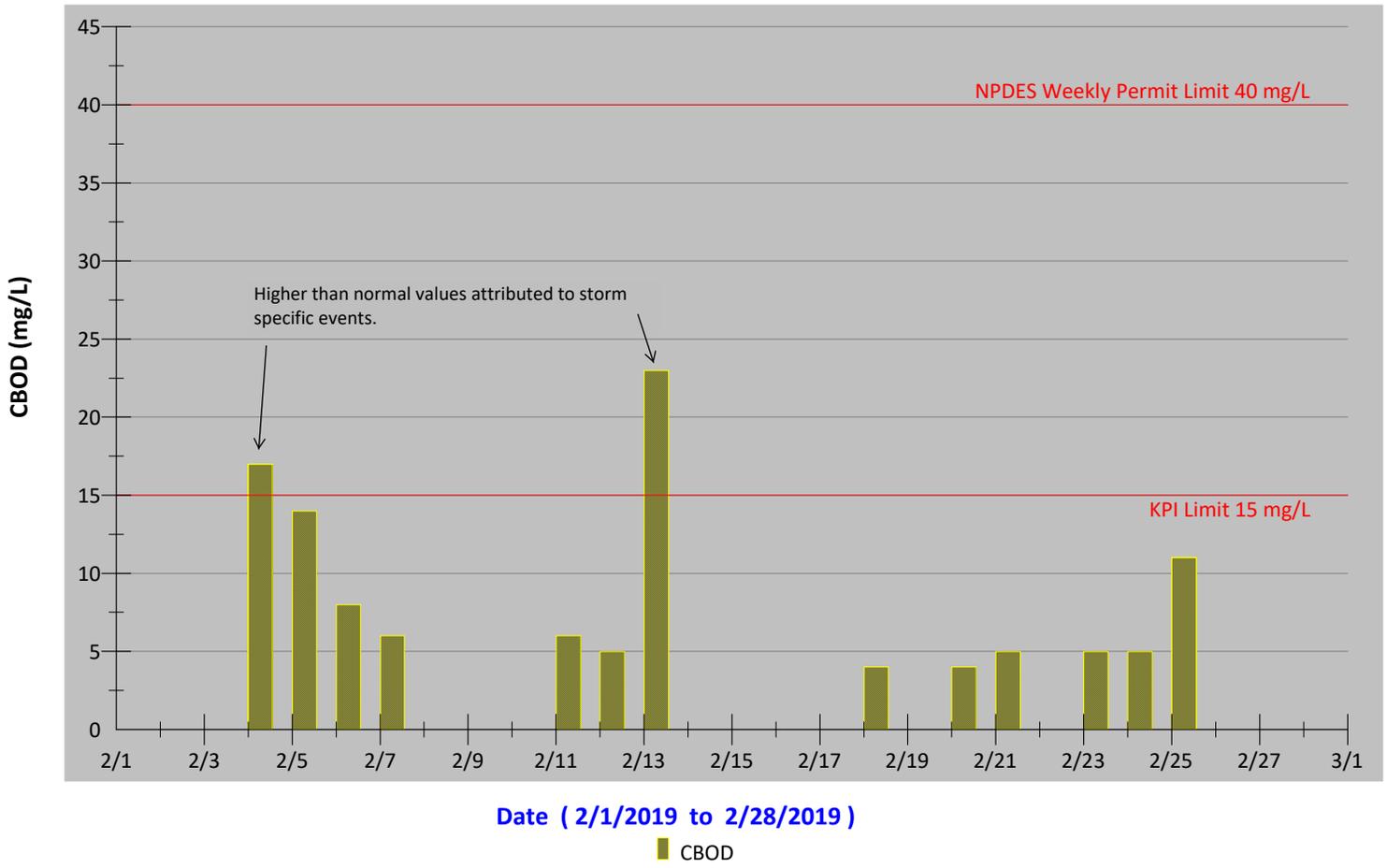
(#3) Total Coliform & Monthly Geometric Mean

Graph #4: Effluent Total Suspended Solids (TSS)



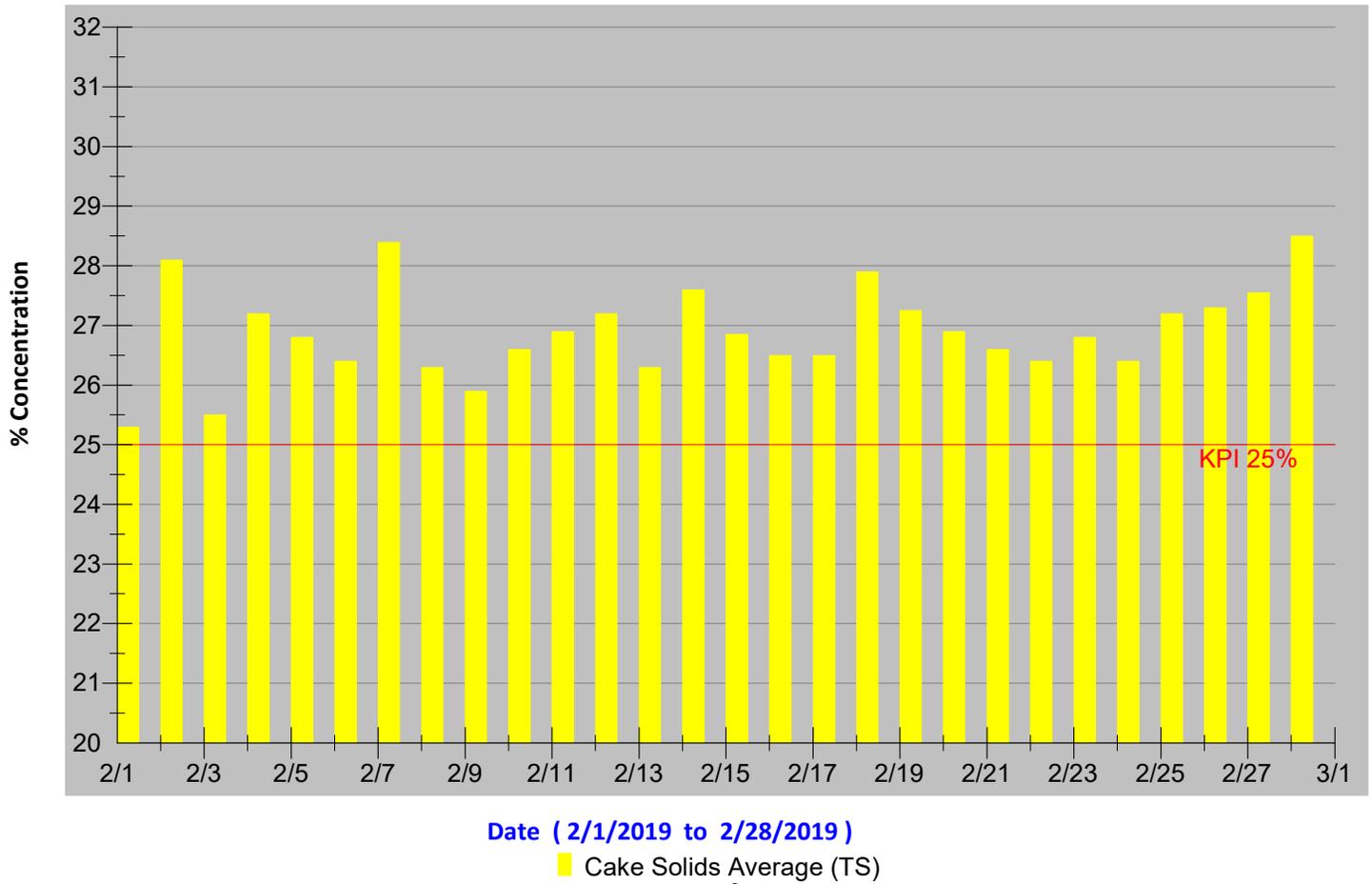
(#4) Effluent Total Suspended Solids (TSS)

Graph #5: Effluent Carbonaceous Biological Oxygen Demand (CBOD)



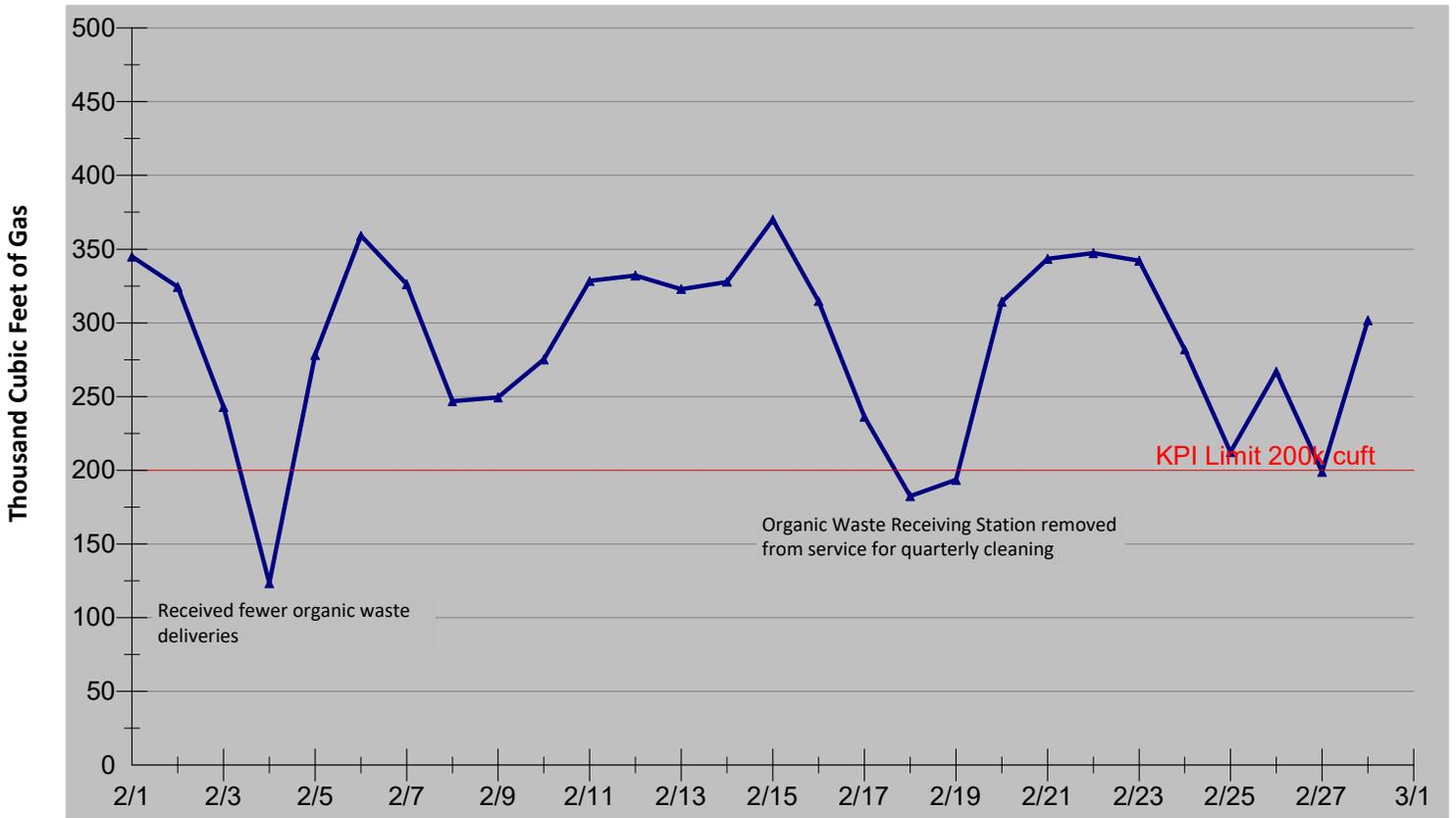
(#5) Effluent Carbonaceous Biological Oxygen Demand (CBOD)

Graph #6: Biosolids Concentration



(#6) Biosolids Concentration

Graph #7: Biogas Production

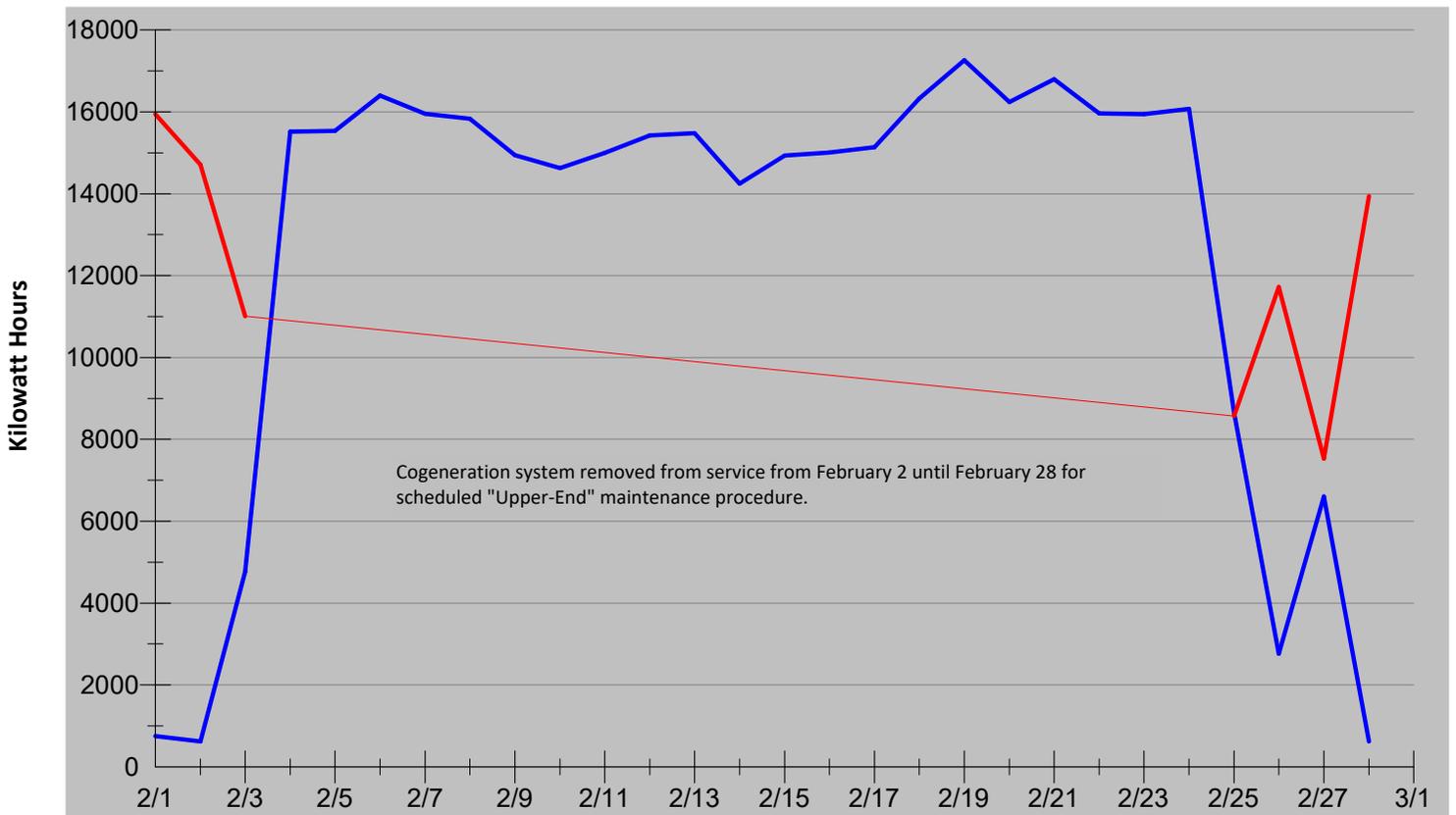


Date (2/1/2019 to 2/28/2019)

▲ Biogas Produced

(#7) Biogas Production

Graph #8: Kilowatt Hours Purchased vs. Kilowatts Produced



Date (2/1/2019 to 2/28/2019)

/ Utility Power

/ Kilowatts Produced



BOARD MEMORANDUM

March 8, 2019

To: CMSA Commissioners and Alternates

From: Jason Dow, General Manager

Subject: Performance Metric Report – February 2019

Recommendation: Accept the February 2019 Performance Metric report.

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

February has been a wet month for central Marin County, with a series of multi-day storm events each of which increased the CMSA influent flow close to or exceeding 100 MGD. Last month, CMSA received and treated 591 million gallons of wastewater, and in February, that volume increased to 823.9 million gallons. Due to the dilute influent flows, treatment process removal rates are lower than usual resulting in reduced cBOD, Mercury, and Copper removal efficiencies (Items 3 and 4).

Valley Power Systems completed the cogeneration engine’s overhaul work, and the unit is back in service. During most of the month, the cogeneration system was offline and only produced 83kWh of electricity, substantially lower than the bottom end of our target range (Item 6).

Table II – Employee Metrics

Most staff received classroom training from our Safety Director on the revised Emergency Action Plan, and completed web-based Unlawful Harassment and Discrimination training; selected staff took web-based FEMA Emergency Management System/Incident Command System training; two Technical Services staff attended the CWEA P3S conference; and various staff received personal development training.

Table III - Environmental and Regulatory Compliance Metrics

There weren’t any NPDES permit exceedances in February, and all regulatory reports were submitted on schedule. Two significant dischargers’ permits were issued this month, San Quentin State Prison and the Marin Airporter.

Table IV - Public Outreach

There were two odor alerts posted to the website in February, and the Agency did not receive any public odor complaints during the month. Alerts were posted for taking two chlorine contact tanks and two primary clarifiers out of service after the storm events, as influent flows subsided.

Monthly public education events may include staff attendance at public outreach events, school classroom and/or juggler show presentations, and Agency tours. Events over the past month are presented below with the event date and number of attendees.

Public Outreach Events: None

School Events – Juggler Show Presentations and Classroom Events

<u>Date</u>	<u>School</u>	<u>Attendees</u>
2/5	Our Lady of Loretto in Novato	237
2/14	Classroom event at Marin Academy	16

CMSA Tours: None

Attachment:

- February 2019 Performance Metric Report

CMSA CY19 PERFORMANCE METRICS – February 2019

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)	823.9 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)	402.5 wt 0 wt 122.5 wt	360 – 665 wt
3) Conventional Pollutant Removal	Removal of the conventional NPDES pollutants - Total Suspended Solids (TSS) and Carbonaceous Biological Oxygen Demand (cBOD) a. tons of TSS removed; % TSS removal b. tons of organics removed (cBOD); % cBOD removal	457.7 tons; 94.7% 323.1 tons; 90.8%	> 85% > 85%
4) Priority Pollutants Removal	Diversion of priority NPDES metals from discharge to the S.F. Bay: a. % Mercury b. % Copper	86.7% 75.6%	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)	7.98 Mft ³ 5.11 Mft ³	6.0 to 9.5 Mft ³ 3.8 to 6.1 Mft ³
6) Energy Produced	Energy produced from cogeneration of generated biogas and purchased natural gas - in kilowatt hours Cogeneration system runtime on biogas , <i>in hours (hrs.)</i> ; % <i>time during month</i> Biogas value (natural gas cost equivalent)	83,431 kWh 132 hrs; 20.0% \$23,120	380 to 480,000 kWh 540 hrs.; 75% \$15,000 to \$30,000
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	\$437 /Mg 530 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 = 267.5 External = 63	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);	453 hrs 552 hrs (75.0%) 185 hrs (28.0%) 0.62	300 – 500 hrs ≥ 70% total CM hrs ≤ 30% total hours ≥ 0.45
3) Overtime Worked	Monthly hours of OT worked; <i>Year to date hours of OT (YTD)</i> % of regular hours worked; % <i>Year to date (YTD)</i>	177 hrs; (433.5hrs) 2.7 %; (2.6%)	< 5%

CMSA CY19 PERFORMANCE METRICS – February 2019

Table III - ENVIRONMENTAL AND REGULATORY COMPLIANCE METRICS

Metric	Definition	Measurement	Range/Target/Goal
1) Permit Exceedances	# of NPDES permit exceedances	0	0
2) Regulatory Analyses	# of analyses by the CMSA laboratory for NPDES, Stormwater, and Biosolids regulatory compliance monitoring and reporting	695	150-750
3) Process Control Analyses	# of analyses by the CMSA laboratory for process control monitoring	711	400-1,250
4) Contract Laboratory Analyses	# of analyses by contract laboratories for regulatory compliance reporting	32	0-50
5) Quality Control Testing	# of CMSA performed laboratory analyses for QA/QC purposes	205	100-300
6) Water Quality Sample Analyses	# of ammonia, coliform (total and fecal), enterococcus, and/or sulfide analyses performed for the CMSA member agencies (SSOs, etc.)	124	as-needed
7) 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 – 255 businesses regulated	0	variable
8) FOG Program Inspections	Inspections of food service establishments (FSEs) in the Almonte, TCSD, SD2, RVSD, SRSD, and LGVSD service areas – approx. 316 FSEs are regulated and 63 FSEs have waivers.	13	20 – 50
9) Permits Issued/Renewed	Permits issued for the pretreatment, pollution prevention, and FOG source control programs, and for groundwater discharge	2	variable

Table IV- PUBLIC OUTREACH

Metric	Definition	Measurement	Target/Goal
1) Public Education Events	Attendance at public education outreach events; # of booth visitors; <i>(YTD)</i>	0; <i>(0)</i>	3,500/year
2) School Events	Participation or sponsorship in school outreach events; attendees; <i>(YTD)</i>	253; <i>(503)</i>	variable
3) Agency Tours	Tours given to students and the public; # of people, <i>(YTD)</i>	0; <i>(42)</i>	variable
4) Odor Notifications	Number of odor alerts posted to the Agency website	2	1-10
5) Odor Complaints	Number of odor complaints received from the public	0	0



BOARD MEMORANDUM

March 8, 2019

To: CMSA Commissioners and Alternates

From: Kenneth Spray, Administrative Services Manager/Agency Treasurer

Approved: Jason Dow, General Manager

Subject: **CMSA Investments Policy – Financial Policy #531**

Recommendation: Approve the Agency’s Investments Policy, and delegation of its investment authority to the Agency’s Treasurer for fiscal year 2019-20.

Summary: The California Government Code (CGC) requires a legislative body to annually adopt its investment policy if it delegates investment authority. CMSA’s Policy does delegate the investment of surplus funds to the Agency’s Treasurer. Ken Spray, the Agency’s Administrative Services Manager, serves as the Agency Treasurer.

Authorized investments are only those that are specifically authorized by policy, and unauthorized investments are those that are not specifically authorized and those that are prohibited. The Agency’s current investments strategy is primarily for pooled fixed income investments with (1) the California Local Agency Investment Fund, and (2) the California Asset Management Program to meet the CGC objectives of safety, liquidity, and rate of return. The attached policy as well as Agency practice is in compliance with the requirements of the CGC.

CMSA’s Investments Policy, Financial Policy #531, was last annually approved in March 2018, and revisions to it were subsequently approved in November 2018 as part of the Board’s action to adopt the Agency’s revised Financial Policy Manual. Staff does not propose any changes to the policy.

Attachments:

- 1) Government Code Section 53607: Investment of Surplus Funds
- 2) CMSA Financial Policy #531: Investments



State of California

GOVERNMENT CODE

Section 53607

53607. The authority of the legislative body to invest or to reinvest funds of a local agency, or to sell or exchange securities so purchased, may be delegated for a one-year period by the legislative body to the treasurer of the local agency, who shall thereafter assume full responsibility for those transactions until the delegation of authority is revoked or expires, and shall make a monthly report of those transactions to the legislative body. Subject to review, the legislative body may renew the delegation of authority pursuant to this section each year.

(Amended by Stats. 1996, Ch. 749, Sec. 6. Effective January 1, 1997.)

POLICY #:	531
SECTION:	FINANCIAL – TREASURY
SUBJECT:	Investments
DATE:	11/13/2018

POLICY

Every spring, the General Manager and Treasurer shall submit to the Board of Commissioners this *Investments* policy, where the Board shall review any changes in the policy and approve it at a public meeting.

PURPOSE

This policy provides guidelines for prudent investment of the Agency's cash. This policy covers all funds and investment activities under the direction of the Agency in accordance with California Government Code Sections 53600, et seq.

OBJECTIVES

The Agency shall design and manage investments with a high degree of professionalism worthy of the public trust. The primary objectives, in order of priority of the Agency's investment activities, shall be:

I. Safety

Safety of principal is the foremost objective. All investments of the Agency shall be made in a manner that seeks to ensure preservation of capital.

II. Liquidity

The investment portfolio shall remain sufficiently liquid to enable the Agency to meet any cash flow requirements which might be reasonably anticipated.

III. Yield

Investment return becomes a consideration only after the basic measurements of safety and liquidity have been met.

PRUDENCE

The Agency shall follow Section 53600.3 of the California Government Code that identifies as trustees those entities, i.e. California Asset Management Program (CAMP) and Local Agency Investment Fund (LAIF), authorized to make investment decisions on behalf of a local agency. Trustees are fiduciaries and are therefore subject to the prudent investor standard when making investment decisions on behalf of the Agency. Investments shall be made with care, skill, prudence, and diligence under the circumstances then prevailing, including, but not limited to, the general economic conditions and the anticipated needs of the Agency, that a

prudent person acting in a like capacity and familiarity with those matters would use in the conduct of funds of a like character and with like aims, to safeguard the principal and maintain the liquidity needs of the Agency.

DELEGATION OF AUTHORITY

The Board of Commissioners shall delegate authority to invest the Agency's funds for a one-year period to the Treasurer, who shall thereafter assume full responsibility for those transactions until the delegation of authority is revoked or expires. Subject to review, the Board may renew the delegation of authority each year. No person may engage in an investment transaction except as provided under the limits of this policy.

The Treasurer may delegate day-to-day investment decision-making and execution authority to an Investment Advisor. The Advisor shall follow this policy and such other written instructions as are provided.

The Treasurer and the delegated staff acting in accordance with this policy and associated procedures and exercising due diligence shall be relieved of personal responsibility for an individual security's credit risk or market price changes, provided deviations from expectations are reported in a timely fashion and appropriate action is taken to control adverse developments.

INTERNAL CONTROLS

The Treasurer shall establish a system of controls to regulate the activities of internal staff and any external investment advisors, and be responsible for all transactions undertaken by these persons. No person may engage in an investment transaction except as provided under the terms of this policy, other Treasury and Internal Controls policies, and the associated procedures established by the Treasurer and General Manager.

ETHICS AND CONFLICTS OF INTEREST

All participants in the investment process shall seek to act responsibly as custodians of the public trust according to this policy and the *Ethics* policy. Officers and employees involved in the investment process shall refrain from personal business activities that could conflict with proper execution of the investment program, or which could impair their ability to make impartial investment recommendations and decisions.

TYPES OF AGENCY INVESTMENTS

The Agency shall be governed by California Government Code Sections 53600, et seq. Within the investments permitted by the Government Code, the Agency seeks to further restrict eligible investments to those listed below. In the event an apparent discrepancy is found between this policy and the Government Code, the more restrictive parameters shall take

precedence.

The Agency's portfolio shall be diversified by security type and institution to avoid incurring unreasonable and avoidable risks regarding specific security types or individual financial institutions. Where this section specifies a percentage limitation for a particular category of investment, that percentage is applicable only at the date of purchase.

I. United States Treasury Issues

United States Treasury notes, bonds, bills, or certificates of indebtedness, or those for which the faith and credit of the United States are pledged for the payment of principal and interest. There is no limitation as to the percentage of the portfolio that may be invested in this category.

II. Federal Agency Obligations

Federal Agency or United States government-sponsored enterprise obligations, participations, or other instruments, including those issued by or fully guaranteed as to principal and interest by federal agencies or United States government-sponsored enterprises. There is no limitation as to the percentage of the portfolio that may be invested in this category; however, not more than 30 percent of the portfolio shall be placed in any one Agency. Furthermore, purchases of callable Federal Agency obligations are limited to a maximum of 20 percent of the portfolio. In addition, purchases of Federal Agency mortgage-backed securities issued by or fully guaranteed as to principal and interest by government agencies are limited to a maximum of 20 percent of the portfolio.

III. Medium-Term Notes

Medium-term notes, defined as all corporate and depository institution securities with a maximum remaining maturity of five years or less, issued by corporations organized and operating within the United States or depository institutions licensed by the United States or any state and operating within the United States. Eligible investment shall be rated A by one or more nationally recognized rating service. A maximum of 30 percent of the portfolio may be invested in this category. The amount invested in medium-term notes with any one issuer in combination with any other investments from that financial institution or issuer shall not exceed 20 percent of the portfolio.

IV. Municipal Securities

Bonds, notes, warrants, or other evidences of indebtedness issued by the State of California or any California local agency. Securities eligible for purchase shall be rated A, as rated by one or more nationally recognized statistical-rating organization. A maximum of 30 percent of the Agency's portfolio may be invested in this category.

V. Negotiable Certificates of Deposit

Negotiable certificates of deposit (NCD) issued by a nationally- or state-chartered bank, a savings association or a federal association, a state or federal credit union, or a state-licensed branch of a foreign bank. No investments shall be made in a bank or credit union if a member of the Board, or any person with investment decision making authority also serves on the board of directors, or any committee appointed by the board of directors of the bank or credit union issuing the NCD. Purchases are limited to institutions which have long-term debt rated A or higher with a nationally recognized rating service; and/or have short-term debt rated at least A with a nationally recognized rating service. NCD may not exceed two years in maturity. A maximum of 30 percent of the portfolio may be invested in this category. The amount invested in NCD with any one financial institution in combination with any other investments from that financial institution or issuer shall not exceed 20 percent of the portfolio.

VI. Banker's Acceptances

Banker's Acceptances, otherwise known as bills of exchange or time drafts, are those which are drawn on and accepted by a commercial bank. Purchasers are limited to issuers whose short-term debt is rated A-1/P-1. Banker's Acceptances cannot exceed a maturity of 180 days. A maximum of 25 percent of the portfolio may be invested in this category. Furthermore, the amount invested in Banker's Acceptances with any one financial institution in combination with any other investments from that financial institution or issuer shall not exceed 20 percent of the portfolio.

VII. Commercial Paper

Commercial paper of prime quality of the highest ranking or of the highest letter and number rating as provided for by a nationally recognized statistical-rating organization. The entity that issues the commercial paper shall meet all of the following conditions in either paragraph (A) or paragraph (B):

- A. The entity meets the following criteria:
 - 1) Is organized and operating in the United States as a general corporation.
 - 2) Has total assets in excess of five hundred million dollars (\$500,000,000).
 - 3) Has debt other than commercial paper, if any, that is rated AA or higher by a nationally recognized statistical-rating organization.

- B. The entity meets the following criteria:
 - 1) Is organized within the United States as a special purpose corporation, trust, or limited liability company.
 - 2) Has program-wide credit enhancements including, but not limited to, over collateralization, letters of credit, or surety bond.
 - 3) Has commercial paper that is rated AA-1 or higher, or the equivalent, by a nationally recognized statistical-rating organization.

Eligible commercial paper shall have a maximum maturity of 270 days or less and

not represent more than 10 percent of the outstanding paper of an issuing corporation. A maximum of 25 percent of the portfolio may be invested in this category. Furthermore, the amount invested in commercial paper with any one issuer in combination with any other investments from that financial institution or issuer shall not exceed 20 percent of the portfolio.

VIII. Repurchase Agreements

- A. Repurchase agreements are to be used solely as short-term investments not to exceed 30 days. The Agency may enter into repurchase agreements with primary government securities dealers rated AA or better by two nationally recognized rating services. Counterparties should also have:
- 1) A short-term credit rating of at least A-1/P-1;
 - 2) Minimum assets and capital size of \$25 billion in assets and \$350 million in capital;
 - 3) Five years of acceptable audited financial results; and
 - 4) A strong reputation among market participants.
- B. The following collateral restrictions shall be observed:
- 1) Only U.S. Treasury securities or Federal Agency securities are acceptable collateral. All securities underlying repurchase agreements shall be delivered to the Agency's custodian bank versus payment or be handled under a properly executed tri-party repurchase agreement.
 - 2) The total market value of all collateral for each repurchase agreement shall equal or exceed 102 percent of the total dollar value of the money invested by the Agency for the term of the investment.
 - 3) For any repurchase agreement with a term of more than one day, the value of the underlying securities shall be reviewed on an on-going basis according to market conditions. Market value shall be calculated each time there is a substitution of collateral.
 - 4) The Agency or its trustee shall have a perfected first security interest under the Uniform Commercial Code in all securities subject to repurchase agreement. The Agency shall have properly executed a Public Securities Association agreement with each counter party with which it enters into repurchase agreements. A maximum of 25 percent of the portfolio may be invested in this category.

IX. Time Certificates of Deposit

Time Certificates of Deposit (TCDs) placed with commercial banks and savings and loans.

The purchase of TCDs from out-of-state banks or savings and loans is prohibited. The amount on deposit shall not exceed the shareholder's equity of the financial institution. To be eligible for purchase, the financial institution shall have received a minimum overall satisfactory rating for meeting the credit needs of California Communities in its most recent evaluation, as provided Government Code Section 53635.2. TCDs are required to be collateralized as specified under Government Code Section 53630, et seq.

The Agency, at its discretion, may waive the collateralization requirements for any portion that is covered by federal insurance. The Agency shall have a signed agreement with the depository per Government Code Section 53649. TCDs may not exceed one year in maturity. A maximum of 20 percent of the portfolio may be invested in this category. Furthermore, the amount invested in TCDs with any one financial institution in combination with any other investments from that financial institution or issuer shall not exceed 20 percent of the portfolio.

X. Passbook Savings Accounts

Passbook savings accounts placed with commercial banks and savings and loans. To be eligible to receive deposits, the financial institution shall have received a minimum overall satisfactory rating for meeting the credit needs of California Communities in its most recent evaluation, as provided Government Code Section 53635.2. Passbook savings accounts are required to be collateralized as specified under Government Code Section 53630 et. seq.

The Agency, at its discretion, may waive the collateralization requirements for any portion that is covered by federal insurance. The Agency shall have a signed agreement with the depository per Government Code Section 53649. A maximum of 20 percent of the portfolio may be invested in this category. Furthermore, the amount invested in passbook savings accounts with any one financial institution in combination with any other investments from that financial institution or issuer shall not exceed 20 percent of the portfolio.

XI. Money Market Funds

Shares of beneficial interest issued by diversified management companies that are money market funds registered with the Securities and Exchange Commission under the Investment Company Act of 1940 (15 U.S.C. Sec. 80a-1, et seq.).

A. The company shall have met either of the following criteria:

- 1) Attained the highest ranking or the highest letter and numerical rating provided by not less than two nationally recognized statistical rating organizations.

- 2) Retained an investment adviser registered or exempt from registration

with the Securities and Exchange Commission with not less than five years' experience managing money market mutual funds with assets under management in excess of five hundred million dollars (\$500,000,000).

A maximum of 10 percent of the portfolio may be invested in this category.

XII. California Asset Management Program (CAMP)

Shares of beneficial interest issued by a joint powers authority organized pursuant to Government Code Section 6509.7 that invests in the securities and obligations authorized in subdivisions (a) to (n), inclusive of to Government Code Section 53601. There is no limitation as to the percentage of the portfolio that may be invested in this category.

XIII. State of California Local Agency Investment Fund (LAIF)

There is no limitation as to the percentage of the portfolio that may be invested in this category. However, the amount invested may not exceed the maximum allowed by LAIF.

Authorized Investments

The Treasurer and/or the authorized Investment Advisor shall have the authority to invest the Agency's financial resources as shown in the table below.

Investment Type	Authorized for the Investment Advisor	Authorized for the Agency Treasurer
United States Treasury Issues	X	X
Federal Agency Obligations	X	X
Medium-Term Notes	X	
Municipal Securities	X	X ⁽¹⁾
Negotiable Certificates of Deposit	X	X ⁽²⁾
Banker's Acceptances	X	
Commercial Paper	X	
Repurchase Agreements	X	
Time Certificates of Deposit	X	X
Passbook Savings Accounts	X	X
Money Market Funds	X	X
CAMP	X	X
LAIF	X	X

(1) Municipal Securities must have an AAA rating.

(2) Negotiable Certificates of Deposit must have a minimum AA rating for long-term notes and AA-1 for short term notes.

TERM OF INVESTMENTS

It is the objective of the Agency to accurately monitor and forecast revenues and expenditures

so that the Agency can invest funds to the fullest extent possible. Funds of the Agency shall be invested in accordance with sound treasury management principles.

Where this policy does not specify a maximum remaining maturity at the time of the investment, no investment shall be made in any security, other than a security underlying a repurchase agreement, that at the time of the investment has a term remaining to maturity in excess of five years, unless the Board has granted express authority to make that investment either specifically or as a part of an investment program approved by the Board no less than three months prior to the investment.

PROHIBITED INVESTMENTS

Any investment in a security not specifically listed above, but otherwise permitted by the California Government Code, is prohibited. Section 53601.6 of the Government Code specifically disallows investments in invoice floaters, range notes, or interest-only strips that are derived from a pool of mortgages. In addition to the limitations in Government Code Section 53601.6, this policy further restricts investments as follows:

- I. No investment shall be made that has either (a) an embedded option or characteristic which could result in a loss of principal if the investment is held to maturity, or (b) an embedded option or characteristic which could seriously limit accrual rates or which could result in zero accrual periods.
- II. No investment shall be made that could cause the portfolio to be leveraged.
- III. Any security that could result in zero interest accrual if held to maturity shall not be made.

BANKS AND SECURITIES DEALERS

The Treasurer, with the concurrence of the General Manager, is authorized to make investments based on the recommendations of the Board approved investment advisor. For investments made by an investment advisor, the Board authorizes the investment advisor to use broker/dealers and financial institutions that the investment advisor has reviewed and approved for investment purposes. The investment advisor's approved list shall be made available to the Agency upon request.

PURCHASE, PAYMENT, DELIVERY, AND SAFEKEEPING

A competitive bid process shall be used to place all investment transactions. All security transactions entered into by or on behalf of the Agency shall be conducted on a delivery vs. payment basis. All securities shall be held in the Agency's name by a third party custodian designated by the Treasurer.

The only exception to the foregoing shall be depository accounts and securities purchases made with:

- I. Local government investment pools;
- II. Time certificates of deposit, and,
- III. Money market mutual funds, since the purchased securities are not deliverable.

Evidence of each of these investments shall be held by the Treasurer.

PERFORMANCE

The Agency seeks to attain market rates of return on its investments throughout economic cycles, consistent with constraints imposed by its safety objectives and cash flow consideration. The Treasurer shall continually monitor and evaluate the portfolio's performance.

REPORTING

The Treasurer shall submit a monthly investment report to the Board. The report shall include the following information for each individual investment: description of investment instrument, issuer name, maturity date, credit rating, yield to maturity, purchase price, par value, current market value and the source of the valuation.

The report also shall:

- I. State compliance of the portfolio to the statement of investment policy, or manner in which the portfolio is not in compliance,
- II. Include a description of any of the Agency's funds, investments or programs that are under the management of contracted parties, including lending programs, and
- III. Include a statement denoting the ability of the Agency to meet its expenditure requirements for the next six months, or provide an explanation as to why sufficient money may not be available.

The report shall include a list of monthly investment transactions. This monthly report shall be submitted with the Board's monthly meeting agenda for public review.



BOARD MEMORANDUM

March 8, 2019

To: CMSA Commissioners and Alternates

From: Jason Dow, General Manager

Subject: Cogeneration System Predesign Completion

Recommendation: Authorize staff to prepare a Professional Services Agreement with Carollo Engineers for the cogeneration system design services.

Summary: Carollo Engineers has completed the predesign level work for a new cogeneration system, determined the project is categorically exempt from CEQA, and is currently preparing the draft predesign evaluation report. With the predesign work completed, the Agency may begin the engineering design for the new system, and staff is seeking Board authorization to work with Carollo and our internal project team to develop a design services agreement with a scope of work, fee estimate, and schedule. If approved, staff will present the final draft agreement to the Board by the May Board meeting, and the design fee will be incorporated into the FY 20 Capital Improvement Program (CIP).

Fiscal Impact: The 10-yr CIP has \$449,600 for the new cogeneration system design services and preventative maintenance work on the existing system. Using a conservative design fee for the new system of 8% of the predesign construction cost estimate, staff anticipates the design service fee should not exceed \$487,000. The actual design fee that is approved by the Board will be included in the updated CIP for the FY 20 budget.

Discussion: In October 2018, the Board approved the Cogeneration System Predesign Evaluation Project (Project) Agreement with Carollo Engineers for \$214,309. The Project's scope of work included a cogeneration system technology alternative assessment, predesign of the selected technology, assessment of air permitting and environmental documentation, a financial analysis, and preparation of a predesign evaluation report. Nearly all of the Project work is being funded by the Clean Water State Revolving Fund Agreement for the Renewable Energy Expansion Project.

At the January 2019 Board meeting, staff presented the technology assessment scope and findings, reported that the cogeneration engine based system was the most reliable and lowest cost system, and a 850 kW system was being moved forward into predesign. Carollo has completed the Project's predesign, presented it to the Agency's project team, and will be incorporating the draft technical memorandum (TM) comments into a final TM. The draft TM is attached for review.

The Project is comprised of installing a new 850 kW, or larger, cogeneration system in the open bay in the solids handling building with emissions control, heat recovery, and cooling systems. Existing local electrical distribution and process control systems have the space and capacity for integration of the new cogeneration system and its ancillary equipment. Construction costs are currently estimated to be approximately \$6.083 million, and will be refined during the final design phase.

Staff will ask for separate or optional design fees for a few elements of the predesign work. These are to rehabilitate and modify the existing biogas treatment system, and for new oil and waste coolant storage systems. Carollo recommends the biogas treatment system work to provide equipment redundancy and to replace no-longer serviced equipment. Our rationale for removing these elements from the primary design is due to each being discretionary, staff not having any maintenance problems with the existing biogas equipment, and their combined predesign construction cost estimate of \$1.365 million. If the optional design fees are reasonable, we may authorize the work. Project funding is limited in the Agency's revenue plan, and may require these elements to be scheduled for a future year in the CIP when additional funding is available.

Cogenerator Capacity: CMSA's current cogeneration system has a capacity of 750 kW, and the closest size systems available are 850 kW, 1,065 kW, and 1,100 kW. Predesign physical space and electrical system evaluations indicate that the solids handling building's existing infrastructure can accommodate any of the three systems. At last month's Board meeting, I briefed the Board on the 1,000 kW capacity limitation in the Agency's power purchase agreement (PPA) with MCE, and said options to select for design are the 850kW system, a 1,065 kW system de-rated to below 1,000kW, or the 1,065 kW or 1,100 kW system operating under a new MCE FIT+ for systems between 1 MW – 5 MW.

Staff reviewed the MCE FIT+ PPA (FIT+) and does not recommend proceeding with that option. For CMSA, a major drawback of the FIT+ is the requirement to forecast annual, monthly, and day-ahead power delivery. If the Agency does not deliver the daily forecasted power, MCE would apply a forecast penalty. Additionally, the FIT+ requires regular energy accounting activities, installation of CA Independent System Operator meters, and other penalties for various reasons. Currently the FIT+ power purchase price is \$0.08 kWh.

If a 850 kW system is installed and its full capacity is utilized for power delivery, annual revenue from MCE under our current PPA (\$0.105/kWh) and a second PPA (\$0.085 kWh) for the additional capacity would be about \$205,550. If the Agency chose to install a 1,065 kW system de-rated by the manufacturer to 995kW, annual revenue under the two PPA structure would be \$319,617. Lastly, a 1,065 kW system operating under the FIT+ (\$0.08 /kWh) would have an annual revenue of \$325,872. Selection of the system capacity needs to be determined during the first few months of the design.

Attachment:

- Draft Predesign Evaluation of the Selected Cogeneration System (TM 2)



Prepared for: Central Marin Sanitation Agency
Project Title: Cogeneration System Predesign Evaluation
Project No: 11256A.00

Technical Memorandum 2 - Draft

Subject: Predesign Evaluation of the Selected Cogeneration System
Date: February 12, 2019
To: Peter Kistenmacher, P.E., CMSA Project Manager
From: Rick Chan, P.E., Carollo Project Manager

Prepared by: _____
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Technical Memorandum 2

PREDESIGN EVALUATION OF THE SELECTED COGENERATION SYSTEM

2.1 Purpose

This technical memorandum (TM) summarizes the predesign evaluation conducted to install an additional cogeneration engine in the empty bay of the existing Solids Handling Building at the Central Marin Sanitation Agency (Agency).

2.2 Summary of Findings and Recommendations

The key findings and recommendations are:

- The new cogeneration engine will have a capacity of 850 kilowatts (kW) and a selective catalytic reduction (SCR) will be provided to meet anticipated Bay Area Air Quality Management District's (BAAQMD's) emissions limits. Space for a continuous emission monitoring system (CEMS) is also reserved on the site plan in the event this system is also needed to meet future BAAQMD's air permit requirements.
- The cogeneration engine will not be able to parallel with the existing cogeneration engine or existing diesel engine.
- Modifications to the biogas treatment system are also included to provide redundancy and better process controls.
- The total estimated construction cost for the new cogeneration engine system and the biogas treatment system upgrades is \$7,448,000. Of this amount the required item for this project is the cogeneration engine packaged system with an SCR system at a cost of \$6,083,000. The optional items that are not needed at this time but can be added in the future include the cogeneration system lubrication oil system and waste coolant system and the biogas treatment system upgrades at a cost of \$1,365,000.

2.3 Background

The Agency's wastewater treatment plant (WWTP) has two anaerobic digesters that are each 80 feet in diameter with a side water depth of 26 feet. The digesters were constructed in the early 1980s and are used to digest primary sludge (PS) and thickened waste activated sludge (TWAS) as well as fats, oils and grease (FOG) from private haulers and pre-processed food waste (FW) slurry. The biogas produced in the digesters is used to heat plant process water and to generate electricity to supplement the Agency's power needs.

The Agency currently generates electricity in an existing 750 kW Waukesha lean-burn, reciprocating engine generator that is housed inside the Solids Handling Building and runs primarily on biogas. The cogeneration facility was constructed in 2003 with one empty bay adjacent to the existing cogeneration engine. Additionally, the Agency has an emergency diesel

generator also housed in the Solids Handling Building. This diesel generator was installed in 1982 and can run in parallel with the existing 750 kW engine.

In August 2016, an Interconnection Agreement Study (Study) was completed to evaluate the Agency’s then current Interconnection Agreement (IA) with Pacific Gas & Electric (PG&E). The Study also analyzed potential modifications to the IA and evaluated various alternatives for the Agency to reduce existing electricity cost and potentially generate additional revenue from the sale of additional renewable energy produced at the WWTP above that needed to achieve plant self-sufficiency.

In May 2017, the Agency approved a new IA with PG&E that allows the Agency to supply power to the PG&E electrical grid. Modifications to PG&E’s electrical system and the Agency’s cogeneration electrical system are underway to comply with the new IA. In addition, the Agency has also completed a separate power purchase agreement with Marin Clean Energy for their Feed-In-Tariff (FIT) power sale program.

The Agency’s WWTP also has a biogas treatment system ahead of the engine generator to remove hydrogen sulfide (H₂S), siloxanes, and moisture to minimize fouling and corrosion of the cogeneration equipment. This biogas treatment system has sufficient capacity to process 260 standard cubic feet per minute (SCFM) of biogas and includes compressors, dryers, and siloxane filters installed in 2003 and H₂S scrubbers installed in 2010. A simplified schematic of the existing biogas treatment and cogeneration facility is shown in Figure 2.1.

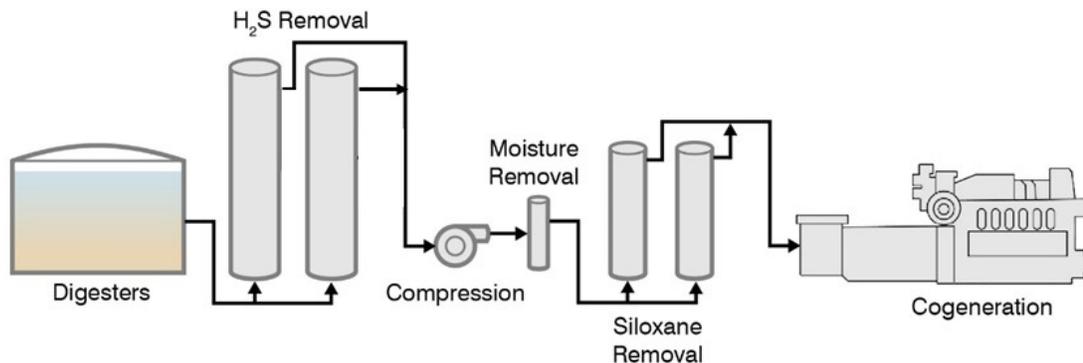


Figure 2.1 Simplified Schematic of the Existing Cogeneration and Biogas Treatment Systems

2.4 Cogeneration Engine

With this project, a new cogeneration engine would be installed in the empty bay between the existing 750 kW engine and existing diesel engine in the Solids Handling Building. This new cogeneration engine would have a capacity of 850 kW. As with the current engine, the new engine would also produce sufficient heat to heat the Agency’s existing digesters with excess heat available in the summer.

Because excess heat may be available in the summer, this project also looked at adding an Organic Rankine Cycle (ORC) to recover the excess available heat and convert it to electricity. However, it was determined that adding an OCR is not cost effective since excess heat is only available during the summer months. Thus, an ORC generator was not considered further in this

pre-design evaluation. In the future, if adequate digester gas is available from additional FW and FOG there may be enough waste heat to consider an ORC generator further.

The sections that follow outline the design basis and design criteria used in the preliminary design of a new 850 kW IC engine system.

2.4.1 Basis of Design

The new cogeneration engine would be sized to process all of the biogas the Agency currently produces so that the new and existing engine can operate in a duty-standby configuration. It is assumed that the new engine will run as the primary engine and the existing engine will become the standby unit. Table 2.1 summarizes the basis of design used to size the new cogeneration engine.

As mentioned in the sections above, the Agency is completing an interconnect agreement to export excess power to the grid with their existing engine. In order to export the electricity produced with the proposed engine, a new interconnect agreement with PG&E is needed that is specific to the new engine.

Table 2.1 Cogeneration Basis of Design

Parameter	Value
Average biogas gas flow rate, scfm	190 ⁽¹⁾
Supply Temperature Range, degrees F	60 - 80
High Heat Value, BTU/cuft dry basis	600 - 700
Low Heating Value, BTU/cuft dry basis	540 - 630
Methane Dry Volume, percent	60 - 65
Carbon Dioxide Dry Volume, percent	35 - 40
Nitrogen Dry Volume, percent	Balance
O2 Dry Volume, percent	< 1
H2S Dry Volume, percent	< 1

Notes:

(1) Value shown is per the 2018 Biogas Utilization TM completed as part of the 2017 Facilities Master Plan.

2.4.2 Design Criteria

Using the basis of design, design criteria were developed for this project. Table 2.2 summarizes these criteria. The nameplate capacity of the new cogeneration unit will be 850 kW. There are two manufactures capable of providing engines with similar outputs and efficiencies that can run on both digester biogas and natural gas. Jenbacher and Caterpillar both have offerings in this size range. The design criteria shown in Table 2.2 is based on the Jenbacher unit. The unit has been sized to utilize all of the digester gas produced and supplement with natural gas (NG) when necessary.

Table 2.2 Cogeneration Design Criteria

Process Equipment	Value
Cogeneration Engine Generator (Supplied by Engine Manufacturer)	
Quantity	1
Type	IC Engine
Power Output, kW	852
Generator Voltage, volts	480
SCR System (Supplied by Engine Manufacturer)	
<u>Urea System</u>	
Tank Material	Double contained high-density cross-linked polyethylene
Tank Quantity	1
Tank Volume, gal	1000
Pump Type	Rotary positive displacement gear
Pump Quantity	1
Pumped Fluid	Urea
Pump Flow Rate, gpm	10
Pump Motor HP	2
Pump Voltage/Phases/Hertz	460/3/60
Pump Drive	Belt
Heat Recovery System (Supplied by Engine Manufacturer)	
<u>HT Jacket Water Pump</u>	
Type	ANSI end suction vertical centrifugal
Quantity	1
Flow Rate, gpm	100
Motor HP	5
Voltage/Phases/Hertz	460/3/60
Drive	Constant
<u>LT Jacket Water Pump</u>	
Type	ANSI end suction vertical centrifugal
Quantity	1
Fluid	40% Glycol/Water
Flow Rate, gpm	88
Motor HP	5
Voltage/Phases/Hertz	460/3/60
Drive	Constant
<u>Hot Water Recirculation Pump</u>	
Type	ANSI end suction vertical centrifugal
Quantity	1

Table 2.2 Cogeneration Design Criteria (Continued)

Process Equipment	Value
Flow Rate, gpm	150
Motor HP	10
Voltage/Phases/Hertz	460/3/60
Drive	Constant
<u>Waste Heat Radiator</u>	
Type	Horizontal core radiator
Quantity	2
Motor HP	20
Drive	Variable Speed
Lubrication Oil System	
<u>Clean Lube Oil Day Tank</u>	
Tank Material	Epoxy coated steel
Tank Quantity	1
Tank Volume, gallons	55
<u>Clean Lube Oil Storage System</u>	
Tank Material	Concrete vaulted double wall steel tank
Tank Quantity	1
Tank Volume, gal	1000
Pump Type	Rotary positive displacement gear
Pump Quantity	1
Pumped Fluid	Lubrication oil
Pump Flow Rate, gpm	10
Pump Discharge Pressure, psi	125
Pump Motor HP	2
Pump Voltage/Phases/Hertz	460/3/60
Pump Drive	Belt
<u>Waste Lube Oil System</u>	
Tank Material	Concrete vaulted double wall steel tank
Tank Quantity	1
Tank Volume, gal	1000
Pump Type	Rotary positive displacement gear
Pump Quantity	1
Pumped Fluid	Lubrication oil
Pump Flow Rate, gpm	10
Pump Discharge Pressure, psi	125
Pump Motor HP	2

Table 2.2 Cogeneration Design Criteria (Continued)

Process Equipment	Value
Pump Voltage/Phases/Hertz	460/3/60
Pump Drive	Belt
Waste Coolant System	
<u>Tank</u>	
Tank Material	Double contained high-density cross-linked polyethylene
Tank Quantity	1
Tank Volume, gallons	1000
<u>Pump</u>	
Type	Rotary positive displacement gear
Quantity	1
Fluid	Glycol/Water
Flow Rate, gpm	10
Discharge Pressure, psi	125
Motor HP	2
Voltage/Phases/Hertz	460/3/60
Drive	Belt
Ancillary Equipment	
<u>Supply Fan</u>	
Number	2
Flow Rate	40,000
Motor HP	30
Voltage/Phases/Hertz	460/3/60
Drive	Belt

2.4.2.1 Cogeneration Engine Generator and Accessories

The cogeneration engine generator system consists of an engine generator and package control system that controls the generator and heat recovery system. The engine consumes gas treated by the gas treatment system and/or NG to generate electricity. Operators can set the engine generator to maintain a specific power output or allow the engine generator to modulate output based on available biogas. If a power output threshold is selected, the control system would typically modulate the NG flow control valve to meet the power requirement. The supporting accessories are typically necessary to reduce maintenance load on the WWTP staff or to prevent damage to the engine from routine activities.

2.4.2.2 Exhaust Emissions Treatment

The new cogeneration engine would require exhaust emissions treatment to meet the expected BAAQMD’s regulations. The exhaust emissions treatment equipment would consist of an oxidation catalyst and SCR system. Additionally, the BAAQMD may require a CEMS. Thus in this predesign evaluation space for a CEMS was reserved.

The oxidation catalyst reduces the carbon monoxide (CO) in the exhaust stream and consists of a housing containing catalyst blocks.

The SCR system would consist of a urea storage tank, SCR control panel, urea injection nozzle, static mixing duct, and SCR catalyst. The urea would be injected into the exhaust stream where it would be mixed with the exhaust before contacting the SCR catalyst. The SCR catalyst reduces the nitrogen oxide (NO_x) in the exhaust stream. The flow of urea could be controlled either using the CEMS or a load signal from the engine.

The CEMS would be designed to monitor CO, NO_x, and oxygen (O₂) on a continuous basis and report these values as required by the BAAQMD. The system would extract the sample from the engine exhaust downstream of the SCR catalyst housing and upstream of the cogeneration exhaust heat recovery unit. The sample would be drawn through a heated sample umbilical line to the CEMS cabinet. At the CEMS cabinet, the sample would be conditioned to remove the particulate or moisture which may damage the gas analyzers.

The gas analyzers would be designed to provide an accurate reading both at startup and during normal operation. The system would also include calibration gas to calibrate each of the instruments. The calibration gasses would be stored in K-type compressed gas cylinders. The calibration gasses would need to be provided at specific concentrations, determined by the CEMS supplier. The system would also be supplied with instrument air from the plant instrument air system. It was assumed that instrument air could be provided from the air system that currently exists in the Solids Handling Building. This will be further explored in final design.

2.4.2.3 Heat Recovery System

The heat recovery system would consist of seven major elements: high temperature jacket water pump, low temperature jacket water pump, waste heat radiators, three way valve actuators, exhaust heat recovery system, heat exchangers, and hot water recirculation pump.

There are two jacket water pumps that typically serve the engine generator. The low temperature jacket water pump conveys coolant within the low temperature jacket water loop. The high temperature jacket water pump conveys coolant within the high temperature jacket water loop.

The purpose of the low temperature jacket water loop is to waste heat from the second stage of the engine intercooler. The second stage of the intercooler is at a low temperature (approximately 140° F maximum) and is too low to be used in the Heating Hot Water Loop. Instead of being captured, the heat is wasted by the radiator. The low temperature jacket water pump is typically located near the engine generator.

The purpose of the high temperature jacket water loop is to recover excess heat for beneficial use from the engine lube oil, the engine block, engine exhaust, and first stage of the engine intercooler. This loop is typically above 190° F. The loop would be connected to the Heating Hot Water Loop heat exchanger and the waste heat radiator. Valves would be opened/closed as necessary to either waste heat or transfer it to the Heating Hot Water Loop.

The hot water recirculation pump would circulate water between the Heating Hot Water Loop and Heating Hot Water Loop heat exchanger. A three way valve would control when hot water is conveyed to the Heating Hot Water Loop for digester heating. Heat rejection (or wasting) would be controlled by the engine generator control panel modulating the waste heat radiator fan speeds.

2.4.2.4 Lubrication Oil System

The lubrication oil system would consist of five major elements: clean lube oil day tank, clean lube oil storage tank, waste lube oil tank, waste lube oil pump, and clean lube oil pump. Lube oil in the engine crankcase would be wasted and conveyed by the waste lube oil pump to the waste lube oil tank during routine oil changes. Oil would be supplied to the crankcase from the clean lube oil day tank. Clean lube oil would be conveyed by the clean lube oil pump from the clean lube oil storage tank to the clean lube oil day tank based on level in the day tank.

2.4.2.5 Waste Coolant System

The waste coolant system is a manually operated system that would consist of a waste coolant tank and pump. The system would be used to evacuate (or return) coolant from the engine generator or chiller when maintenance on those systems requires it. This is a maintenance system that would allow the WWTP to save expensive coolant for reuse.

2.4.2.6 Ancillary Equipment

The main ancillary equipment would include new engine room supply fans. These fans help cool the cogeneration engine generator. Modules on top of the engine head (similar to the ignition coils on automobiles) would govern the firing of the spark plugs on the engine. These modules are sensitive to temperature and tend to malfunction at higher temperatures. It is important to keep the main engine room cool.

2.4.2.7 Tie-ins to Existing System

The new system would tie into the existing system at five locations:

- Hot water supply (HWS)
- Hot water return (HWR)
- Natural gas (NG)
- Conditioned biogas (source gas, SG)
- Instrument air

These connections to the existing system are shown in Figures 2.2 and 2.3. Both the HWS and HWR lines would tie into the existing system in the northeastern corner of the boiler room where these existing lines enter the room. Additionally, the NG, SG, and air lines would tie into the existing system on the western side of the new cogeneration engine. All five of these tie-ins are shown in the preliminary layouts presented in the sections that follow.

2.4.3 Process Flow Diagrams

Figures 2.4 through 2.6 show process flow diagrams for the cogeneration system and supporting systems.

2.4.4 Preliminary Layouts

Figures 2.7 through 2.11 show a preliminary layout of the proposed facility. As shown in these figures, the following equipment would be located outside at grade on the western wall of the Solids Handling Building:

- Lubrication oil storage tanks (clean and waste)
- Urea tank
- Waste coolant tank

Additionally, the following equipment would be located on the roof:

- Exhaust heat recovery unit
- CO/SCR housing
- Radiator

Based on a preliminary structural analysis, it appears the existing Solids Handling Building should be able to support the proposed equipment. In the proposed locations, 4 skylights would need to be removed.

The ability to remove both the existing engine generator and new engine generator from the building was also confirmed. Based on conversations with Agency staff, the existing engine has been removed from the building through the center roll up door on the northern wall of the solids handling building. This path of egress was kept clear when locating new equipment. The new engine would also be able to exit through this center roll up door.

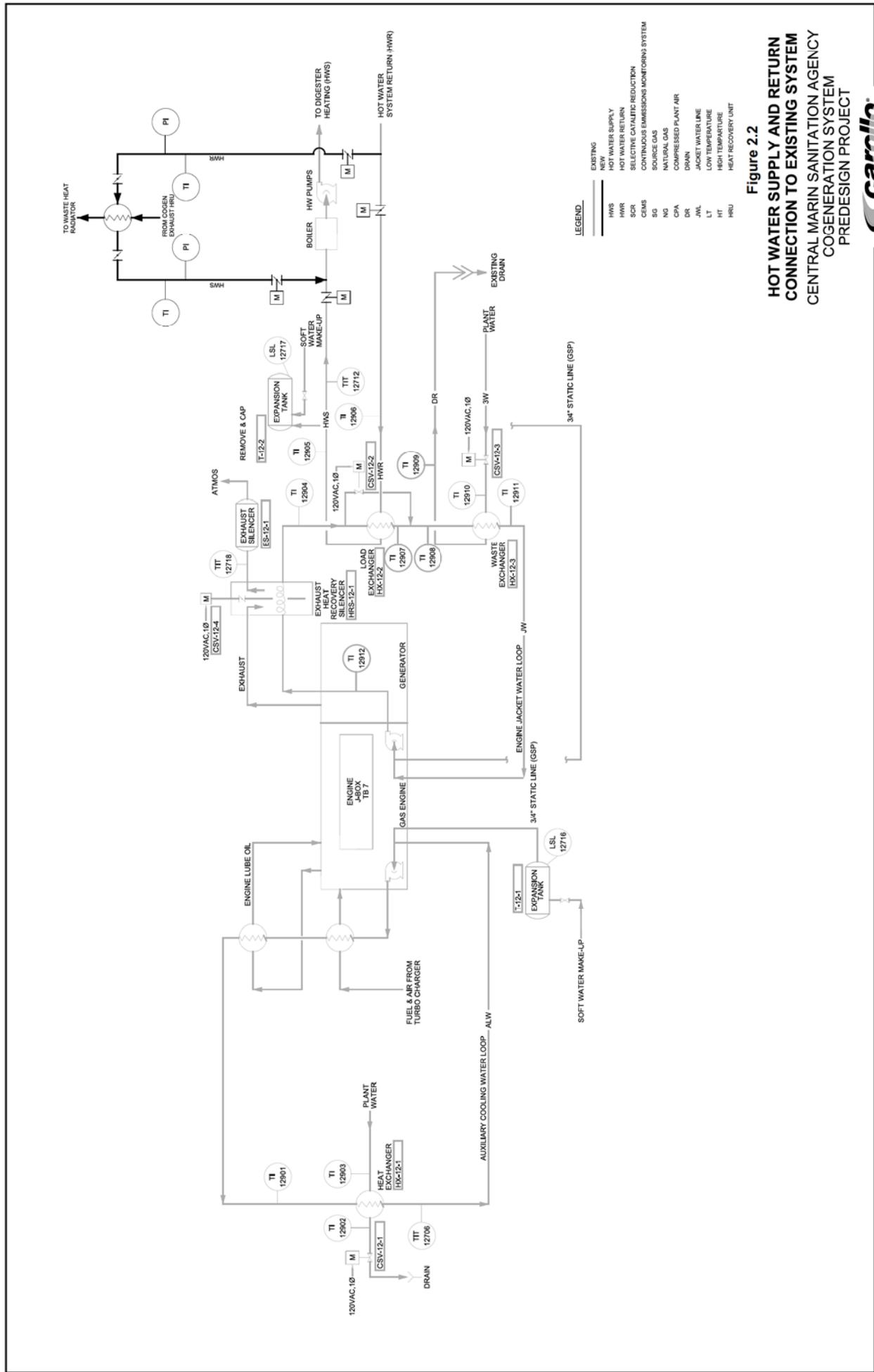
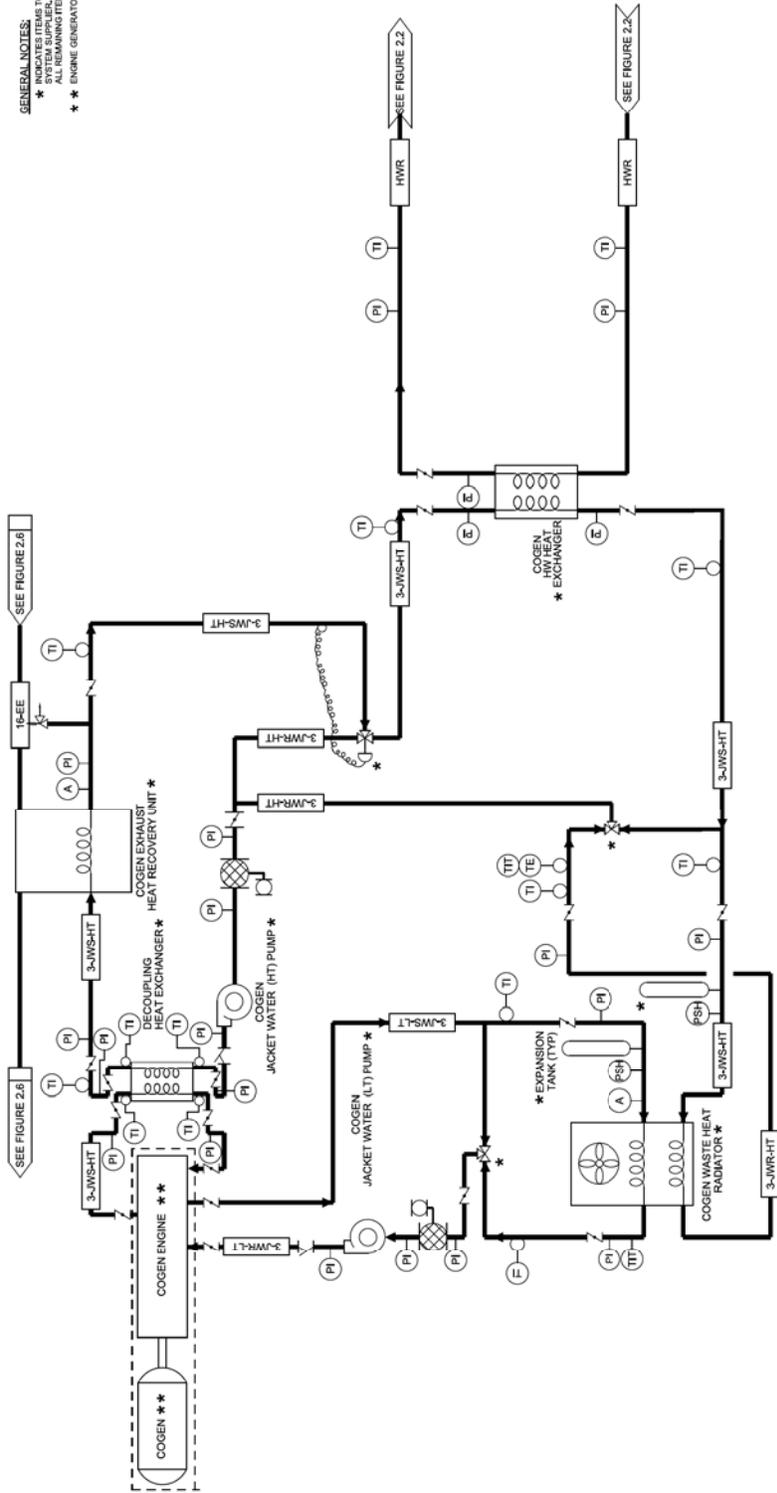


Figure 2.2
HOT WATER SUPPLY AND RETURN
CONNECTION TO EXISTING SYSTEM
CENTRAL MARIN SANITATION AGENCY
COGENERATION SYSTEM
PREDESIGN PROJECT



GENERAL NOTES:
 * ALL EQUIPMENT TO BE PROVIDED BY COGENERATION SYSTEM SUPPLIER. CONTRACTOR SHALL SUPPLY ALL REMAINING ITEMS.
 ** ENGINE GENERATOR SHD MOUNTED EQUIPMENT.

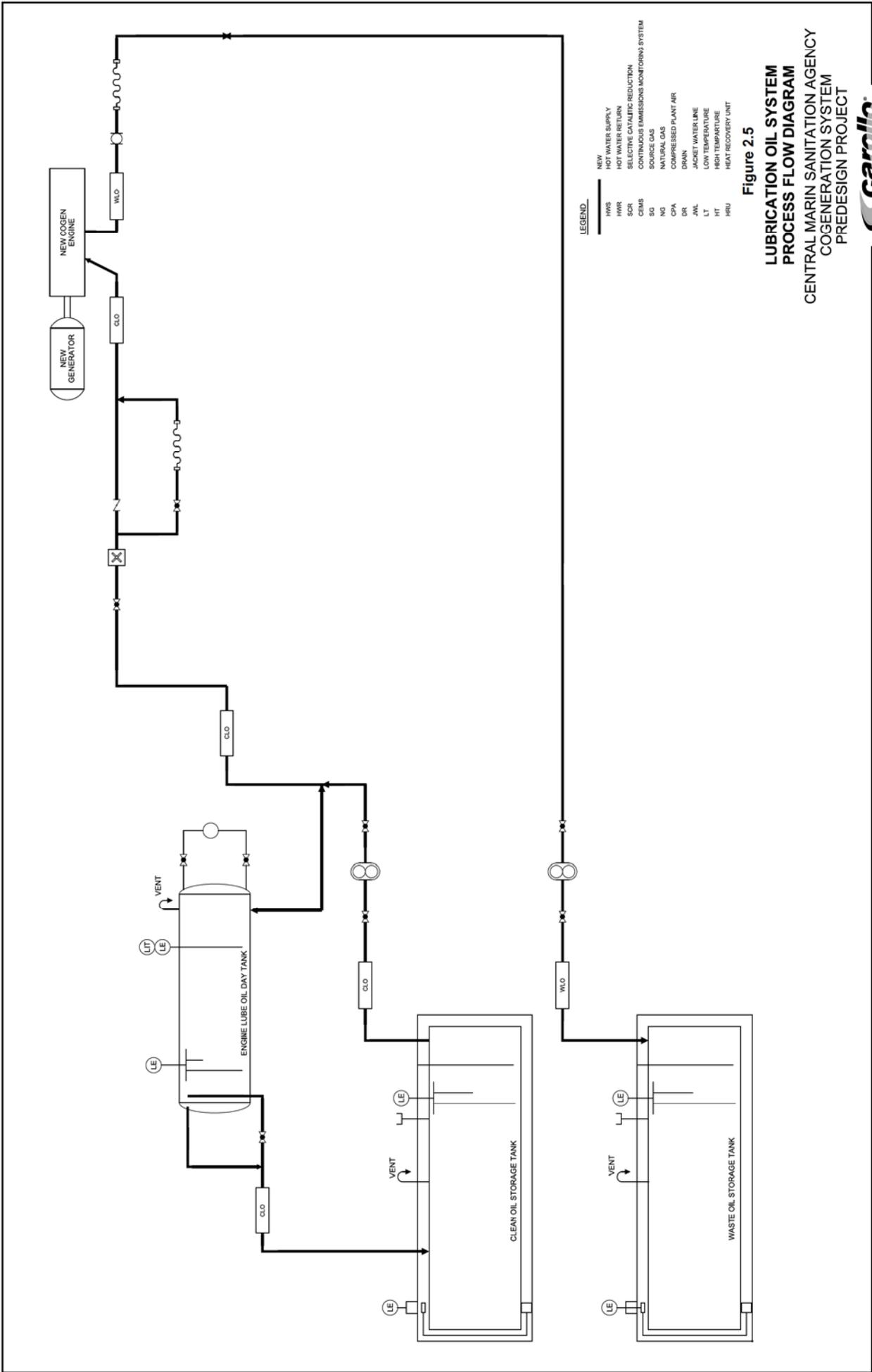


LEGEND:

NEW	
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
SCR	SELECTIVE CATALYTIC REDUCTION
CEMS	CONTINUOUS EMISSIONS MONITORING SYSTEM
SG	SOURCE GAS
NG	NATURAL GAS
CPA	COMPRESSED PLANT AIR
DR	DRAIN
JWL	JACKET WATER LINE
LT	LOW TEMPERATURE
HT	HIGH TEMPERATURE
HRSU	HEAT RECOVERY UNIT

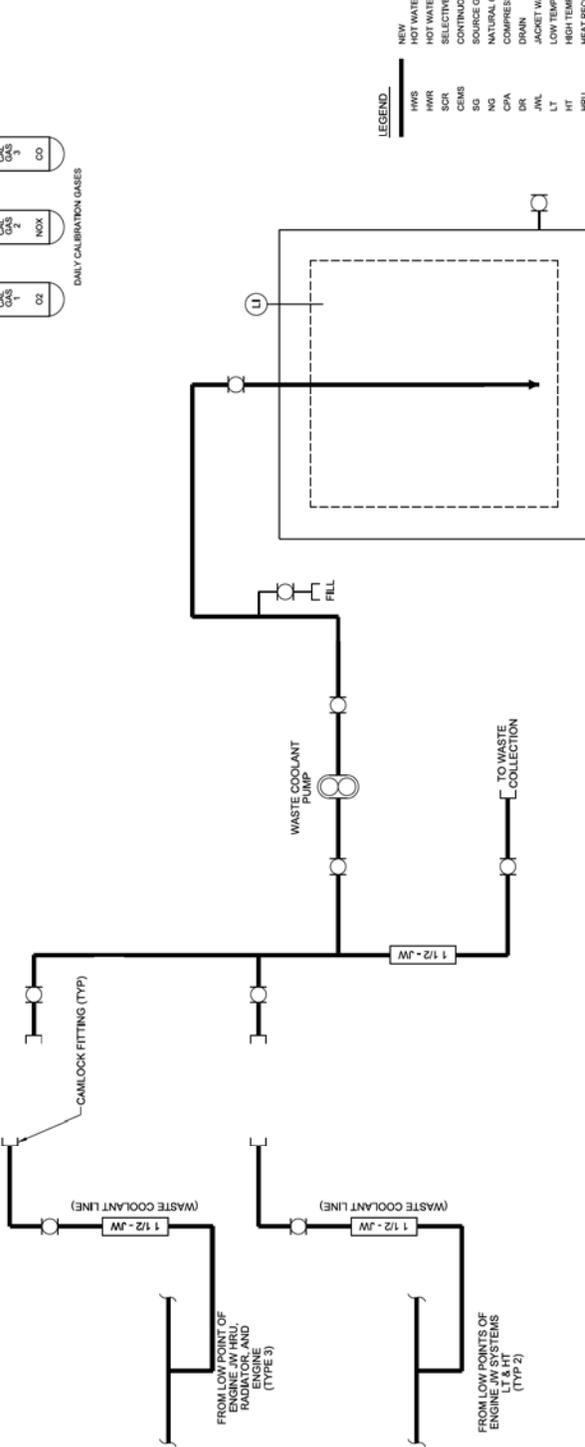
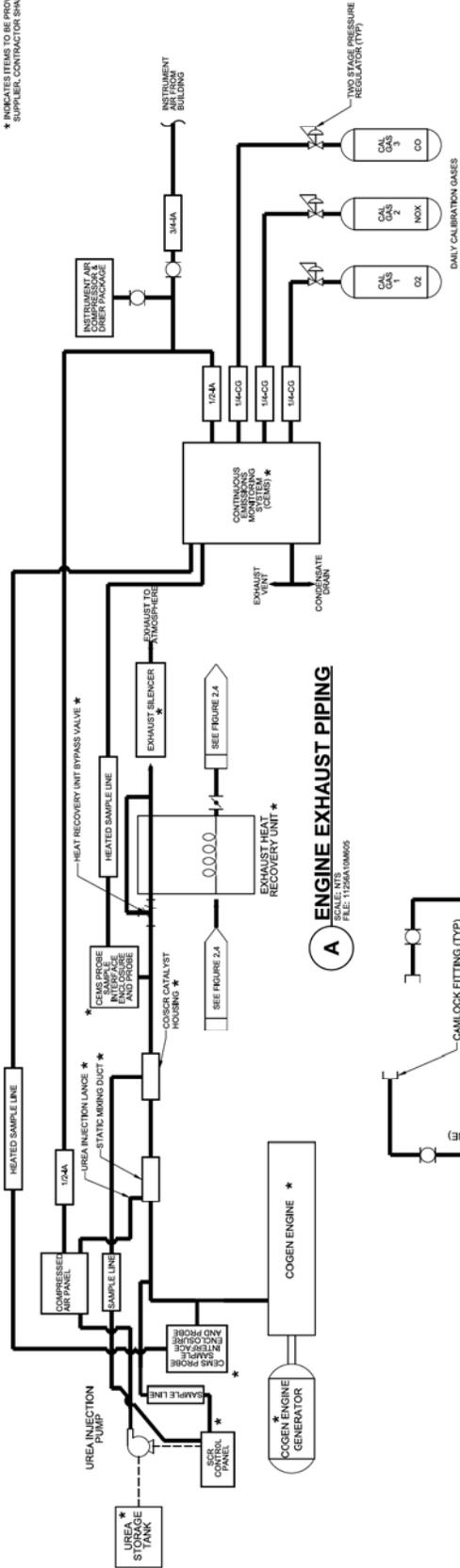
Figure 2.4
HEAT LOOP RECOVERY SYSTEM
PROCESS FLOW DIAGRAM
 CENTRAL MARIN SANITATION AGENCY
 COGENERATION SYSTEM
 PREDESIGN PROJECT





GENERAL NOTES:

* INDICATES ITEMS TO BE PROVIDED BY COGENERATION SYSTEM SUPPLIER. CONTRACTOR SHALL PROVIDE ALL REMAINING ITEMS.



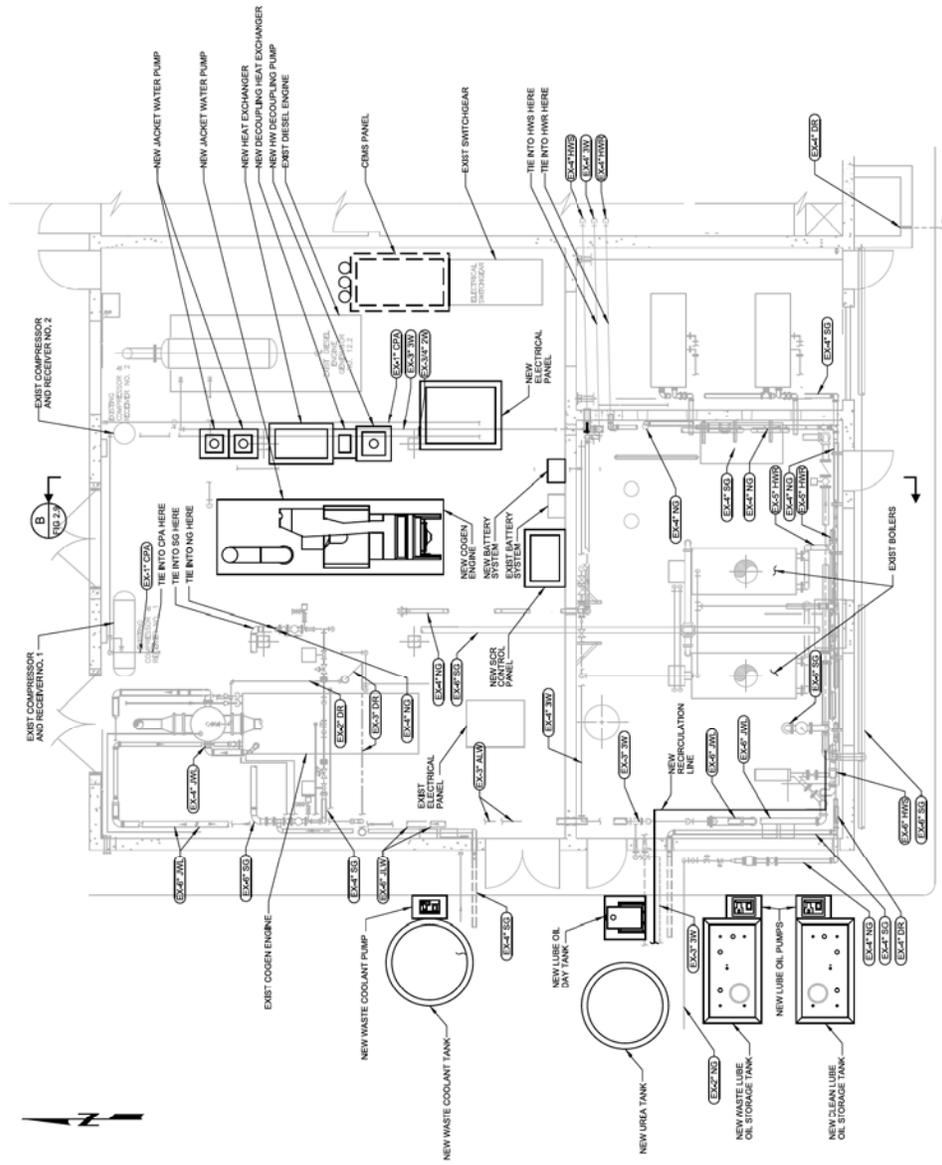
LEGEND:

NEW
HWS HOT WATER SUPPLY
HWR HOT WATER RETURN
SCR SELECTIVE CATALYTIC REDUCTION
CEMS CONTINUOUS EMISSIONS MONITORING SYSTEM
SG SOURCE GAS
NG NATURAL GAS
CPA COMPRESSED PLANT AIR
DRW DRAIN
DKW DRAIN WATER
JWL JACKET WATER LINE
COH COOLANT HOSE
LT LIFT
HRTU HEAT RECOVERY UNIT

Figure 2.6

ENGINE EXHAUST AND WASTE COOLANT SYSTEM PROCESS FLOW DIAGRAM
CENTRAL MARIN SANITATION AGENCY
COGENERATION SYSTEM
PREDESIGN PROJECT





LEGEND

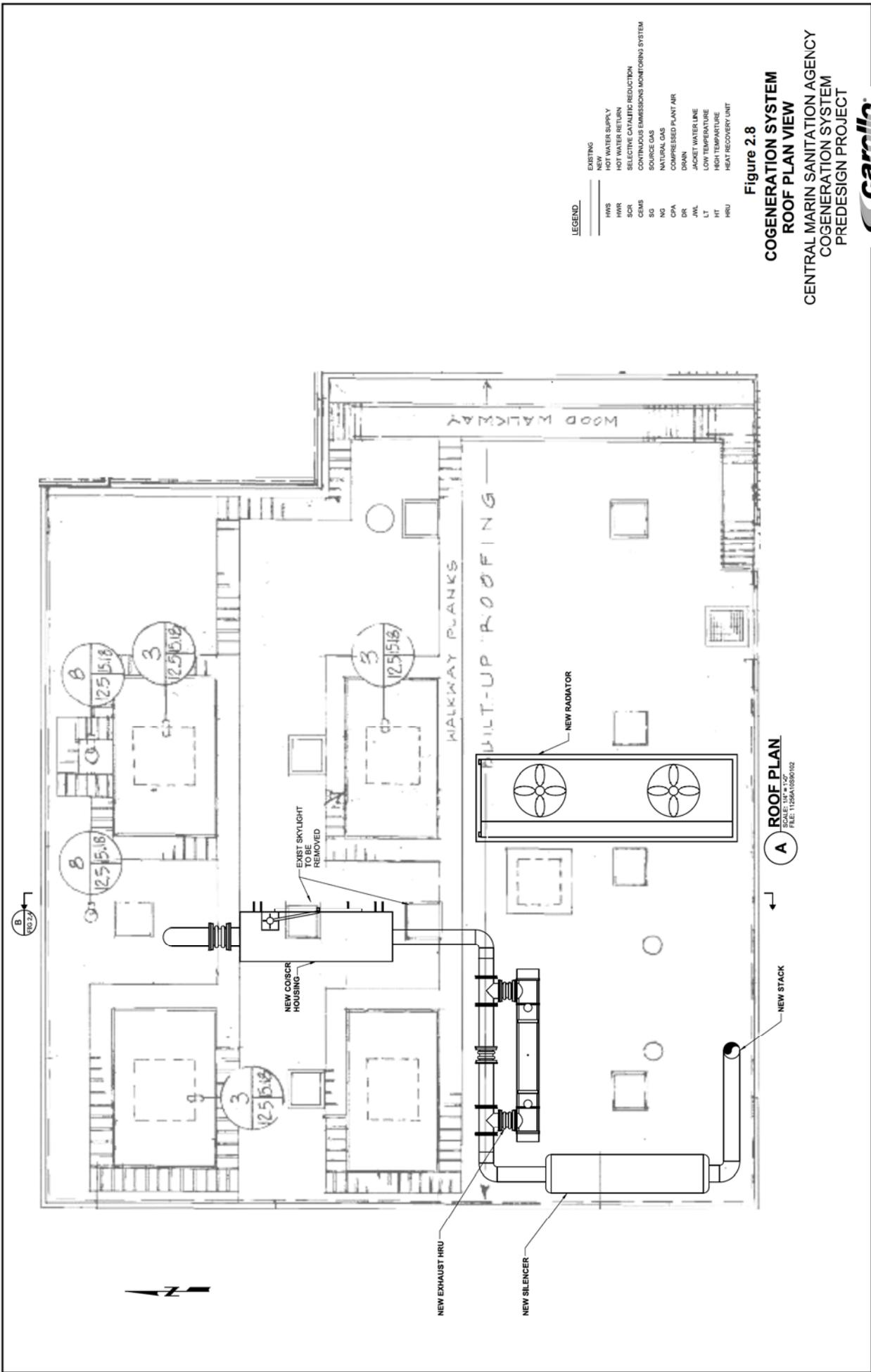
---	EXISTING
---	NEW
---	SPACE RESERVED
---	HOT WATER SUPPLY
---	HOT WATER RETURN
---	SELECTIVE CATALYTIC REDUCTION
---	CONTINUOUS EMISSIONS MONITORING SYSTEM
---	SOURCE GAS
---	NATURAL GAS
---	COMPRESSED PLANT AIR
---	DRAIN
---	JACKET WATER LINE
---	COOLING WATER LINE
---	100% TEMPERATURE
---	10% TEMPERATURE
---	HEAT RECOVERY UNIT

Figure 2.7
COGENERATION SYSTEM
PLAN VIEW

CENTRAL MARIN SANITATION AGENCY
 COGENERATION SYSTEM
 PREDESIGN PROJECT



A PLAN
 SCALE: 3/16"=1'-0"
 FILE: 112564106029



LEGEND

	EXISTING	NEW
HWS	HOT WATER SUPPLY	
HWR	HOT WATER RETURN	
SCR	SELECTIVE CATALYTIC REDUCTION	
CEMS	CONTINUOUS EMISSIONS MONITORING SYSTEM	
SG	SOURCE GAS	
NG	NATURAL GAS	
CFA	COMPRESSED PLANT AIR	
DRN	DRAIN	
JWL	JACKET WATER LINE	
CO	COOLING WATER	
LT	LOAD TEMPERATURE	
HT	HEAT TEMPERATURE	
HRU	HEAT RECOVERY UNIT	

Figure 2.8

**COGENERATION SYSTEM
ROOF PLAN VIEW**

CENTRAL MARIN SANITATION AGENCY
COGENERATION SYSTEM
PREDESIGN PROJECT



A ROOF PLAN
FILE: 11256A1026102

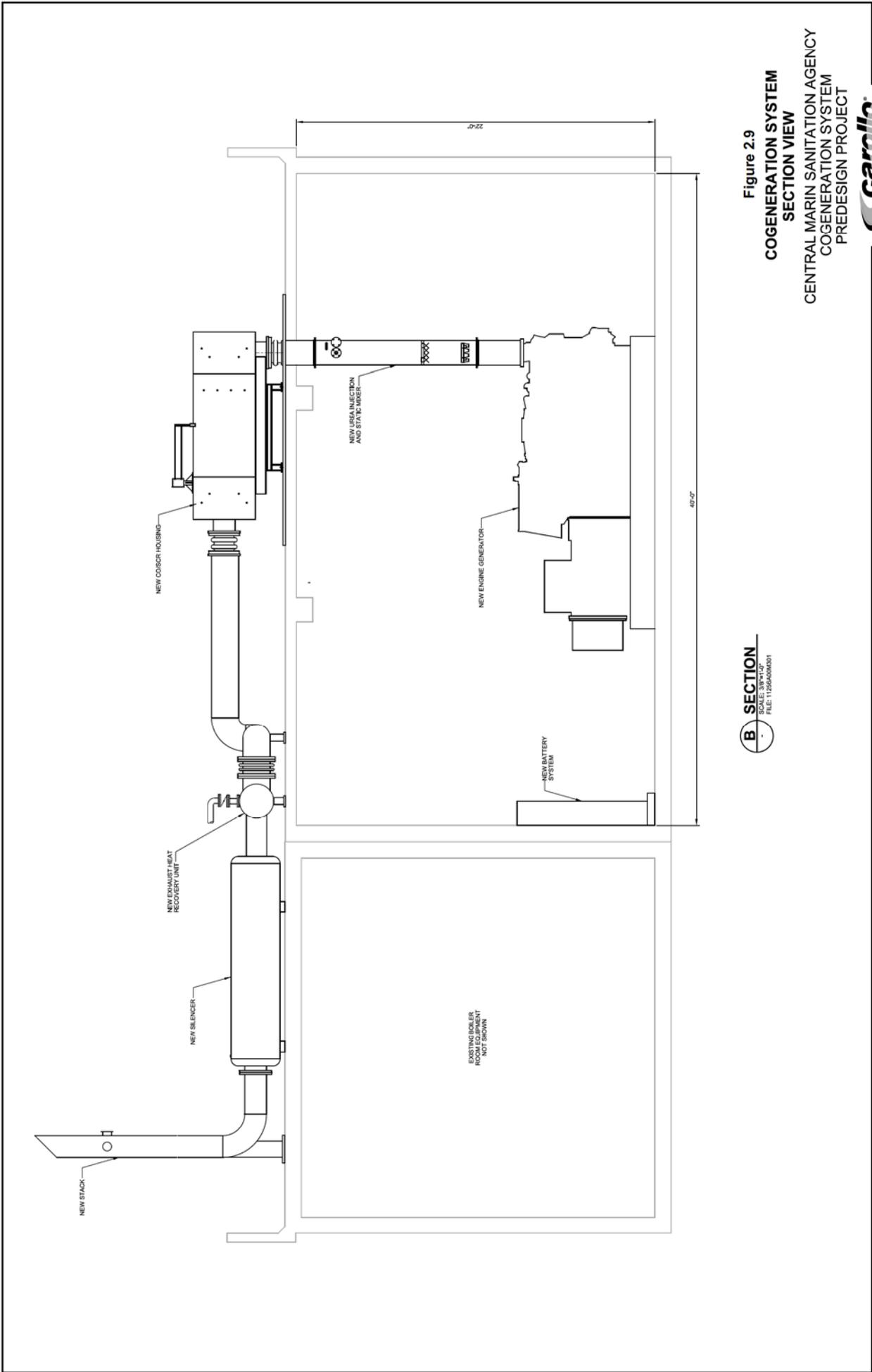
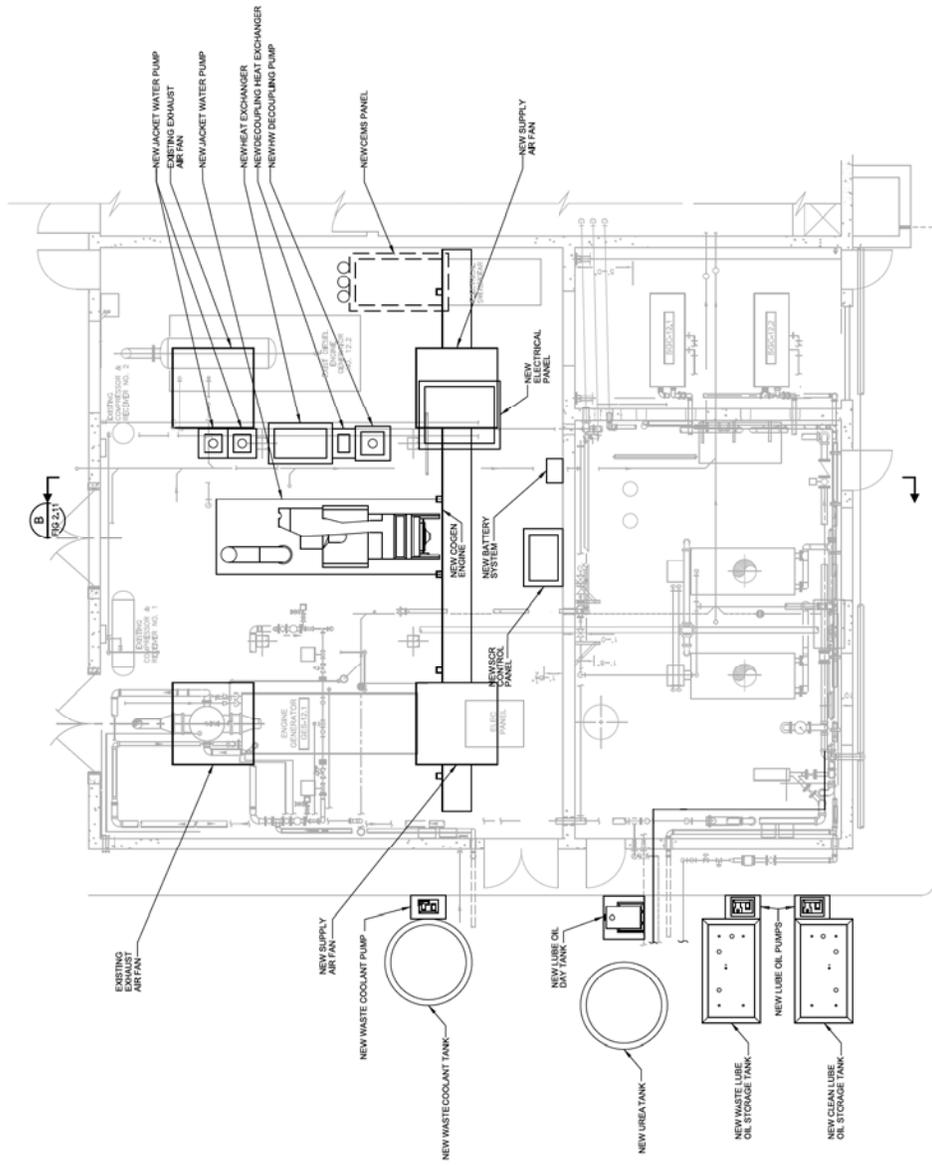


Figure 2.9
COGENERATION SYSTEM
SECTION VIEW
 CENTRAL MARIN SANITATION AGENCY
 COGENERATION SYSTEM
 PREDESIGN PROJECT



B SECTION
 SCALE: 1/4"
 FILE: 11256A000A001



LEGEND

---	EXISTING
---	NEW
---	SPACE RESERVED
---	HOT WATER SUPPLY
---	HOT WATER RETURN
---	SELECTIVE CATALYTIC REDUCTION
---	CONTINUOUS EMISSIONS MONITORING SYSTEM
---	SOURCE GAS
---	NATURAL GAS
---	COMPRESSED PLANT AIR
---	DRAIN
---	JACKET WATER LINE
---	COOLANT WATER LINE
---	WATER TEMPERATURE
---	HEAT RECOVERY UNIT

A PLAN
SCALE: 3/16"=1'-0"
FILE: 112564108611

Figure 2.10
COGENERATION SYSTEM
HVAC PLAN VIEW
CENTRAL MARIN SANITATION AGENCY
COGENERATION SYSTEM
PREDESIGN PROJECT



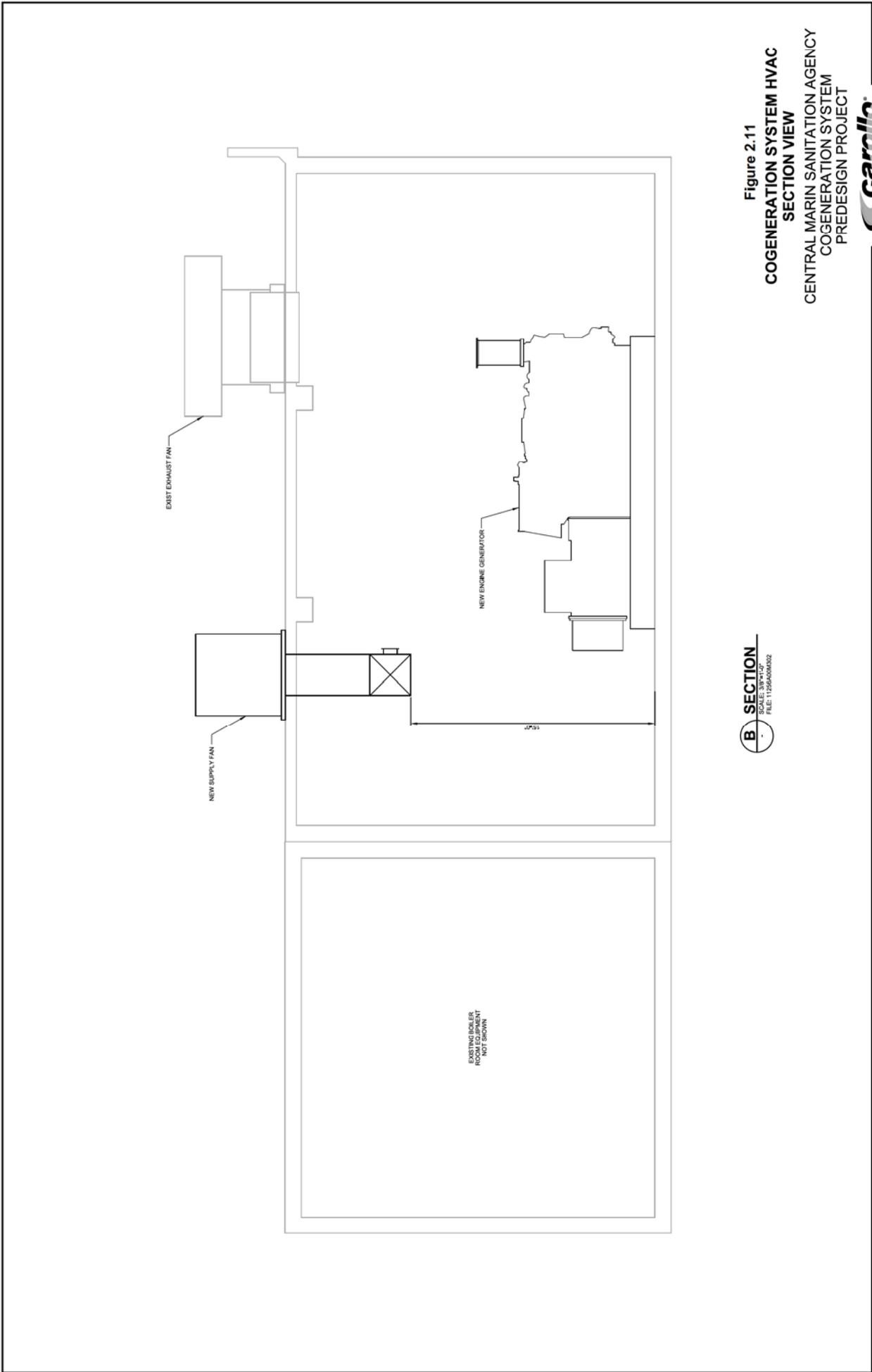


Figure 2.11
**COGENERATION SYSTEM HVAC
 SECTION VIEW**
 CENTRAL MARIN SANITATION AGENCY
 COGENERATION SYSTEM
 PREDESIGN PROJECT



2.4.5 SCADA Requirements

Currently both existing cogeneration and diesel engines are connected to the existing Zenith/GE Industrial switchboard and are controlled by the Plant PLC. When utility power goes down, the plant goes black until the standby diesel engine starts up and reaches full speed. If needed, Agency staff can manually start the existing 750 kW cogeneration engine and operate this in parallel with the diesel engine. However, the diesel engine must remain in operation to accommodate any major changes in load. The Agency has never operated the 750 kW cogeneration engine on during a power outage. The plant must also go black again in order to reconnect back to the utility grid when power comes back online. Three options to configure the new cogeneration engine were discussed:

- i. Option 1 - Keep the new cogeneration engine separate from the existing cogeneration and diesel engines. This would be the simplest and lowest cost option, but this would not allow the new cogeneration engine to operate in parallel with the existing cogeneration and diesel engines. Thus during a power outage, only the diesel engine and the existing cogeneration engine could operate together.
- ii. Option 2 - Modify the controls of the existing cogeneration and diesel engines and connect them to the new cogeneration engine. This would allow the new cogeneration engine to operate in parallel with the two existing cogeneration and diesel engines and thus allow the new cogeneration engine to operate with the existing diesel engine during a power outage. This option will be more expensive since it will require major control modifications to the existing cogeneration and diesel engine control systems.
- iii. Option 3 - Configure the system such that the new cogeneration engine would not go off line when the grid goes down. This is not typically done and not allowed by PG&E. PG&E would have to be contacted and consulted regarding the feasibility of this option. This would be the most expensive option and most complicated to operate.

This predesign evaluation proceeds with Option 1, with the understanding that the other two options could be considered in the future if the need arises.

The new cogeneration system will require a new Programmable Logic Controllers (PLC) to control the engine and generator parameters. This PLC would be housed in the new Cogeneration Control Panel provided by the cogeneration unit supplier. This Cogeneration Control Panel is shown in the plan view of Figure 2.7.

This system would look very similar to the existing Generator Control Panel at the existing engine. The new Cogeneration Control Panel would only control the new engine and would be compatible with the existing Inductive Automation SCADA System. Figure 2.12 shows the proposed SCADA block diagram for this new system and its connection to the existing system.

The new PLC would monitor the following parameters of interest:

- Generator Watts
- Generator Volts
- Generator breaker status
- Ground fault
- Generator exciter

- General alarms
- Various fuel supply system parameters
- Lubrication system parameters
- Heat recovery and cooling system parameters
- Engine controls
- General alarms

2.4.6 Electrical Requirements

The existing electrical distribution system is fed from a 1,000 kVA PG&E service transformer to the plant's double ended 480 V, 4 wire main switchgear, as shown in Figure 2.13. The main switchgear is located in the electrical building and distributes power to double ended MCCs located strategically throughout the plant. These MCCs supply power to plant loads located within plant processes. The two MCCs that power the existing cogeneration system are MCC-12.1 and 12.2 and are located in the Solids Handling Building.

Additionally, the main plant switchgear also connects to a 2,000A rated Zenith/GE Industrial switchboard installed in early 1980s in the Solids Handling Building. This switchboard contains the controls for the existing 750kW diesel generator. In 2003, the 750kW cogeneration unit was also connected to the Zenith/GE Industrial switchboard. As a result, the 2,000A Zenith/GE Industrial switchboard serves as the connection point between the existing standby diesel and cogeneration gas engine generators and plant's main switchgear.

This switchboard is reaching the end of its life and should be replaced within the next 10 years. Zenith has been purchased by GE Industrial and GE Industrial has been purchased by ABB. Therefore, ABB and their local support team should be contacted and involved in any modifications required for this switchboard.

The new cogeneration gas generator in this design would also be connected to the existing Zenith/GE Industrial switchboard. Load taps or termination pads would need to be added to the main horizontal bus system in the middle section of Zenith switchboard to terminate new cables from the new cogeneration unit. Carollo has identified and contacted Brandon V. Tao, a Senior Technical & Proposal manager at ABB, mobile number 847-224-9201, email: Brandon.tao@us.abb.com, to inquire about the feasibility of modifying the existing Zenith switchboard. Mr. Tao indicated ABB's technical representatives would be able to modify the existing Zenith switchboard after visiting the site and inspecting the gear.

As described on the SCADA Requirements section above, controls for the new gas cogeneration unit would be designed to operate and parallel with the utility independently from the existing gas cogeneration unit and existing diesel generator. Thus either the new cogeneration engine or the existing cogeneration unit and/or the existing diesel generator can be in operation. Since the existing Zenith switchboard is rated for 2,000 amps and cannot be loaded above 80 percent of its rating, the total kW supplied by all generators (either the new cogeneration engine or the existing cogeneration engine and/or the existing diesel generator) should be limited to approximately 1,100kW or 1,600 amps. This limitation will not impact the proposed configuration since the new cogeneration engine would not be able to run when either of the two existing cogeneration and diesel engines are running. However, in the future if the Agency would like to run both cogeneration engines at the same time, the Zenith/GE Industrial switchboard and associated cabling would need to be replaced.

Additionally, power can be supplied to the new cogeneration engine's ancillary equipment from the existing MCC-12.1 and 12.2 located in the electrical room adjacent to the generator room. As-built drawings indicate MCC-12.1 has eight 12" spare/space buckets and MCC-12.2 has six 12" spare/space buckets that can be used to supply power to new cogeneration unit's ancillary equipment. In addition, as-built drawings indicate there is adequate space in the electrical room to add two more full sections to MCC-12.2 if required. Based on a visual inspection of MCCs 12.1 and 12.2 in the Solids Handling Building, the existing MCC has sufficient capacity to power the required ancillary equipment.

2.5 Biogas Treatment System Upgrade

In addition to a new cogeneration system, this project also includes modifications to the existing biogas treatment system. These modifications would provide redundancy and better process controls. A more detailed description of the proposed modifications are in the sections that follow.

2.5.1 Basis of Design

The existing biogas treatment system consists of two vessels containing iron impregnated media (SulfaTreat) for H₂S removal, gas compressors to pressurize the biogas to approximately 5 psig, a digester gas chiller to remove moisture to a dew point of 40 degrees F from the biogas and reheat it to approximately 60 degrees F, and two vessels containing carbon media for siloxane and volatile organic compound (VOC) removal. The existing system is designed to treat up to 230 scfm of biogas being utilized by the existing cogeneration engine generator. The existing biogas treatment systems are rated for operation in class 1, division 1 environments.

In order to address several operational concerns as well as to assure proper reliable treatment of the biogas for use in the new cogeneration engine generator system, several modifications to the existing system were evaluated for possible incorporation into this project as follows:

- Addition of biogas flow meters flowing to each of the boilers and the waste gas burner.
- Addition of a controlled recycle line to recycle biogas from the discharge of the siloxane tanks/final particulate filter back upstream of the biogas compressors to maintain a minimum biogas flow through the biogas treatment system.
- Replacement of the existing heat exchanger and chiller system to provided redundancy.
- Update and automate existing condensate drain system associated with the moisture removal chiller/heat exchanger system.

In accordance with NFPA 820, the area within 5 feet of the biogas equipment in outdoor areas and within the biogas compressor room is to be rated as a class 1, division 1 environment; the area of the boiler room and the cogeneration generator room are unclassified environments. Thus the existing biogas and cogeneration engine equipment is in compliance and any new work in and around these areas and equipment must also comply with these requirements.

2.5.1.1 Addition of Biogas Flow Meters

In order to obtain biogas flow data for the usage by either of the existing boilers and/or the biogas flare, new biogas flow meters would be added into the piping serving these devices. These meters would be captured by the existing SCADA system to allow monitoring and recording of this data.

2.5.1.2 Addition of Controlled Recycle

The addition of a controlled recycle system to the existing biogas treatment system would assure that the flow rate through the system, and specifically the siloxane media vessels, does not drop below approximately 50 percent of the design flow rate (adjustable). This would help assure longer media life and a higher level of siloxane and VOC removal which is critical to the operation of the new cogeneration system emission equipment. The controlled recycle system would consist of a new motor operated control valve installed into a new bypass line routed from the siloxane tank leaving the filter discharge piping (the piping entering the cogeneration engine) back to the suction side of the biogas compressors. This recycle valve would be controlled to maintain a minimum fixed flow through the system.

2.5.1.3 Addition of Redundant Chiller

Initially, a redundant chiller was proposed as part of this project. The original chiller was provided as part of a packaged system from Pnuematech, which is no longer made. Carollo also reached out to General Air, the other chiller supplier named in the original chiller specification. At this time, they do not have a similar standard product. Thus, a new packaged heat exchanger and chiller system with redundant chillers was included in this project. This system would replace the existing heat exchanger and chiller.

2.5.1.4 Modification of Condensate Removal System

The existing condensate removal system is prone to clogging and sticking open of the automatic drain traps. This equipment would be replaced with automatic level controlled pump system with redundant pumps to assure positive condensate removal and to enhance reliability.

2.5.2 Process Flow Diagrams

Figure 2.14 shows the process flow diagram for the recommended Biogas Treatment System Upgrades.

2.5.3 Preliminary Layout

Figure 2.15 shows a preliminary layout of the proposed biogas system modifications.

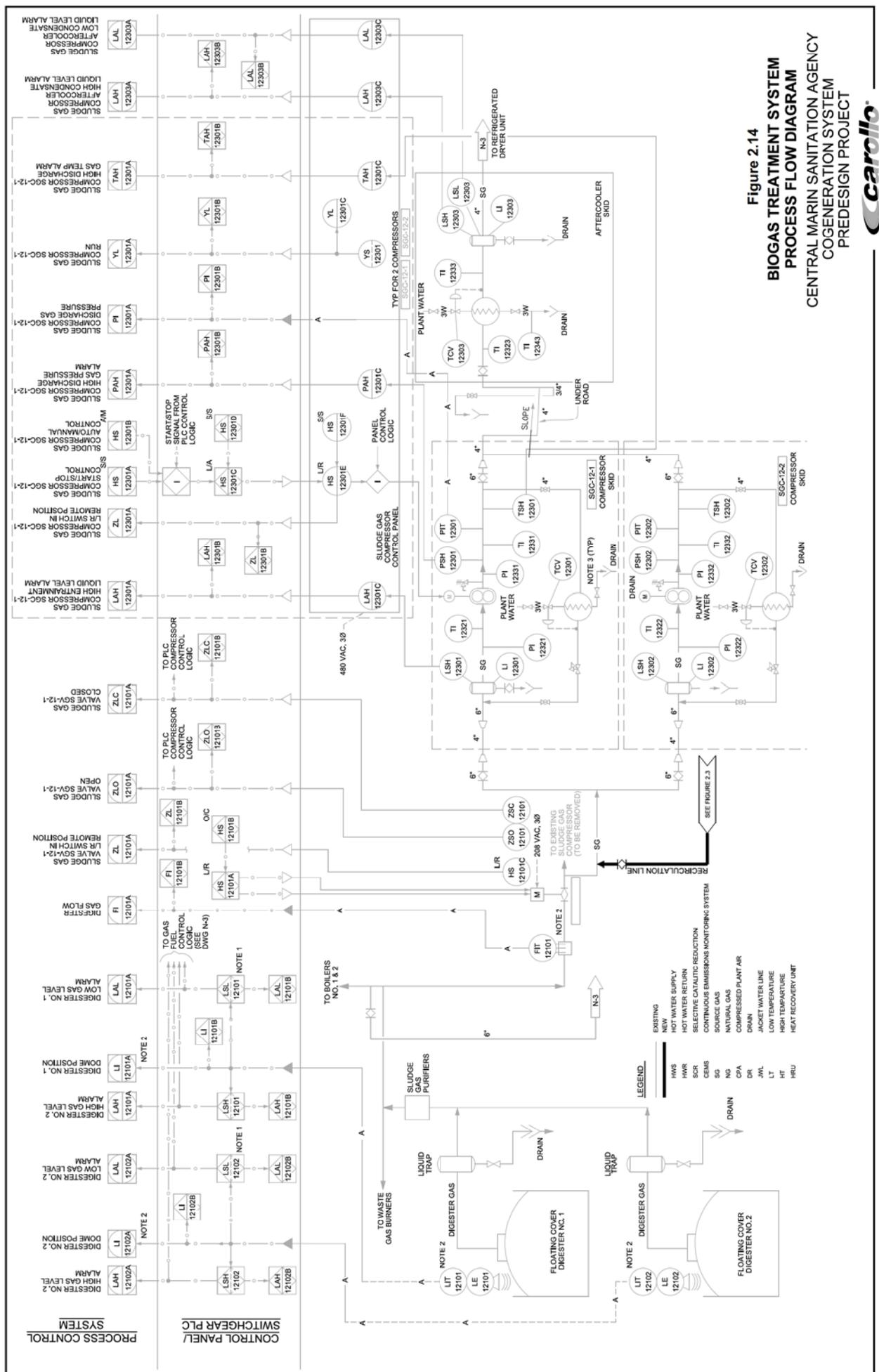
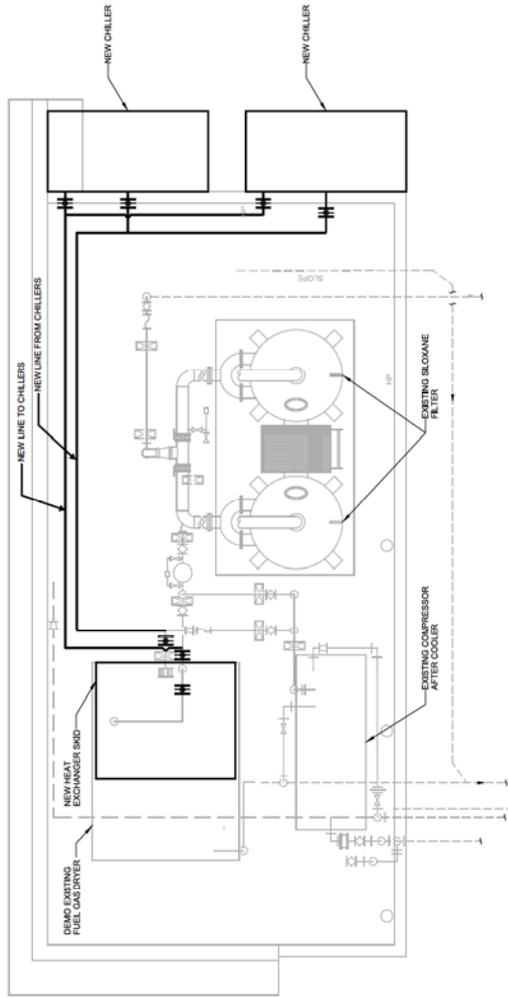


Figure 2.14
BIOGAS TREATMENT SYSTEM
PROCESS FLOW DIAGRAM
 CENTRAL MARIN SANITATION AGENCY
 COGENERATION SYSTEM
 PREDESIGN PROJECT





LEGEND

EXISTING		NEW	
HWS	HOT WATER SUPPLY	HWR	HOT WATER RETURN
SCR	SELECTIVE CATALYTIC REDUCTION	CEMS	CONTINUOUS EMISSIONS MONITORING SYSTEM
SG	SOURCE GAS	NG	NATURAL GAS
CFA	COMPRESSED PLANT AIR	DR	DRINK
JWL	JACKET WATER LINE	CO	COOL
LT	LOW TEMPERATURE	HT	HIGH TEMPERATURE
HRSU	HEAT RECOVERY UNIT		

A PLAN
SCALE: 3/8"=1'-0"
FILE: 1102041000102

Figure 2.15
BIOGAS TREATMENT SYSTEM
UPGRADE PLAN VIEW
CENTRAL MARIN SANITATION AGENCY
COGENERATION SYSTEM
PREDESIGN PROJECT



2.6 Preliminary Construction Cost Estimate

Table 2.3 presents the estimated construction cost for both the proposed cogeneration system and biogas treatment system modifications. Cost estimates reflect a December 2018 ENR of 11185 and are based on quantity takeoffs and similar facilities with allowances for civil, mechanical, structural, and electrical improvements. A more detailed breakdown of costs can be found in Appendix 2A. The quote provided for the 850 kW engine is provided in Appendix 2B.

Table 2.3 Construction Cost Estimate

Description	Cost
New Cogeneration Engine (852 kW)	\$6,389,000
Biogas Treatment System Upgrades	\$1,059,000
TOTAL Construction Cost	\$7,448,000

At the request of the Agency, the total construction cost estimate is broken into two categories: required and optional. Table 2.4 presents this estimate. Required cost items are those necessary for a new cogeneration engine at the plant. Optional items are those that would improve operations and maintenance of the new cogeneration system and existing biogas treatment system and could be added in the future.

Table 2.4 Construction Cost Estimate for Required and Optional Items

Description	Required	Optional
Cogeneration Engine Packaged System with SCR	\$6,083,000	-
Lubrication Oil System	-	\$204,000
Waste Coolant System	-	\$102,000
Biogas Treatment System Upgrades	-	\$1,059,000
TOTAL	\$6,083,000	\$1,365,000
TOTAL Construction Cost	\$7,448,000	



BOARD MEMORANDUM

March 8, 2019

To: CMSA Commissioners and Alternates

From: Jason Dow, General Manager
Kenneth Spray, Administrative Services Manager

Subject: Other Post-Employment Benefits (OPEB) Funding Plan

Recommendation: Approve the Agency's proposed OPEB funding plan, and provide comments and/or direction to staff.

Summary: The Agency's Other Post Employment Benefit (OPEB) plan is a two-tier medical after retirement benefit for employees after they retire from Agency service. Staff has reviewed the 2018 GASB 75 Valuation Report, evaluated options to fund the Agency's future OPEB obligations, and prepared the OPEB Funding Plan (Plan) presented below. Plan objectives are to begin using the California Employers' Retiree Benefit Trust (CERBT) account in about five years to fund our annual OPEB expense while avoiding overfunding the CERBT. Overfunding the trust can be an issue because trust assets are irrevocable unless there are changes in trust law, or operating practices and procedures.

OPEB Funding Plan:

1. Prefund the CERBT with the GASB 75 Actuarial Determined Contribution (ADC), approximately \$50K annually.
2. Fund the CERBT to approximate \$3.8M, after which its earnings will be used to pay OPEB benefits.
3. Monitor the Plan thereafter to avoid overfunding.
4. Revise the Agency's Annual Budget Financial Policy to include the CERBT funding target, future CERBT use to pay the OPEB benefits, and for monitoring the plan.

Discussion: CMSA's OPEB plan currently has a total benefit obligation of approximately \$5.2M and is currently funded at approximately \$2.6M, as of February 28, 2019 for a funding level of approximately 50%. Per discussion with the Agency's actuary, CMSA's OPEB obligation will begin to drop off dramatically in twenty years due to tier 1 retiree mortality, leaving only tier 2 retirees who will receive a substantially reduced benefit. The tier 1 total obligation is approximately \$5.2M with an annual obligation to retirees currently of approximately \$210,000. The long-term obligation for the Agency will consist only of tier 2 retirees receiving the minimum allowable benefit set by CalPERS, currently at \$136 per month adjusted annually by cost of living. Employees are assumed to retire at age 55 with mortality assumed at age 85

for a monthly benefit payout for 30 years. The total future obligation under tier 2 will consist of \$136 X 44 employees X 12 months X 30 years is approximately \$2.2M. We know the current total obligation, which is approximately \$5.2M and that the future obligation will eventually reduce to approximately \$2.2M for an obligation reduction of approximately \$3M. The key issue for the Agency to address is to not overfund the OPEB trust, because monies placed in the trust can only be used for the purposes of the trust and are irrevocable.

CMSAs current ADC is approximately \$250K consisting of payments to retirees and some amount to obligation prefunding. The Agency's budget policy is to fund OPEB to the extent of the ADC. Current payments to retirees amount to approximately \$210K and the difference, \$40K, is paid to the OPEB fund with CERBT.

Staff has prepared the attached OPEB Plan Funding Worksheet that shows the proposal to fund the CERBT for several years then begin to use it to pay for retiree medical benefits. The current retiree benefit payment of \$210K is escalated each year by four percent to begin at \$257 in year six of the attached table. The table uses a fixed \$50K per year as the annual contribution to CERBT. The CERBT is currently paying just over 9% rate-of-return, so staff believes a 7% interest factor used in the table is conservative. The table shows that the balance in the CERBT will be approximately \$3.8M in five years. Annual interest earnings at 7% for \$3.8M principal would be approximately \$265K. At that time the earnings from the CERBT will pay for all or a substantial portion of the benefit. Accordingly, future annual obligation fund earnings will be approximately \$180,000 at 7% on a \$2.3M trust and the annual benefit payments will reduce this to approximately \$72K. The objective is for fund earnings to pay plan benefits and to be cost neutral to the Agency.

Monitoring plan funding to avoid overfunding will be an issue for future CMSA staff to address. Future staff will need to balance future earnings with future costs. Where earnings exceed costs, one method to reduce earnings would be to select a more conservative investment strategy. In that situation, the objective would be for plan costs to exceed earnings to reduce the principal basis of the trust. Another method is to determine if changes have occurred that would allow exceptions to the irrevocable condition such as a one-time only withdrawal to match plan assets with the actuarially determined benefit obligation.

Background: CMSA provides a two-tier medical after retirement benefit for Agency employees. For employees hired before July 1, 2010, the benefit is medical insurance after retirement at the Kaiser single payer rate for the San Francisco Bay Area region. For employees hired after that date, CMSA provides the minimum retiree medical contribution required by state law (PEMCHA) and a defined contribution of 1.5% of the employee's annual salary in a Medical After Retirement Account administered by Nationwide. This two-tier benefit plan was designed to reduce the Agency's future OPEB obligations.

In 2010, CMSA established the CERBT with CalPERS to prefund our long-term OPEB obligations, and since then it has been funded by the Annual Required Contribution (ARC) amount from the Agency's GASB 45 OPEB Actuarial Evaluation Report. The funding wasn't required by Agency

policy, but rather approved by the Board with the annual budget. As mentioned above, the CERBT account has approximately \$2.6 million.

Marin's Civil Grand Jury issued a report entitled "Marin's Retirement Health Care Benefits: The Money Isn't There" on May 17, 2017. CMSA responded to several of the report's recommendations, one of which was to adopt an OPEB funding policy or amend an existing financial policy to state that the annual ARC will be fully funded. In December 2017, the Board approved a revised Annual Budget Financial Policy to state the Agency will annually fund the ADC based on GASB 75 Valuation Report.

Beginning fiscal year 2018, GASB 75 replaced GASB 45, North Bay Pensions prepared the Agency's first GASB 75 OPEB Valuation Report in early 2018, and staff presented it to the Board in April 2018. Two significant changes in GASB 75 are the requirement to report all OPEB liabilities in the Agency's financial statement and the calculation to determine the ADC has no relationship to the GASB 45 ARC calculation. CMSA's FY 18 Audited Financial Statements comply with GASB 75.

During discussion of the FY 19 budget with the Board and its Finance Committee, staff reported that the ADC is approximately half the amount of the ARC, the FY 19 budget includes the ADC funding amount for the CERBT per the Annual Budget Financial Policy, and that staff will evaluate CERBT funding options in the future and prepare a funding recommendation for Board review and consideration.

Attachment:

- OPEB Plan Funding Worksheet

CENTRAL MARIN SANITATION AGENCY
OPEB PLAN FUNDING WORKSHEET

Years	Balance @ BOY	ADC Contribution	Subtotal	Interest @ 7%	Est Retiree Medical Cost	Balance @ EOY	Est Retiree Growth Factor 4.0%
1	\$ 2,600,000	\$ 50,000	\$ 2,650,000	\$ 185,500	\$ -	\$ 2,835,500	210,997
2	2,835,500	50,000	2,885,500	201,985	-	3,087,485	219,437
3	3,087,485	50,000	3,137,485	219,624	-	3,357,109	228,214
4	3,357,109	50,000	3,407,109	238,498	-	3,645,607	237,343
5	3,645,607	50,000	3,695,607	258,692	-	3,954,299	246,837
6	3,954,299		3,954,299	276,801	256,710	3,974,390	256,710
7	3,974,390		3,974,390	278,207	266,979	3,985,619	266,979
8	3,985,619		3,985,619	278,993	277,658	3,986,954	277,658
9	3,986,954		3,986,954	279,087	288,764	3,977,277	288,764
10	3,977,277		3,977,277	278,409	300,315	3,955,372	300,315
11	3,955,372		3,955,372	276,876	312,327	3,919,921	312,327
12	3,919,921		3,919,921	274,394	324,820	3,869,495	324,820
13	3,869,495		3,869,495	270,865	337,813	3,802,547	337,813
14	3,802,547		3,802,547	266,178	351,326	3,717,400	351,326
15	3,717,400		3,717,400	260,218	365,379	3,612,239	365,379
16	3,612,239		3,612,239	252,857	379,994	3,485,102	379,994
17	3,485,102		3,485,102	243,957	395,193	3,333,866	395,193
18	3,333,866		3,333,866	233,371	411,001	3,156,235	411,001
19	3,156,235		3,156,235	220,936	427,441	2,949,731	427,441
20	2,949,731		2,949,731	206,481	444,539	2,711,673	444,539

Note 1: Existing retirees rates drop approximately 60% at age 65

Note 2: New retirees pay full single-person premium for 10 yrs from age 55 to age 65

Note 3: Per actuary, benefits will tail off in 20 years

Note 4: CMSA has approximately \$2.6M OPEB funding as of 2/28/19 in the PERS CERBT account. The total OPEB obligation is approximately \$5.2M as of the Jan 1, 2018 actuarial report. Assuming a \$50K annual funding payment for 5 years and a 7% rate of return, CMSA will fund the plan to approximately \$3.9M in five years and then begin making payments from the plan through year 20 that will leave a balance estimated at \$2.7M to bring the balance down to its tier 2 long run obligation.



BOARD MEMORANDUM

March 8, 2019

To: CMSA Commissioners and Alternates
From: Kenneth Spray, Administrative Services Manager
Approved: Jason Dow, General Manager
Subject: **Self-Insuring the Agency's Dental Benefits**

Recommendation: Consider the Agency's self-insured dental benefits proposal, and provide comments and/or direction to the General Manager.

Summary: The Agency currently has a two-tiered dental plan in place for a \$2,000 per year annual benefit. The first \$1,000 is fully insured through Delta Dental and the second \$1,000 is self-insured using in-house administrative support for claim review and reimbursement. It has come to our attention that a fully self-insured dental plan could be implemented at the Agency that would provide substantial cost savings, ensure compliance with the Health Insurance Privacy and Portability Act (HIPPA), benefit the employee and employer, and provide greater control, flexibility, and transparency.

Fiscal Impact: For FY 19, the Agency budgeted \$123,000 for dental benefits that includes the estimated Delta Dental insurance premium and an allowance for the in-house dental reimbursement benefit. If the Agency self-insures the dental benefit, at a projected annual cost of \$42,850, the cost savings could be up to \$80,000 per year, depending on the actual cost of employee and dependent dental claims.

Discussion: Staff has been working with an outside consultant, Shepard & Associates, to craft a possible self-insured dental plan to replace the Agency's two-tiered hybrid plan. The Agency currently fully insures tier 1 of its dental benefits through Delta Dental for the first \$1,000 of coverage, and self-insures the second \$1,000 in-house for a total annual benefit to employees and dependents of \$2,000 each. The Agency currently has 92 employees and dependents and pays an annual premium to Delta Dental of approximately \$92,000. The Agency has spent approximately \$12,000 in total for tier 2 benefits for each of the two prior years, spending a total of approximately \$104,000 annually on dental benefits.

For administration of tier 2 benefits, the employee brings in the receipt when dental procedure costs exceed the \$1,000 Delta limit. Staff reviews the dental procedures provided on the dental statement, and prepares a reimbursement to the employee. This practice is technically out of compliance with HIPPA confidentiality requirements and should be corrected. The two-tier

dental program methodology has been in place since the early 1990s. At that time, there was concern about the excessive cost of a fully insured \$2,000 annual benefit, so the Board approved the current two-tiered system to reduce the annual benefit cost.

Staff proposes that we self-insure dental benefits, generally mirroring the Delta program, using a third-party administrator (TPA) in a PPO type structure for claims management and adjudication. The TPA will provide all employees with a dental card to give to their dentist, or any dentist they choose to use in the future. There is no network, so there are no in-network / out-of-network issues. After a dental procedure, the employee's dentist bills the TPA, and the TPA pays them using a claims fund on deposit in trust with the TPA. The employee would pay any co-pay at the time of dental office visit. The proposed TPA is Employer Driven Insurance Services (EDIS).

Details about EDIS are as follows:

- EDIS has approximately 25 years' experience providing this service.
- Staff has received excellent references from long term clients of EDIS.
- Total annual fees to the TPA are quoted at \$9,600.
- Total annual estimated claims for 44 employees and dependents are \$33,250
- There is an estimated \$49,000 annual savings from self-insuring tier 1 dental claims versus the fully insured tier 1 plan with Delta.

Benefits to the employee of the proposed self-insured dental plan are as follows:

- Dental benefits are increased to \$2,500 annually per covered employee and beneficiaries.
- Orthodontics benefits are increased to \$1,500 from \$900.
- All other benefits remain the same as the Delta Dental plan, such as 100% for routine maintenance and 90% coverage with 10% co-pay for everything else.
- No network, choose any dentist including keeping one's current dentist
- No out-of-pocket expenses required except the co-pay where applicable
- Employee web portal for access to individual account

Benefits to the employer of the proposed self-insured dental plan are as follows:

- Substantial savings per year from the tier 1 Delta Dental plan
- Complies with HIPPA requirements
- Streamlines processes from a two-tiered plan into one plan
- Employer web portal for transparency and plan utilization for trends and forecasting
- Working with stable, experienced TPA for administrative services and claims adjudication

For due diligence, staff has contacted Delta Dental to see if they would make price concessions given the above. Their response was to offer a 5% reduction for a period of one year to begin at the time of renewal in December 2019. Delta Dental also confirmed that should the Agency

leave Delta and subsequently wish to return at a later date that the Agency would be rated as a new customer to Delta Dental. The 5% reduction is negligible and Delta's price is excessive given that there is no benefit of insurance to the Agency. The Agency is paying \$92,000 for 92 employees and their dependents to each receive a \$1,000 per year dental benefit. The Agency is fully paying the annual benefit to Delta whether used or not and there is no assumption of risk on the part of Delta. For these reasons and the benefits of the self-insured plan described above, staff proposes to change from the current hybrid plan to a comprehensive self-insured plan with EDIS as the administrator.

Next Steps: Next steps should we proceed:

- Inform employees about a potential change in dental benefits provider.
- Prepare the draft dental benefits sheet that once final will be provided as a reference.
- Meet and confer with the union, SEIU Local 1021, on the proposed self-insurance plan.
- Ensure there are no dental procedures in process with employees that might be jeopardized by the change.
- Prepare a contract with EDIS for Board consideration of approval.
- Terminate with Delta either before the renewal date if allowed or at renewal. (The Delta contract does not specify a termination fee for termination prior to renewal)
- Provide training to staff on how to use EDIS and the employee / employer web portal.

Attachments:

1. EDIS Company flyer
2. EDIS Proposal – Schedule of Fees

E.D.I.S.

EMPLOYER DRIVEN INSURANCE SERVICES

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doing **quality** work,
produce a **quality** result



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 Level Funded Plans
 MEC Plans
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 Fully Insured EPO Dental Plans
 Fully Insured DHMO Dental
 Self Insured Dental Plans
 Self Insured Vision Plans
 Group Term Life
 Telemedicine
 YourBenPortal™
 Concierge Service™
 Online Quoting System
 Cigna PPO Network
 PHCS / MultiPlan PPO Network
 Multiple PBM Options
 Reference Based Pricing
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Central Marin Sanitation

Effective Date

12/01/18

Enrollment

				Total
Employee Only	10	x	1	10
Employee + 1	8	x	2	16
Employee + 2	22	x	3	66
<i>Total Employees:</i>	40			92

Current Plan

Delta Dental Premier

Annually

\$91,803.93

Proposed Plan

Administration Fee

(Includes: Utilization Review, Claims processing, Broker Fee, Member Services, Provider Relations, Reporting, Benefit determination & Authorization, CSRs)

\$20.00 per employee per month

\$9,600.00

Total Fixed Cost**\$9,600.00**

Self Funded Plan Design

Individual Deductible	\$0	Preventative	100%
Ortho	\$1,500	Basic	90%
Employers Max Cost per Exposure Unit	\$2,500	Major	90%
Employers Max Cost per Exposure Unit with Ortho	\$4,000		

Self Funded Claims Cost

Expected Claims Amounts

Level	% of Employees	Claimants	% of Max	Expected
High	10%	10	100%	\$25,000.00
Mod	20%	19	\$250	\$4,750.00
Low	30%	28	\$125	\$3,500.00

Annually

\$25,000.00

\$4,750.00

\$3,500.00

Expected Claims**\$33,250.00**

Risk Assessment Based on an Annual Basis

	Proposed	Current
Carrier premium	\$0.00	\$91,803.93
Administration Fee	\$9,600.00	\$0.00
Claims	\$33,250.00	\$0.00
Total	\$42,850.00	\$91,803.93
	\$48,953.93	

This proposal is for illustration purpose only. Results will vary based on utilization. CA Lic# 0E50593
 The following administrative fees will apply: One Time Start-Up Fee of \$250 , Annual Renewal Fee: \$100
 (waived if written with medical), Monthly Billing Fee: \$25

Central Marin Sanitation

Effective Date

12/01/18

Benefits

CLASS I PROCEDURES - PREVENTATIVE

Routine Exams - 2 per year
Full mouth X-rays - 1 set every 3 years
Prophylaxis - 2 per year
Flouride - 1 treatment per year for children under 16
Bitewings - 2 sets per year

Waiting Period **100%**
0 Months

CLASS II PROCEDURES - BASIC

Emergency treatment for relief of pain
Restorations (amalgam, composite)
Oral Surgery, Endodontics, Periodontics
Re-cementing or repair of bridges, crowns, or inlays

Waiting Period **90%**
0 Months

CLASS III PROCEDURES - MAJOR

Crowns and gold fillings
Other restorative services (inlays, inlays and other eligible services)
Bridges, Partial and Full Dentures

Waiting Period **90%**
0 Months

CLASS IV PROCEDURES - ORTHONDONTIA

Annual Lifetime Maximum Benefit per Person

Waiting Period **50% to \$1,500**
0 Months

CONTRACT YEAR MAXIMUM

For each employee and dependent

\$2,500

DEDUCTIBLE

Waived for Preventative

\$0
Yes



BOARD MEMORANDUM

March 8, 2019

To: CMSA Commissioners and Alternates

From: Jason Dow, General Manager

Subject: Draft San Quentin State Prison Wastewater Service Agreement

Recommendation: Review the draft San Quentin State Prison Wastewater Service Agreement, and provide comments or direction to the General Manager, as appropriate.

Summary: CMSA and the California Department of Corrections and Rehabilitation (CDCR) have a Wastewater Service Agreement for San Quentin State Prison (Agreement) that expires on June 30, 2019. Last fall, CDCR and CMSA staff began the process to revise and update the Agreement, with the most significant change being CMSA assuming responsibility to clean the San Quentin pump station's influent channel bar racks. CDCR and San Quentin staff have accepted the various revisions to the draft Agreement, and recently sent it to the CDCR's Office of Business Services for review. The draft Agreement's revised Exhibits are attached.

Discussion: CMSA began providing wastewater services to San Quentin State Prison on July 1, 2012, under an interim Agreement. In June 2014, the Board approved the current 5-year Agreement that is comprised of a State of California Agreement Form and Exhibits for the Scope of Work, Budget Detail and Payment Provisions, CDCR General Terms and Conditions, and Pump Station Maintenance Tasks. A summary of each Exhibit and its revisions is presented below.

Scope of Work (Exhibit A): The current Agreement's scope of work includes operating and maintaining the main San Quentin pump station and its forcemain, performing a comprehensive condition assessment of the pump station assets, providing corrective and preventative maintenance on the pump station equipment and systems, and treating and disposing of the prison property wastewater. The new draft Agreement's scope is nearly identical, and has the following few changes to note.

- San Quentin requested CMSA clean the influent channel bar racks between 6am and 10pm, due to a lack of prison resources. Prison staff will perform this task during the night hours. Historically, this work has been performed by low security inmates, but most of them have either been transferred to other prisons or work in the on-site volunteer fire department.

- The pump station condition assessment work was completed a couple years ago, and its findings were incorporated into a multi-year asset management program. That program has been reorganized based on priority work and the cost estimates were updated. Funding for its implementation is incorporated into the Agreement budget detail.
- CMSA is now authorized to publish San Quentin flow and maintenance work in Agency reports.

Budget Detail and Payment Provisions (Exhibit B): The Agreement's annual wastewater service fee is comprised of three components – wastewater treatment, capital debt service, and operation and maintenance of San Quentin's pump station. The annual service fee is the same as the current contract amount, and is set at not-to-exceed \$1.597 million. If CMSA determines the service fee will exceed that amount any year during the Agreement's term, CMSA and CDCR will amend the Agreement to ensure the annual service fee is adjusted accordingly.

For FY19, the total service fee is \$1.02 million. CMSA's wastewater treatment fee is \$522,405, and is based on San Quentin's measured wastewater flow and strength relative to the JPA member agencies' wastewater characteristics. Capital debt service was reduced from \$476,595 to \$382,193, by Board action, after the 2015 refinancing of the Agency's revenue bonds. Pump station operation and maintenance is \$111,570, and has escalated each fiscal year based on the SF Bay Area consumer price index. Revisions to the annual budget are noted below.

- Pump station operation and maintenance fee has increased to the not-to-exceed value of \$400,000, and includes funding for three new CMSA employees to perform hourly cleaning of the pump station bar screens per the revised scope of work.
- Each year there is an Extra Service Fee allowance that aligns with the attached 5-year asset maintenance repair and rehabilitation schedule.

General Terms and Conditions (Exhibit C): Based on the standard CDCR contract terms and conditions, and was modified during development of the current contract. Although some of the terms are not-applicable to the contractual relationship or wastewater services, CDCR has indicated they cannot be removed or revised.

Pump Station Maintenance Tasks (Exhibit D): Mechanical, electrical, and safety preventative and corrective maintenance activities are detailed in this exhibit. It was revised based on the prior five years of work experience and facility improvements. Revisions are not shown.

Attachments:

- 1) Exhibit A – Scope of Work
- 2) Exhibit B – Budget Detail and Payment Provisions
- 3) Exhibit C – General Terms and Conditions
- 4) Exhibit D – Pump Station Maintenance Tasks
- 5) 5-year Asset Management Repair and Rehabilitation Program

EXHIBIT A – SCOPE OF WORK**SAN QUENTIN STATE PRISON WASTEWATER SERVICE AGREEMENT**

Field Cod

BETWEEN**CENTRAL MARIN SANITATION AGENCY****AND****CALIFORNIA DEPARTMENT OF CORRECTIONS AND REHABILITATION**

This Agreement dated, 20142019, is entered into by and between the Central Marin Sanitation Agency (hereinafter referred to as CMSA), and the State of California Department of Corrections and Rehabilitation (hereinafter referred to as CDCR).

WHEREAS, the CDCR owns and operates the San Quentin State Prison (SQSP) located at 100 Main Street, San Quentin, California, 94964, which includes the San Quentin Wastewater Conveyance Systems (SQWCS) ~~that are connected to wastewater treatment facilities and systems owned and operated by CMSA;~~

WHEREAS, the CMSA owns and operates a regional wastewater treatment facility (WWTP) in San Rafael, adjacent to SQSP, that treats and processes the wastewater and biosolids from the residents, businesses, and institutions in Central Marin County;

WHEREAS, the CMSA currently provides ~~wastewater~~ treatment ~~of for the~~ wastewater discharged by SQSP and conveyed to the WWTP by the SQWCS, and operates and maintains the main San Quentin State Prison pump station, under ~~an interim~~ 2014 Wastewater Service Agreement;

WHEREAS, the CDCR and CMSA now desire to enter into a new multi-year Agreement under which CMSA will continue to maintain and operate the SQWCS' transport facilities (pump station) on behalf of CDCR to ensure the uninterrupted conveyance of SQSP wastewater to the CMSA WWTP for treatment and disposal; and

1. San Quentin Wastewater Conveyance System.

- A. The SQWCS, which is located on the grounds of the SQSP, consists of building laterals, gravity sewer lines, lift stations, force-mains, and a main pump station, which includes a wet well, influent channel screens, and channel grinders and augers.
- B. The SQWCS connects to the ~~Central Marin Sanitation Agency (CMSA)~~ regional treatment facilities and the marine outfall, via a 54" interceptor upstream of the 16" SQSP force main.

2. Scope of Service.

- A. *Monthly Services.* CMSA agrees to provide all labor, materials, equipment, services, expertise and licenses necessary to maintain and operate the main pump station and wet well, transport the wastewater to CMSA, and treat and dispose of the wastewater and biosolids.

1. *Scope of Pump Station Operations and Maintenance.* The operations and maintenance (O&M) shall include the furnishing of all labor, materials, equipment, services, expertise, and licenses necessary to maintain and operate the main pump station, and transport the wastewater to CMSA, for treatment and disposal of the wastewater. This includes all system components starting at the San Quentin State Prison pump station wet well through the pump station and the 16" force main connecting into the CMSA maintained 54" interceptor. ~~The~~ CMSA shall regularly perform comprehensive preventive and corrective maintenance on the pump station equipment and components as recommended by manufacturers or industry standards. The CDCR shall pay electrical costs for the operation of the systems and equipment on SQSP property.
2. *Treatment.* ~~The~~ CMSA shall safely transport the SQSP wastewater to ~~their~~ its treatment facility. ~~The~~ CMSA shall receive, process, and dispose of the wastewater and biosolids generated by the SQSP property in accordance with the requirements in its National Pollutant Discharge Elimination System permit issued by the San Francisco Bay Regional Water Quality Control Board. ~~The~~ CMSA will be responsible for complying with all federal, State, regional, and local wastewater and biosolids treatment and disposal monitoring, reporting, and other related regulatory requirements.
3. *Operations and Maintenance Specifications.* The specific monitoring and maintenance activities contemplated under A.1. above, are shown in Exhibit ED, which occasionally will be modified by ~~government regulation or~~ mutual agreement of CDCR and CMSA.
- ~~4.~~ *Emergency Services.* ~~The~~ CMSA shall respond to pump station alarms and other system emergencies 24 hours a day, seven days a week. ~~The~~ CMSA shall take all necessary actions to stabilize the emergency situation. The CDCR authorizes the CMSA to retain outside consultants and contractors, as needed, to respond to and address the emergency situation. The CDCR shall be immediately notified as to any critical or emergency events during normal business hours. ~~The~~ CMSA will notify CDCR within 24 hours, if after hours, on weekends or holidays. The emergency notification contact is the institutional Watch Commander, at (415) 455-5051.

The CDCR agrees to pay CMSA for all reasonable and verified costs associated with providing emergency services performed under this Agreement, including direct costs for contractors, consultants, equipment and material procurement, CMSA labor, and other related expenses in response to, stabilize, correct, and/or address an emergency situation at the SQSP pump station or for its 16" forcemain.

- ~~5.4.~~ *Replacement of Parts & Equipment.* The CMSA shall maintain all equipment, including regular replacement of lubricants and parts required for normal maintenance. This obligation shall not include replacement of equipment or parts due to sudden breakage or equipment failure, which shall be considered extra ~~work~~ services.

- B. *Extra Services.* ~~The~~ CMSA agrees to perform extra services reasonably preformed within staff expertise and resource availability.

1. ~~The~~ CMSA agrees to provide ~~time and material~~ cost estimates to CDCR for these extra services. The CDCR shall review the cost estimate and if approved, CDCR will issue a written notice to proceed.
2. Except in an emergency involving life, safety, violations of the NDPES permit, or response to a sanitary sewer overflow, CMSA shall only perform extra services upon written request and written confirmation of acceptance by CDCR of CMSA's written estimate of the charge for the extra service.
3. The CMSA agrees to provide an invoice to CDCR within ~~30-60~~ days of performance and completion of any approved or emergency extra ~~work~~services. ~~Such invoice shall be supported by copies of all invoices for materials and labor time records performed and charged.~~ ~~Where any requested extra service is expected to last longer than one month,~~ CMSA shall submit an Extra Services Invoice ~~progress billing with its monthly O&M maintenance charge for the portion of the extra~~ for the work performed during the month.

C. *Reporting Sewer Overflows.*

1. The CDCR shall be responsible for meeting the State Water Resources Control Board and San Francisco Bay Regional Water Quality Control Board's (RWQCB) sanitary sewer overflow (SSO) reporting requirements. The CMSA shall report any observed discharge incidents to CDCR as soon as practicably possible, but in no event later than 24 hours after the incident has been observed and/or addressed. The CMSA will verbally report overflows, if CDCR staff are unavailable, to the County of Marin Environmental Health Services, the Office of Emergency Services, and other required regulatory agencies to meet the two-hour notification requirement. The CMSA personnel shall follow SSO reporting procedures in the CMSA Emergency Response Plan (ERP). Follow-up reporting shall be done by CDCR.
2. At the CDCR's request and based on CMSA's staff availability, CMSA will assist with investigating the causes of the SSO, calculating the volume of sewage released from the collection system, and preparing written reports to the ~~RWQCB and~~ appropriate regulatory agencies as needed. Investigation efforts by CMSA will be considered extra ~~work~~ services for the purposes of compensation provisions under this Agreement.

D. *Reports and Documents of Services.*

1. ~~The~~ CMSA shall maintain and provide access or copies, upon request, to all regulatory documents, annual operations and capital budgets, 10-year capital improvement plans and financial forecasts, and other operational, regulatory, and financial documents concerning the O&M services provided under this Agreement. ~~The~~ CMSA, upon request, will provide copies of its audited financial statements and comprehensive annual financial reports.
2. ~~During the first 12 months of this Agreement, CMSA shall hire an engineering consultant to conduct a full condition assessment of the pump station's structural, mechanical and electrical systems, including the emergency generator, and to identify automatic mechanical systems to replace the influent channel screens.~~

~~CMSA shall use the assessment findings to prepare a draft multi-year Capital Improvement Plan (CIP) for CDCR review. The assessment work will be considered extra work for the purposes of compensation provisions under this Agreement. (completed)~~

~~2.3.~~ The CMSA shall, whenever possible, provide CDCR notice and estimates of cost to repair or replace equipment as soon as CMSA observes conditions of equipment indicating likely near term failure or breakdown of equipment.

~~3.4.~~ The CMSA shall participate in required government agency inspections.

~~4.5.~~ The CMSA will prepare a monthly wastewater service report for CDCR ~~including~~ that includes the main pump station flow information and a brief summary of the completed-corrective and preventative maintenance activities.

E. *Compliance with Law.* ~~The~~ CMSA shall perform all services of this Agreement in strict accordance with all applicable Codes, Standards, Regulations, and Authorities having jurisdiction. The latest edition of the documents shall apply.

F. *Pump Station Screen ~~cleaning~~Cleaning.* ~~The SQSP staff will retain the responsibility of~~CMSA will perform the routine cleaning of the pump station influent channel screens upstream of the channel grinders between 6am and 10pm, including weekends and holidays. SQSP will be responsible for the screen cleaning between 10pm and 6am.

3. Term of Agreement.

A. *Original Term.* The term of this Agreement shall commence upon execution by CDCR and shall expire on June 30, ~~2019~~2024.

B. *Renewal Term.* This Agreement may be renewed one additional year by CDCR delivering to CMSA a renewal notice no later than 30 days prior to expiration of the term.

C. *Suspension.* Pursuant to a Governor's Executive Order or equivalent directive, such as a court order or an order from a federal or State regulatory agency, mandating the suspension of State contracts, the State may issue a Suspension of Work Notice. The Suspension of Work Notice shall identify the specific Executive Order or directive and the Agreement number(s) subject to suspension. Unless specifically stated otherwise, all performance under the Agreement(s) must stop immediately upon receipt of the Suspension of Work Notice. During the period of contract suspension, CMSA is not entitled to any payment for the suspended work. Once the order suspending State contracts has been lifted, a formal letter from the CDCR will be issued to the CMSA to resume work.

D. *Termination Prior to Expiration.* The CDCR or CMSA may terminate this Agreement by 90 day written notice to either party.

E. *Continued Wastewater Treatment.* In the event either party terminates this contract, CMSA as the regional WWTP, a sole source provider, will continue to receive and treat the San Quentin State Prison property's wastewater and biosolids, and CDCR will compensate CMSA for those services at a fair and equitable negotiated service fee.

4. Access to Site to Perform Services.

- A. The CDCR shall provide CMSA access to the SQWCS through the west main facility gate unless otherwise approved by CDCR. ~~The~~ CMSA agrees to comply with all SQSP security regulations pertaining to visitor and outside contractor access, including security clearance for each individual seeking access to the service area. The CMSA agrees to screen employees for security purposes and cooperate with the plant operations staff at SQSP ensuring safety and security of all inmates, staff, and visitors.
- B. ~~The~~ CMSA or its authorized agents will comply with all CDCR rules and regulations. No article or material considered as contraband shall be brought on said real property. Contraband includes, but is not limited to, alcoholic beverages, narcotics, the possession and use of firearms, explosives or edged weapons and restricted controlled substances. Any willful violation of said rules and regulations are grounds for immediate termination of this Agreement, and could result in arrest and criminal prosecution.
- C. All of CMSA officers, employees, agents and contractors allowed by the Agreement within SQSP shall be prohibited from wearing denim jeans, blue chambray work shirts, orange vests, and any other articles of clothing disallowed by the authorities in charge.
- D. ~~The~~ CMSA agrees to confine its operations and maintenance activities within the limits of designated service areas unless otherwise approved in advance.
- E. ~~The~~ CMSA agrees to confine all material storage and employee parking within designated areas unless otherwise directed by the CDCR, and submit to all reasonable security measures including inspections and searches as deemed necessary for the security of the facility, inmates, and staff.
- F. ~~The~~ CMSA is solely responsible for any loss due to theft of tools, equipment, or materials left or stored in the service area. The CMSA agrees to remove all tools, materials, and equipment from the service area when not in use, and to maintain the service area broom clean.
- G. ~~The~~ CMSA is solely responsible for the health and safety of its employees while working in the service area and on the SQSP grounds.
- H. ~~The~~ CMSA shall provide and maintain adequate protection measures to prevent damage to institution/prison property in the course of its performance of this Agreement.
- I. The CMSA shall provide and maintain adequate worksite safety equipment, such as fire extinguishers, air monitoring systems, and eye wash stations, ~~safety kits~~, to be used in the event of an emergency, and will provide and maintain personal protective equipment at the main pump station.
- J. ~~The~~ CMSA is authorized to utilize laptops and tablets during performance of the contract O&M —activities as the work area is confined to locations outside the main prison secure perimeter. The California Penal Code Section 4576 prohibits the possession and/or use of cellular phones and/or wireless communication devices on the premises of the institution without express written authorization by the SQSP

Warden. ~~The~~CMSA shall submit a request for the use of these devices to the Correctional Plant Supervisor as part of the O&M work activities. The request shall include the make and model number of each device being brought on to SQSP property.

5. Continuation of Operations.

- A. The SQSP operates 24 hours a day, every day of the year. Except in an emergency which threatens the health and safety of persons or violation of the NDPEs permit, CMSA shall not cause any reduction or interruption of sanitary sewer transportation and treatment without the prior written consent of CDCR.
- B. In the event CMSA determines an interruption or reduction of ~~sanitary sewerwastewater~~ services is required for the maintenance or repair of the ~~SQWCS~~main pump station, ~~the~~CMSA shall consult with CDCR to schedule the work at a time consistent with the needs of the operations of the facility.
- C. In the event of a dispute over fees CMSA will continue to perform the work during the pendency of the dispute. If CMSA fails to perform after notice of dispute, CDCR shall have the right to contract with another entity.

6. Integrated Agreement.

This Agreement represents the entire integrated agreement of the parties as to the subject matter of this writing. This Agreement may be changed only by a written amendment signed by authorized representatives of both parties.

7. CMSA Staff.

- A. ~~The~~CMSA has been selected to perform the services of this Agreement because of the integration of the SQWCS with the CMSA wastewater treatment system and the special knowledge, skills, experience and expertise of key employees of CMSA in the operations of its system. ~~The~~CMSA shall prepare and submit to CDCR an organizational chart identifying key employees assigned to perform this Agreement, including their titles.
- B. ~~The~~CMSA shall designate a qualified, experienced senior employee satisfactory to CDCR as the Project Manager who shall, so long as performance continues to be acceptable to CDCR, remain in charge of the services provided under this Agreement over its duration.
- C. Prior to making any changes in the lead/key personnel associated with this Agreement, CMSA shall submit a written notification for such change to CDCR. The notification shall be made at least ten (10) calendar days prior to the proposed change and shall outline the reason for the personnel change and provide statements of qualifications of persons, which CMSA proposes for assignment to that position.

8. Independent Contractor Status.

- A. ~~The~~CMSA is an independent contractor. As such, and not as an agent of CDCR, and the CMSA shall, without additional expense to CDCR, be responsible for obtaining any

business and professional licenses and permits and for complying with any applicable Federal or State laws, codes and regulations, and municipal ordinances, as necessary for the prosecution of the services of this Agreement.

- B. ~~The~~ CMSA shall be similarly responsible for all damages to persons or property occurring as a result of CMSA or their authorized Agent's negligence to the extent caused by CMSA or their authorized Agent.
- C. ~~The~~ CMSA agrees, at no additional cost to CDCR, to join with and assist CDCR in defending any claim or action related to or arising out of CMSA's errors, omissions or negligence in the performance of this Agreement.

9. Burdens and Benefits of Agreement.

This Agreement shall be binding upon and inure to the benefit of all successors in interest to the parties of this Agreement.

10. Insurance.

- A. At all times during the term of this Agreement, CMSA shall keep and maintain policies of insurance providing coverage for general liability, workers compensation benefits, and automobile liability on CMSA employees or their authorized agents. Each insurance policy shall be endorsed to state that coverage shall not be canceled or modified except after thirty (30) days prior written notice to CDCR by the insurer. Notwithstanding such endorsement, CMSA shall provide similar notification directly to CDCR. Notice shall be by certified mail. The CMSA shall provide proof of said insurance and original endorsement to CDCR prior to the beginning of any work under this Agreement and shall further furnish an updated certificate of insurance to CDCR prior to expiration of the existing certificate.
- B. The certificates shall be issued by an admitted insurer as defined in the Insurance Code. Insurance shall be placed with insurers with a Bests' rating of no less than A: VII. This requirement may be waived in individual cases by CDCR provided however, in no event will a carrier with a Bests' rating below B: IX be acceptable. Failure to adhere strictly to these requirements shall result in the withholding of payment of CMSA's invoice(s) until such time as the aforementioned requirements are met. If CMSA fails to comply with the insurance provisions specified herein, CDCR reserves the right to terminate this Agreement. The cost of said insurance is an overhead cost included with the monthly O&M maintenance charge and shall not be separately billed to CDCR.
- C. General liability, automobile liability and workers compensation insurance coverage shall be provided with a limit of not less than one million dollars (\$1,000,000) per occurrence. The CDCR, its officials, employees and volunteers shall be covered as additional insured as respects: liability arising out of activities and/or services performed by or on behalf of CMSA at SQSP or in the operation of vehicles or equipment at or traveling to or from SQSP. Such coverage shall contain no special limitations on scope of the protection afforded CDCR, its officials, employees or volunteers.
- D. Where CMSA is liable to CDCR, CMSA's insurance coverage shall be primary insurance in respects to CDCR, its officials, employees and volunteers. Any insurance or self-

insurance maintained by CDCR its officials, employees and volunteers shall be excess of CMSA's insurance and shall not contribute with it.

11. No Waiver.

No waiver of any condition, requirement or right expressed in this Agreement shall be implied by any forbearance of CDCR to declare a default, failure to perform, or to take any other action on account of the violation of such condition if such violation be continued or repeated.

12. Compliance with Labor Laws.

~~The~~ CMSA agrees to comply with all labor laws relating to wages, hours, and working conditions of its employees, agents, and subcontractors who may perform services or provide labor in connection with this Agreement, including, but not limited to the requirement to pay its employees' wages not less than current California minimum wage, in accordance with Section 1182.11 of the California Labor Code. ~~The~~ CMSA agrees to defend, indemnify and hold CDCR harmless on all claims by government agencies or private parties for violations of such labor laws.

13. Hazardous Materials

~~The~~ CMSA agrees to comply with all laws regarding the handling, storage, and disposal of hazardous wastes in the performance of the services subject of this Agreement and to defend, indemnify and hold CDCR harmless on all claims by government agencies or private parties for violations of laws governing the use, storage, and disposal of hazardous wastes.

14. Warranties.

~~The~~ CMSA represents and warrants that all parts, pieces, and components of every kind installed, placed, positioned or connected to the SQWCS will be new or rehabilitated, and handled in conformance with all manufacturers' warranties. ~~The~~ CMSA agrees to repair or replace at its own expense, any part, piece, or component installed, either by CMSA or under its direction, which fails for any reason within the greater of one year or the term of the manufacturer's warranty for such item(s). This obligation shall survive the termination or expiration of this Agreement.

15. Conflicts of Interest.

~~The~~ CMSA, its directors/commissioners, officers, and employees, shall abide by the provisions of Government Code (GC) Sections 1090, 81000 et seq., 82000 et seq., 87100 et seq., and 87300 et seq., Public Contract Code (PCC) Sections 10335 et seq. and 10410 et seq., California Code of Regulations (CCR), Title 2, Section 18700 et seq. and Title 15, Section 3409, and the Department Operations Manual (DOM) Section 31100 et seq. regarding conflict of interest.

16. Confidentiality and Security.

A. ~~The~~ CMSA agrees to keep and maintain confidential all information that comes into its possession relating to the security measures employed by the SQSP for the security of its facility and protection of the safety of staff, visitors, and inmates.

-
- B. All financial, statistical, personal, technical and other data and information relating to State's operation, which are designated confidential by the State and made available to carry out this Agreement, or which become available to the CMSA in order to carry out this Agreement, shall be protected by CMSA from unauthorized use and disclosure.
 - C. If the methods and procedures employed by CMSA for the protection of its data and information are deemed by the State to be adequate for the protection of the State's confidential information, such methods and procedures may be used with the written consent of the State. ~~The~~ CMSA shall not be required under the provisions of this paragraph to keep confidential any data already ~~rightfully~~ in CMSA's possession that is independently developed by CMSA outside the scope of the contract or is rightfully obtained from third parties.
 - D. No reports, information, inventions, improvements, discoveries, or data obtained, repaired, assembled, or developed by CMSA pursuant to this contract shall be released, published, or made available to any person (except to the State) without prior written approval by CDCR. CMSA is authorized to publish the San Quentin State Prison flow information in its regular NPDES/Process Reports, and the completed San Quentin Pump Station maintenance work in its periodic Asset Management Program Reports. (current practice)
 - E. ~~The~~ CMSA agrees, by acceptance of this contract, that it is subject to all of the requirements of California Government Code Section 11019.9 and California Civil Code Sections 1798 et seq. regarding the collections, maintenance, and disclosure of personal and confidential information about individuals.

17. Employee Misconduct.

- A. At all times during the performance of this contract, it shall be the responsibility of the CMSA whenever there is an incident of use of force or allegation(s) of employee misconduct associated with and directly impacting inmate and/or parolee rights, to immediately notify the CDCR of the incident(s), to cause an investigation to be conducted, and to provide CDCR with all relevant information pertaining to the incident(s).
- B. To the extent the information provided by CMSA fails to so assure CDCR, CDCR may require any implicated CMSA staff be denied access to and the supervision of CDCR inmates and/or parolees at SQSP and access to inmate and/or parolee records.
- C. Notwithstanding the foregoing, and without waiving any obligation of CMSA, CDCR retains the power to conduct an independent investigation of any incident(s). Furthermore, it is the responsibility of CMSA to include the foregoing terms within any and all subcontracts, requiring that subcontractor(s) agree to the jurisdiction of CDCR to conduct an investigation of their facility and staff, including review of subcontractor employee personnel records, as a condition of the contract.

18. Financial Records.

~~The~~ CMSA agrees to maintain records of all labor, equipment, and materials supplied to and charged CDCR for the performance of this Agreement in accordance with generally accepted accounting practices. Such records shall be available at the CMSA office identified

in paragraph 21, below, to CDCR or its authorized representative during normal business hours. The CDCR, or any duly authorized representative, shall have access and the right to examine, copy, audit, excerpt and transcribe any books, documents, papers or records of CMSA, which, in the opinion of CDCR, may be related or pertinent to the Agreement. Such material must be retained for a period of three years after final payment in accordance with California Government Code Section 8546.7.

19. Enforcement by Arbitration.

All disputes arising under this Agreement shall be resolved by binding arbitration by the Office of Administrative Hearings located in Sacramento, CA, pursuant to Public Contract Code Sections 10240, et. Seq.

20. Employment and Ex-Offenders

A. ~~The~~ CMSA cannot and will not either directly, or on a subcontract basis, employ in connection with this Agreement:

1. Ex-offenders on active parole or probation, who have been on active parole or probation during the last three years preceding their employment;
2. Ex-offenders convicted of drug trafficking in a prison/jail; escape or aiding/abetting escape; battery on a peace officer or public official; arson offenses; or, any violations of Penal Code Sections 4570-4574 (Unauthorized Communications with Prisons and Prisoners Offenses);
3. Ex-offenders required to register as a sex offender pursuant to Penal Code Section 290 or if such ex-offender has an offense history involving a “violent felony” as defined in subparagraph (c) of Penal Code Section 667.5; or
4. Any ex-offender in a position which provides direct supervision of parolees, except in the following instances:
 - i. ~~The~~ CMSA shall only employ ex-offenders who can provide written evidence of having satisfactorily completed parole or probation, and who have remained off parole or probation, and have had no arrests or convictions within the past three years.
 - ii. ~~The~~ CMSA shall obtain prior written approval from the Chief of the Office of Substance Abuse Treatment Services (OSATS) to employ ex-offenders in a position providing direct supervision of inmates/parolees, and who have any conviction for any offense listed in Penal Code Section 667.5(c).
 - iii. An ex-offender whose assigned duties will involve administrative or policy decision-making, accounting procurement, cashiering, auditing, or any other business-related administrative function shall be fully bonded to cover any potential loss to the State or the CMSA. Evidence of such bond shall be supplied to the CDCR prior to the employment of the ex-offender.

B. Ex-offenders convicted of a Penal Code Section 12022.5 offense for use of a firearm, or for burglary, extortion, or robbery will not necessarily be precluded employment in the In-Prison Substance Abuse Programs (SAP), Substance Abuse Services Coordination

Agencies (SASCA), Female Offender Treatment and Employment Program (FOTEP), and the Parolee Services Networks (PSN). The Chief of OSATS shall review such ex-offenders on a case-by-case basis to determine whether or not the applicant will be approved for employment.

C. The criteria for approval or denial of security clearances for the CMSA are as follows:

1. ~~The~~ CMSA staff cannot currently be a felon or civil addict, on parole or probation or under any structured supervision as a result of criminal conduct.
2. Ex-offenders shall provide written evidence of successful completion of probation or parole.
3. Individuals required to register per Penal Code Section 290 are ineligible.
4. Individuals that fall under Health and Safety Code Section 11590 and/or Penal Code 457.1 shall (A) have completed their registration requirements, or (B) be reviewed on a case-by-case basis and approved by the Program Development Unit Parole Administrator.
5. Individuals with a conviction history involving a serious felony as defined by Penal Code 1192.7 shall be reviewed on a case-by-case basis and approved by the Program Development Unit Parole Administrator.
6. Individuals with a conviction history involving a violent felony, as defined by Penal Code Section 667.5, shall be reviewed on a case-by-case basis and approved by the Division of Adult Parole Operations Director.

21. Agreement Contacts:

A. *Official notices:* All official notices under the terms of this Agreement shall be addressed as follows:

CMSA Jason Dow, General Manager
Central Marin Sanitation Agency
1301 Andersen Drive
San Rafael, CA 94901

CDCR **Lewis Callahan, Regional Manager**
Facilities Asset Management Branch
9838 Old Placerville Road, Suite B
Sacramento, CA 95827

B. *Payment:* Invoices shall be mailed to the following location for payment:

CDCR Attn: **Mary Hersom**, AGPA
San Quentin State Prison
100 Main Street, San Quentin, CA 94964
Phone: 415-454-1460 ext 5122

C. *Site Access:* All entrance and or work notices related to “on-site operational activities” shall be provided to:

CDCR Andy Crump, Correctional Plant Supervisor
San Quentin State Prison
100 Main Street, San Quentin, CA 94964
Phone: 415-454-1460 ext 5219

EXHIBIT B - BUDGET DETAIL AND PAYMENT PROVISIONS

A. Fee for Base Monthly Services

1. CDCR agrees to pay, and CMSA agrees to accept, in compensation for the Monthly Wastewater Services the Not-to-Exceed (NTE) sum of \$133,178 per month / (\$1,598,145) per year, as shown in the service expense breakdown below.

Wastewater Treatment (1)	\$1,000,000	(\$815,000)
Wastewater Capital <u>Debt Service</u> (2)	\$ 476,595	(\$382,193)
Pump Station Maintenance (3)	\$ 121,550	(\$400,000)
Total	\$ 1,598,145	<u>1,597,193</u>

Notes:

- (1) CMSA's wastewater treatment fee is allocated based on each satellite collection agency's wastewater flow and strength. CMSA continuously measures the wastewater flow from San Quentin and the three other collection agencies, and routinely samples each agency's wastewater strength. The annual fee allocation is based on each agency's proportional flow and strength relative to CMSA's combined influent wastewater flow and strength. ~~In the first year of this agreement,~~ San Quentin's wastewater treatment fee ~~is \$, and~~ will be allocated each year based on the flow/strength methodology – if the annual fee exceeds the NTE limit of \$815K, CMSA and CDCR staff will amend this agreement to reflect the appropriate treatment fee.
- (2) The annual capital fee is a fixed amount of \$~~476,595~~382,193 (4005 EDUs x \$~~11995.43~~/EDU) for the duration of the Agreement.
- (3) Pump station maintenance expenses will be up to \$350,000 the first year of the agreement and adjusts per the San Francisco Bay Area annual CPI for each subsequent year of the Agreement, NTE \$~~121,550~~400,000.

Charges shall bear interest, and payments shall be made by CDCR for the ~~Monthly~~monthly Wastewater Services and Extra Services in accordance with Government Code Sections 927, et. Seq.

B. Fee for Extra Services

- ~~1. CMSA will perform the work shown in Exhibit F – Five Year CIP, and invoice CDCR for these projects during the course of their design and construction.~~

~~2.1.~~ CDCR ~~requested approved~~ Extra Services shall not exceed the ~~sum of ONE HUNDRED AND FIFTY THOUSAND AND NO/100 DOLLARS (\$150,000.00) each year of this agreement amount in the 5-year fee schedule below~~, for a total of \$~~750,000~~1,110,000 over the agreement's 5-year term.

C. 5-yr Fee Schedule

<u>Fiscal Year</u>	<u>Not to Exceed Amount (See "A" and "B" above)</u>
<u>2019-20</u>	<u>\$1,597,193.00</u>
<u>2020-21</u>	<u>\$1,597,193.00</u>
<u>2021-22</u>	<u>\$1,597,193.00</u>
<u>2022-23</u>	<u>\$1,597,193.00</u>
<u>2023-24</u>	<u>\$1,597,193.00</u>
<u>5-Yr Fee/Extra Services (as may be required)</u>	<u>\$1,100,000.00</u>
<u>Total 5-Yr Term</u>	<u>\$9,085,965</u>

D. Fee for Emergency Services

1. CDCR agrees to pay CMSA for all reasonable and verified costs associated with providing emergency services that were performed under this Agreement, including direct costs for contractors, consultants, equipment and material procurement, CMSA labor, and other related expenses to respond to, stabilize, correct, and/or address an emergency situation at the San Quentin pump station or for its 16" forcemain.

E. Budget Contingency Clause

1. It is mutually agreed that if the Budget Act of the current year and/or any subsequent years covered under this Agreement does not appropriate sufficient funds for the program, this Agreement shall be of no further force and effect. In this event, the State shall have no liability to pay any funds whatsoever to CMSA or to furnish any other considerations under this Agreement and CMSA shall not be obligated to perform any provisions of this Agreement.
2. If funding for any fiscal year is reduced or deleted by the Budget Act for purposes of this program, the State shall have the option to either cancel this Agreement with no liability occurring to the State, or offer an agreement amendment to CMSA to reflect the reduced amount.

GTC 610

EXHIBIT C- GENERAL TERMS AND CONDITIONS

1. **APPROVAL:** This Agreement is of no force or effect until signed by both parties and approved by the Department of General Services, if required. Contractor may not commence performance until such approval has been obtained.
2. **AMENDMENT:** No amendment or variation of the terms of this Agreement shall be valid unless made in writing, signed by the parties and approved as required. No oral understanding or Agreement not incorporated in the Agreement is binding on any of the parties.
3. **ASSIGNMENT:** This Agreement is not assignable by the Contractor, either in whole or in part, without the consent of the State in the form of a formal written amendment.
4. **AUDIT:** Contractor agrees that the awarding department, the Department of General Services, the Bureau of State Audits, or their designated representative shall have the right to review and to copy any records and supporting documentation pertaining to the performance of this Agreement. Contractor agrees to maintain such records for possible audit for a minimum of three (3) years after final payment, unless a longer period of records retention is stipulated. Contractor agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records. Further, Contractor agrees to include a similar right of the State to audit records and interview staff in any subcontract related to performance of this Agreement. (Gov. Code §8546.7, Pub. Contract Code §10115 et seq., CCR Title 2, Section 1896).
5. **INDEMNIFICATION:** CMSA and CDCR shall indemnify, defend, and hold the other harmless from any claims or liability arising out of or related to the functioning of either party pursuant to this agreement
6. **DISPUTES:** Contractor shall continue with the responsibilities under this Agreement during any dispute.
7. **TERMINATION FOR CAUSE:** The State may terminate this Agreement and be relieved of any payments should the Contractor fail to perform the requirements of this Agreement at the time and in the manner herein provided. In the event of such termination the State may proceed with the work in any manner deemed proper by the State. All costs to the State shall be deducted from any sum due the Contractor under this Agreement and the balance, if any, shall be paid to the Contractor upon demand.
8. **INDEPENDENT CONTRACTOR:** Contractor, and the agents and employees of Contractor, in the performance of this Agreement, shall act in an independent capacity and not as officers or employees or agents of the State.

9. NON-DISCRIMINATION CLAUSE: During the performance of this Agreement, Contractor and its subcontractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (e.g., cancer), age (over 40), marital status, and denial of family care leave. Contractor and subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Contractor and subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code §12990 (a-f) et seq.) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990 (a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this Agreement by reference and made a part hereof as if set forth in full. Contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other Agreement.

Contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the Agreement.

10. CERTIFICATION CLAUSES: The CONTRACTOR CERTIFICATION CLAUSES contained in the document CCC 307 are hereby incorporated by reference and made a part of this Agreement by this reference as if attached hereto.

11. TIMELINESS: Time is of the essence in this Agreement.

12. COMPENSATION: The consideration to be paid Contractor, as provided herein, shall be in compensation for all of Contractor's expenses incurred in the performance hereof, including travel, per diem, and taxes, unless otherwise expressly so provided.

13. GOVERNING LAW: This contract is governed by and shall be interpreted in accordance with the laws of the State of California.

14. ANTITRUST CLAIMS: The Contractor by signing this agreement hereby certifies that if these services or goods are obtained by means of a competitive bid, the Contractor shall comply with the requirements of the Government Codes Sections set out below.

a. The Government Code Chapter on Antitrust claims contains the following definitions:

1) "Public purchase" means a purchase by means of competitive bids of goods, services, or materials by the State or any of its political subdivisions or public agencies on whose behalf the Attorney General may bring an action pursuant to subdivision (c) of Section 16750 of the Business and Professions Code.

2) "Public purchasing body" means the State or the subdivision or agency making a public purchase. Government Code Section 4550.

b. In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder. Government Code Section 4552.

c. If an awarding body or public purchasing body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under this chapter, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery. Government Code Section 4553.

d. Upon demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under this part if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action. See Government Code Section 4554.

15. CHILD SUPPORT COMPLIANCE ACT: For any Agreement in excess of \$100,000, the contractor acknowledges in accordance with Public Contract Code 7110, that:

a. The contractor recognizes the importance of child and family support obligations and shall fully comply with all applicable state and federal laws relating to child and family support enforcement, including, but not limited to, disclosure of information and compliance with earnings assignment orders, as provided in Chapter 8 (commencing with section 5200) of Part 5 of Division 9 of the Family Code; and

b. The contractor, to the best of its knowledge is fully complying with the earnings assignment orders of all employees and is providing the names of all new employees to the New Hire Registry maintained by the California Employment Development Department-

16. UNENFORCEABLE PROVISION: In the event that any provision of this Agreement is unenforceable or held to be unenforceable, then the parties agree that all other provisions of this Agreement have force and effect and shall not be affected thereby.

17. SMALL BUSINESS PARTICIPATION AND DVBE PARTICIPATION REPORTING REQUIREMENTS

a. If for this Contract Contractor made a commitment to achieve small business participation, then Contractor must within 60 days of receiving final payment under this Contract (or within

such other time period as may be specified elsewhere in this Contract) report to the awarding department the actual percentage of small business participation that was achieved. (Govt. Code § 14841.)

b. If for this Contract Contractor made a commitment to achieve disabled veteran business enterprise (DVBE) participation, then Contractor must within 60 days of receiving final payment under this Contract (or within such other time period as may be specified elsewhere in this Contract) certify in a report to the awarding department: (1) the total amount the prime Contractor received under the Contract; (2) the name and address of the DVBE(s) that participated in the performance of the Contract; (3) the amount each DVBE received from the prime Contractor; (4) that all payments under the Contract have been made to the DVBE; and (5) the actual percentage of DVBE participation that was achieved. A person or entity that knowingly provides false information shall be subject to a civil penalty for each violation. (Mil. & Vets. Code § 999.5(d); Govt. Code § 14841.)

18 LOSS LEADER:

If this contract involves the furnishing of equipment, materials, or supplies then the following statement is incorporated: It is unlawful for any person engaged in business within this state to sell or use any article or product as a “loss leader” as defined in Section 17030 of the Business and Professions Code. (PCC 10344(e).)

EXHIBIT D - PUMP STATION MAINTENANCE TASKS

Mechanical Maintenance Tasks

1. Daily inspection shall be Monday through Friday, not including Agency holidays.
2. Daily verification that the facility's Air Handling system is in service.
3. Weekly - perform general housekeeping and debris removal. Perform spot painting as needed.
4. Monthly - test the wet well level control instruments for proper operation.
5. Monthly- test facility sump pumps.
6. Monthly - exercise all of the station's dry and wet side plug valves. Annually inspect and exercise the station's influent and effluent isolation gates.
7. Monthly - inspect facility fire extinguishers and eye wash stations.
8. Monthly - check/verify electrolyte levels in standby generator batteries.
9. Monthly - check the standby generator's fluid levels and verify diesel day tank level. Exercise the generator ~60 minutes/month, and log hours and specific reason for operation in Logbook. Test and ensure the system's switchgear is working as designed. Verify that the main diesel storage tank has >72 hours' worth of fuel at any given time.
Note: Tank fill requests are made through SQ Prison's Engineering Department.
10. Semi-annually - inspect auger brushes and replace as necessary.
11. Semi-Annually - inspect and clean air-release-valve (ARV) on the 16" forcemain at the West gate entrance to the prison.
12. Annually - isolate and remove station's conveyance pumps for cleaning, and for volute and impeller inspections, including verifying clearance and wear tolerances.
13. Annually - perform basic tune-up and maintenance on the facility's standby generator. This includes changing the engine's oil and oil filter, replacing the air and diesel fuel filters, replacing belts and hoses as needed, and testing the diesel day tank's manual priming pump to ensure it provides fuel as designed
14. During routine servicing of the pump station, if any deficiencies that cannot be immediately corrected will affect the station's ability for compliant operation, CMSA will report the situation to CDCR.
15. As needed, perform pump and check valve repairs.
16. During routine servicing of the station's wet well, degrease the well's walls and apply odor control measures, as needed.

Electrical, Instrumentation, Communication and Alarm System Tasks

1. Semi-annually - test all station alarms.
2. Annually - inspect, clean, and perform thermal imaging scans on the facility's motor controllers (MCC's) and all station control boxes.
3. Annually - inspect and clean the standby generator's switchgear components.
4. Annually - verify motor currents and/or megger motors and tighten electrical connections.
5. Annually - check non-sealed motor contacts and clean as needed.
6. Annually - calibrate facility pressure transducers and the four gas monitoring system.
7. Annually - zero the station's 16" effluent flow meter.
8. Annually - inspect the standby generator's back-up batteries charging system.
9. Maintain the facility level control systems.
10. Maintain the Supervisory Control and Data Acquisition (SCADA) system.
11. Maintain the radio telemetry communication system.
12. Perform necessary electrical and/or instrumentation repairs

Jobsite Hazard Inspection – Safety Equipment Inspections

1. Annually, perform a jobsite hazard analysis and prepare a report of findings for CDCR staff review.
2. Annually, verify that fire extinguisher certification testing is being performed.

**FY 20 - 24 San Quentin Pump Station
5-Year Asset Maintenance Repair and Rehabilitation Program
(CMSA GL 6600-001-06)**

Escalation Rate ¹ : 10.0%

Fiscal Year	Task	Task Description	Task Cost	Task Cost with Escalation	Budget by Fiscal Year
FY 19 (current)	Design pump station electrical and controls upgrades	Consultant will design necessary electrical improvements for the pump station in two phases: (1) Instrumentation/controls and MCC upgrades; (2) Generator and exhaust fan replacements. Consultant will also provide bid period assistance for Phase 1 work.	\$61,473	\$61,473	\$61,473
FY 20	Implement Phase 1 upgrade	Replace both MCCs and replace controls with a PLC-driven system and appropriate I/O, communications, and programming.	\$310,200	\$341,300	\$347,900
	Engineering services during construction (ESDC) for Phase 1 upgrade ²	Consultant will provide ESDC for Phase 1 work.	\$5,980	\$6,600	
FY 21	Implement Phase 2 upgrade	Replace existing generator (may trigger BAAQMD permit process and may have to be relocated outside of pump station) and supply/exhaust fans (five total).	\$208,200	\$252,000	\$261,100
	Bid assistance and ESDC for Phase 2 upgrade ²	Consultant will provide bid period assistance and ESDC for Phase 2 work.	\$7,488	\$9,100	
FY 22	Repair spalling concrete	Remove layer of concrete in vicinity of the spall, treat corroded rebar, and fill with non-shrink grout. Coat the equipment room roof slab.	\$17,700	\$23,600	\$38,300
	Rehabilitate settled pavement	Remove asphalt and 6-inch layer of subgrade along the west and south perimeters of the pump station building. Apply and compact aggregate base before reapplying a top layer of asphalt.	\$11,000	\$14,700	
FY 23	Rehabilitate wet well concrete	Rehabilitate and coat the concrete at the wet well invert and on the lower part of the walls. Seal cracks at failing locations.	\$56,400	\$82,600	\$153,000
	Rehabilitate wet well walkway	Replace toe boards along walkways. Repair spalled concrete around railing posts and at other locations.	\$18,000	\$26,400	
	Rehabilitate metallic appurtenances in wet well	Evaluate the pipe connecting the headworks and wet well. Repair or reline the pipe as needed. Repair or replace the drain piping within the wet well. Replace the electrical conduits within the wet well.	\$18,000	\$26,400	
	Rehabilitate metallic appurtenances in headworks chamber	Repair or replace the drain piping within the headworks. Replace the electrical conduits within the headworks.	\$12,000	\$17,600	
FY 24	Automate sluice gate	Replace gate with automated valve to allow remote control of gate position.	\$15,000	\$24,200	\$111,200
	Rehabilitate headworks chamber concrete	Repair locations of spalled concrete using a polymer-modified repair mortar. Coat the concrete in the bar screen channels.	\$54,000	\$87,000	

Total (FY 20-24) ³ : \$911,500

Previous Total (FY 20-24) ⁴ : \$750,000

¹ Projected annual escalation rate set at 10% (conservative rate based on extrapolating the 20% increase in construction costs from 2016 to 2018).

² Estimated consultant costs for bid and construction period assistance - subject to change as FY 19 project develops.

³ Total 5-year R&R increased due to shuffling of critical projects and escalation.

⁴ Previous budget was calculated at \$150,000 per year.



BOARD MEMORANDUM

March 8, 2019

To: CMSA Commissioners and Alternates

From: Jason Dow, General Manager

Subject: **New Institutional Utility Laborer Classification for San Quentin Pump Station Maintenance**

Recommendation: Review the draft CMSA job description, and provide any comments or direction to the General Manager, as appropriate.

Summary: Staff has prepared a draft Institutional Utility Laborer job description whose primary job responsibility is to clean the San Quentin pump station bar racks. This task was requested by the California Department of Corrections and Rehabilitation (CDCR) and has been incorporated into the draft 5-year San Quentin Wastewater Service Agreement (Agreement). Staff intends to provide the draft job description to SEIU for review and comment, and will bring the final job description to a future Board meeting for consideration of approval.

Discussion: The current Agreement expires on June 30, 2019, and over the past few months CMSA and CDCR have prepared a new draft Agreement. A service category in the Agreement is for the operation and maintenance the San Quentin Pump Station that transports the prison property's wastewater to CMSA through the Ross Valley Interceptor. The pump station is comprised of a headworks, wet well, pump room, electrical equipment room, and emergency generator system. Historically, low security inmates have been responsible for cleaning the wet well area and the influent channel bar racks, which catch large debris in the wastewater stream before it enters the wet well. At times, a significant amount of material is flushed into the prison sewer system requiring frequent cleaning of the two bar racks.

During the new Agreement discussion, San Quentin staff informed the Agency that the low security inmate population has been reduced, with most being transferred to other state prisons. The remaining few low-security inmates work for the on-site fire department. Due to the reduction of inmate resources and to avoid paying CDCR staff to clean the bar racks, CDCR requested CMSA consider providing that service through the Agreement. Staff has evaluated the resource needs to regularly visit the pump station throughout the day and keep the bar racks clean of debris, and determined it will require three new employees to perform the daily work from 6am – 10pm. San Quentin staff will clean the screens during the night time hours. This task and its funding have been incorporated into the new Agreement.

When the new employees are not working at San Quentin pump station, they will be assigned landscaping and custodial tasks at the Agency.

CDCR staff at San Quentin and the Asset Management Division in Sacramento have reviewed the draft Agreement, and have indicated their acceptance of the bar rack cleaning task and the resulting increase in the pump station maintenance fee. Over the next month, staff will share the draft job description with the SEIU Local 1021 field representative, make any agreed upon revisions, and then bring the final draft job description to the April Board meeting for consideration of approval. If approved, the Agency will conduct a focused local recruitment for the three positions. Hiring of the new employees will not occur until the Agreement is approved by CDCR and the Board.

Fiscal Impact: None. The hourly pay rate for the Institutional Utility Laborer classification is \$23.99 - \$29.16/hour, and the annual salary and benefit expense for the three new positions is between \$217,000 - \$273,000. Staff has included the top end of the compensation range in the Agreement.

Attachment:

- Institutional Utility Laborer Job Description



CENTRAL MARIN SANITATION AGENCY

1301 Andersen Drive | San Rafael, CA 94901 | 415.459.1455 | FAX: 415.459.3971

INSTITUTIONAL UTILITY LABORER

SUMMARY

Under general supervision by the Lead Mechanical Worker, performs a variety of general tasks at the San Quentin Prison pump station and grounds, and performs other related duties at the Central Marin Sanitation Agency (CMSA) as required.

The position is a full-time temporary hire (limited or specified duration) position with benefits. Institutional Utility Laborers are hired specifically to comply with service requirements in the San Quentin State Prison Wastewater Service Agreement between the California Department of Corrections (CDCR) and CMSA. This agreement is anticipated to last for a term of five years, and possibly longer.

ESSENTIAL DUTIES AND RESPONSIBILITIES

Duties may include, but are not limited to, the following:

- Cleans and removes screenings/debris around San Quentin pump station equipment, buildings, and grounds; consolidates and loads refuse into dumpsters for removal.
- Cleans structures, floors, and walkways by hosing, sweeping, pressure washing, mopping, and vacuuming.
- Performs general pump station housekeeping, and maintains supplies, tools, and material inventories.
- Performs painting or minor coating work on equipment, piping, buildings, and structures.
- Cleans bathrooms and replaces needed supplies; empties trash cans and waste baskets, and removes debris and trash for interior and exterior areas.
- Reads and applies instructions regarding the use of various cleaning products and equipment.
- Maintains basic records and files of work performed and materials and supplies used.
- Cleans and dusts walls, counters, desks, furniture and equipment; moves materials to the recycling bin and prepares it for pickup.
- Drives Agency vehicles to deliver and pick-up materials and supplies; washes and cleans Agency vehicles; fuels vehicles as requested.
- Assists Agency staff in the performance of their duties, as directed.
- Maintains the appearance of landscaping by trimming and removing trees and shrubs, pulling weeds, mowing lawns, and removing debris.
- Operates a variety of hand and power tools related to the work; uses all required safety equipment.
- Observes appropriate safety procedures, including wearing appropriate personal protective equipment.
- Reports unsafe conditions or the need for facility or equipment maintenance or repair.
- Attends training and safety sessions as assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

Education and Experience

High school diploma, general education degree (GED), or equivalent is desirable. Some custodial and/or landscaping experience and familiarity with painting is also desirable.

Interpersonal Skills

Ability to interact with others (co-workers, supervisors, subordinates, vendors, member agencies, and the general public) in a professional manner; to accept constructive criticism from supervisors, equals, and subordinates; to work as a team member or independently as needed; to prioritize assignments and meet deadlines; to arrive at work as scheduled and to work the shift hours as scheduled.

Language Skills

Ability to read and comprehend simple instructions, short correspondence, and memos in English. Ability to write simple correspondence in English. Ability to effectively present information in one-on-one and small group situations to customers, clients, and other employees of the organization.

Mathematical Skills

Ability to add and subtract two digit numbers and to multiply and divide with 10's and 200's. Ability to perform these operations using units of U.S. currency, weight measurements, volumes, and distance.

Reasoning Ability

Ability to apply common sense understanding to carry out detailed but uninvolved written or oral instructions. Ability to deal with problems involving a few concrete variables in standardized situations.

LICENSE AND CERTIFICATES

Must possess a valid California Class C driver's license, have a satisfactory driving record and continue to meet CSRMA driving standards. Failure to maintain these standards may result in loss of employment.

PHYSICAL DEMAND ASSESSMENT

Mobility to work in an institutional setting; strength and stamina to perform custodial, landscaping, and other manual work; ability to climb and descend ladders; vision to read printed materials; and hearing and speech to converse in person and over a radio or telephone.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle or feel, reach with hands and arms, and talk or hear in person or on the telephone or radio. Hearing is frequently required for equipment operation analysis. The employee frequently is required to stand, walk, sit, and climb, or balance and stoop, kneel, crouch, or crawl. The employee is occasionally required to smell, using odors to determine process or equipment problems. The employee must regularly lift and/or move up to ten pounds, frequently lift and/or move up to 25 pounds, occasionally be required to lift and/or

move up to 50 pounds, and rarely be required to safely lift and/or move furniture or similar items up to 100 pounds.

Specific vision ability required by this job includes close vision, distance vision, peripheral vision, depth perception, and ability to adjust focus.

Examples of the physical demands for this position, including their activity and duration, are available from Administration.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those that an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee is frequently exposed to wet and/or humid conditions, to moving mechanical parts, fumes or airborne particles, and outdoor weather conditions. The employee is occasionally exposed to high, precarious places; toxic or caustic chemicals; construction project site conditions; extreme heat; risk of electric shock; and vibration. The noise level in the work environment is usually moderate with occasional exposure to loud equipment.

Required to be available to work overtime and off-shift hours, including weekends and holidays.

SPECIAL REQUIREMENTS

Employee must be able to successfully pass an initial background verification test following receipt of a conditional offer of employment, and also pass such a test annually thereafter, as administered by the California Department of Corrections. Failure to pass the contractually-required background verification test will result in the loss of employment.

RIGHT TO WORK DOCUMENTATION

Before being hired, all new employees will be required to show documentation as proof of authorization to work in the United States.

Job Title: Institutional Utility Laborer
Department: Maintenance
Reports To: Maintenance Lead Worker
FLSA Status: Non-Exempt
Revised Date: March 2019



BOARD MEMORANDUM

March 8, 2019

To: CMSA Commissioners and Alternates

From: Kate Brouillet, Administrative Assistant

Approved: Jason Dow, General Manager

Subject: March Informational Item

Please see attached item for review and/or discussion.

- Letter dated January 28, 2019 to Anna Gallagher, California Regional Water Quality Control Board
Re: Monthly Self-Monitoring Report (SMR) – January 2019



CENTRAL MARIN SANITATION AGENCY

Jason R. Dow P.E.
General Manager

1301 Andersen Drive, San Rafael, CA 94901-5339

Phone (415) 459-1455

Fax (415) 459-3971

www.cmsa.us

February 28, 2019

California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Attention: Anna Gallagher

Subject: **Monthly Self-Monitoring Report (SMR) – January 2019**

The January 2019 monthly self-monitoring report for the Central Marin Sanitation Agency (CMSA) treatment plant has been submitted using the eSMR /California Integrated Water Quality System (CIWQS). This SMR conforms to CMSA's NPDES Permit, Order #R2-2018-003.

Violations

There are no reportable NPDES Permit violations for this reporting period.

Blending Events

The CMSA treatment facility did exceed the maximum secondary capacity of 30 MGD, resulting in six blend events in January. Analytical data pertaining to these blend events are below and are included within the eSMR CIWQS data submittal.

Sampling Date	Final Effluent Blend (EFF-001b/EFF-002b)															
	Flow Daily AVG	Blending Volume	Blending Start Time	Blending End Time	TSS	CBOD	Blending pH Min	Blending pH Max	Enterococcus	Enterococcus Geomean	Total Coliform	Total Coliform Geomean	NH ₃	Copper	Cyanide, total	Chlorine, Total Residual (Daily Max)
	MGD	MGD	-	-	mg/L	mg/L	SU	SU	MPN per 100mL	MPN per 100mL	MPN per 100mL	MPN per 100mL	mg/L	ug/L	ug/L	mg/L
1/6/19	40.26	10.19	1245		43		6.3	7.0	2,420		3					ND
1/7/19	30.84	12.08		1555	13	13.0	6.3	6.8	1.4		ND					ND
1/15/19	21.66	3.55	1755		10	10.0	6.6	7.0	ND		ND					ND
1/16/19	44.33	9.84			12	17.0	6.4	6.7	2.5		ND		8.1	5.8	ND	ND
1/17/19	40.29	13.42			10		6.3	6.6	1.4		ND					ND
1/18/19	24.76	0.08		940	2		6.6	6.8	4.4	5.6	ND	1.7				ND

Data Validation

All regulatory daily, weekly, and monthly quality control calibrations/checks conducted during the month of January met established quality assurance acceptance criteria, except those indicated below.

If there are any questions please contact me at (415) 459-1455, extension 101. Quality assurance data are available for all test results cited in this report. Values reported are measured values and each are subject to analytical variability. CMSA reserves the right to question data in an enforcement proceeding.

I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations (40 CFR 122.22(d)).



Loren C. Finton
Treatment Plant Manager