



Central Marin Sanitation Agency

**COMMISSION REGULAR MEETING AGENDA
Tuesday, February 11, 2020
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**

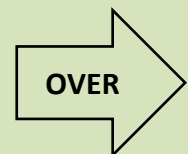
3. **Open Period for Public Participation**

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, but Board members may briefly respond to statements made or questions proposed by the public, ask for clarification from staff, refer the matter to staff, or request staff to report back to the body at a subsequent meeting concerning any matter, or take action to direct staff to place a matter of business on a future agenda.

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—January 14, 2020
- b) Treasurer's Report—Operating Account—January 2020
- c) Schedule of Investments and its Capital Reserve Summary—January 2020
- d) NPDES, Process, and Maintenance Report—January 2020
- e) Performance Metric Report—January 2020
- f) FY20 Second Quarter Budget Status Report



5. **Organic Waste Pilot Project with South Bayside Waste Management Agency**
Recommendation: Approve the Agency's participation in an organic waste pilot project with the South Bayside Waste Management Authority, and authorize the General Manager to sign the Memorandum of Understanding.
6. **Pilot Digester Study Status Report**
Recommendation: Receive the status report on the pilot digester study, and provide direction to the General Manager, as appropriate.
7. **Process Piping Inspection Project – Professional Services Agreement**
Recommendation: Authorize the General Manager to sign a Professional Services Agreement for the Process Piping Inspection Project with either V&A or JDH Corrosion, depending on their final proposal cost.
8. **Procurement of Turntable Drives for the Secondary Clarifiers Rehabilitation Project**
Recommendation: Authorize the purchase of three secondary clarifier turntable drive units from DBS Manufacturing, not to exceed \$95,400, excluding taxes.
9. **2019 California Water Environment Association Awards – Redwood Empire Section**
Recommendation: Adopt the Resolution of Appreciation (No. 342) to Agency staff for receiving the 2019 awards from the Redwood Empire Section of the California Water Environment Association.
10. **Draft Resolution of Appreciation for Jack Govi**
Recommendation: Review the draft CMSA Resolution No. 341, A Resolution of Appreciation for Jack Govi, and provide any suggested revisions to the General Manager.
11. **February Informational Items**
Recommendation: Informational; provide comments or direction to the General Manager as appropriate.
12. **North Bay Watershed Association (NBWA) Report***
13. **Oral Reports by Commissioners/General Manager***
14. **Next Scheduled Meeting**
Note Special Meeting: Thursday, March 12, 2020 at 7:00 p.m. at the Agency office.

*Information not furnished with Agenda

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



Central Marin Sanitation Agency

COMMISSION REGULAR MEETING MINUTES
Tuesday, January 14, 2020
at the Agency Office

Note: The minutes are an official record of the Board meeting.

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

1. Call Meeting to Order/Pledge of Allegiance

Chair DiGiovanni called the meeting to order at 7:00 p.m. A quorum was present.

2. Roll Call

00:00:15

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

Absent: None

Staff present: Jason Dow, General Manager; Chris Finton, Treatment Plant Manager; and Kate Brouillet, Recording Secretary

Public present: None

3. Open Period for Public Participation

00:00:37

There were no members of the public present.

4. Consent Calendar

00:00:49

- a) Minutes—Regular Board Meeting—December 10, 2019
- b) Treasurer's Report—Operating Account—December 2019
- c) Schedule of Investments and its Capital Reserve Summary—December 2019
- d) NPDES, Process, and Maintenance Report—December 2019
- e) Performance Metric Report—December 2019
- f) FY20 Asset Management Program 2nd Quarter Report
- g) FY20 Sodium Bisulfite Supply Contract – Amendment No. 1

GM Dow referred to his handout showing a reprint of the graphs in item 4d, and said that the comments on the graphs were not shown on the copies in the agenda packet, and these pages are replacements. He said the copier problem has been identified and future reports will include the comments.

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, with the correction to item 4d; second, Commissioner Beckman.

VOTE: The vote was passed unanimously.

ABSTAIN: None

5. 2019 Performance Metric Report

00:02:24

GM Dow said that during the past year the Agency's staff and business operations continued to perform at a high level. He referred to his staff memo and reviewed the highlights, including Agency eligibility to receive a NACWA Gold Peak Performance Award; increases in staff training hours; level of wastewater treated; increases in laboratory analyses and field inspections by Environmental Services staff; increase in public education activities; and award recognition from regional, state, and national industry associations.

The Board briefly discussed the report and asked a few questions regarding the Agency's biogas production; and commended staff for the overall good performance and the low overtime rate.

GM Dow responded to the Board's questions.

Comments from the Public:

There were no members of the public present.

ACTION: Commissioner Beckman moved to accept the Agency's 2019 Performance Metric Report; second, Commissioner Boorstein.

VOTE: The vote was passed unanimously.

ABSTAIN: None

6. Administrative Specialist Series Job Description

00:08:40

GM Dow reviewed the Agency's updates to various job descriptions over the past year and said the Administrative Assistant position has gradually grown from its original job functions to encompass more skilled and technical tasks. He said to address succession planning and future recruiting for this position, staff proposes to retitle the position to Administrative Specialist and create three levels for job development and growth, each with specific job functions and a two-step compensation range. GM Dow described the job functions and compensation ranges for the three levels.

The Board briefly discussed the job description and asked a few questions, including the future fiscal impact.

GM Dow responded to the Board's questions and said that the 5% compensation increase for the last step was not included in the FY19-20 budget but can be absorbed in the Administration department budget.

Comments from the Public:

There were no members of the public present.

ACTION: Commissioner Boorstein moved to approve the Administrative Specialist Series job description and its compensation ranges, Alternate Commissioner Hillmer.

VOTE: The vote was passed unanimously.

ABSTAIN: None

7. Biosolids Land Application Agreement with Synagro

00:15:43

GM Dow reviewed the Agency's current biosolids disposal management practices. He said that CMSA's 2014 contract with Synagro West, LLC (Synagro) for land application of biosolids during the dry weather season expired on December 31, 2019. He said that staff has negotiated a new 2-year Biosolids Land Application Agreement with similar terms to the 2014 Agreement. He said the key new provisions include removing Synagro's Sonoma County land application site, increasing the disposal fee to \$27.50 per wet ton at Synagro's Solano County land application site due to higher market prices and regulatory compliance costs, and removing the requirement of one annual truck load delivery to Synagro's Central Valley Composting (CVC) Facility. GM Dow said that staff recommends that the Board approve the agreement, pending a review by Synagro's legal counsel. He said that if substantive comments are received from Synagro, then staff would bring this item back to the Board.

The Board briefly discussed the agreement and asked a few questions.

GM Dow responded to the Board's questions.

Comments from the Public:

There were no members of the public present.

ACTION: Commissioner Kelly moved to approve the new 2-year Biosolids Land Application Agreement with Synagro West, and authorize the General Manager to execute the Agreement, unless substantive comments are received from Synagro's legal counsel, at which time staff would bring this item back to the Board; second, Commissioner Boorstein.

VOTE: The vote was passed unanimously.

ABSTAIN: None

8. Primary Sludge Tipping Fee Alternatives

00:21:27

GM Dow said that over the past year, Sausalito Marin City Sanitary District (SMCSD) and Agency staff have discussed the feasibility of SMCSD delivering primary sludge to CMSA's digesters for processing. He said that at the July 2019 meeting staff presented the

concept, and the Board supported the idea and authorized staff to continue the discussions with SMCSO.

GM Dow said that a key cost component for SMCSO to consider is the sludge receiving tipping fee CMSA will charge to recover its additional operating costs to process, dewater, and beneficially reuse the SMCSO sludge. He referred to the Tipping Fee Alternative table in the staff memo and described the seven potential options.

The Board had a brief discussion and asked various questions including biosolids disposal options, the tipping fee alternatives and their calculations, advantages to CMSA, and support of the Agency's Strategic Plan goal to address local environmental opportunities and challenges.

GM Dow responded to the Board's questions and said he appreciated the discussion and direction.

Comments from the Public:

There were no members of the public present.

DIRECTION: Staff to determine an appropriate tipping fee for acceptance of biosolids from SMCSO based on CMSA's incremental costs and sharing the SMCSO cost savings.

9. Recycled Water Truck Fill Station Permitting Option

00:44:08

GM Dow said that in May 2017, CMSA began providing recycled water from the truck fill station to the JPA member agencies for sewer line flushing, and more recently to the Ross Valley Sanitary District (RVSD) for dust control at their Larkspur Landing remediation project. He said that operation of the fill station is authorized by the Regional Water Board through the 1989 MMWD Recycled Water Permit, but due to specific limitations in the MMWD permit provisions, staff is considering the option to seek a CMSA recycled water permit for the truck fill station directly from the Regional Water Board (RWB). GM Dow explained conceptual next steps to obtain a recycled water permit.

The Board had a brief discussion including current permitted uses, MMWD and RWB permit reporting requirements, potential increased use of the recycled water, expected additional staff time, and potential liability.

GM Dow responded to the Board's questions and said that staff and legal counsel would thoroughly review the permitting language, and the draft permit would be brought to the Board in the future.

The Board commented that promoting the recycled water program is in the best interests of the member agencies and is in line with the Agency's commitment to environmental stewardship.

Comments from the Public:

There were no members of the public present.

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

10. Reschedule the March 2020 Board Meeting **00:56:25**

GM Dow said staff is the process of planning the agendas for the next several Board meetings, and after reviewing schedules for upcoming training events and other activities, he proposes to cancel the regular March 2020 Board meeting and schedule a Special Meeting for Thursday, March 12, 2020.

The Board agreed on the revised date.

Comments from the Public:

There were no members of the public present.

ACTION: Commissioner Kelly moved to cancel the regular March 2020 Board meeting and schedule a Special Meeting on Thursday, March 12, 2020 at 7:00 p.m. at the Agency office; second, Commissioner Boorstein.

VOTE: The vote was passed unanimously.

ABSTAIN: None

11. January Informational Items **00:58:33**

GM Dow said that he would answer any questions regarding the information items.

There was no discussion by the Board.

Comments from the Public:

There were no members of the public present.

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

12. North Bay Watershed Association (NBWA) Report **00:59:08**

Commissioner Boorstein said he attended the January 3, 2020 NBWA Board meeting and he reported on three presentations: Caitlin Sweeney, Director San Francisco Estuary Partnership, gave an overview of the health of San Francisco Bay; Luisa Valiela, US EPA Region, provided information on the EPA's Draft National Water Reuse Action Plan; and Chris Choo, Marin County, showed the newly redone Game of Floods, a learning tool created for students. Commissioner Boorstein distributed the Estuary Partnership booklet and the US EPA Region 9 report that were provided at the meeting to the Board for review. Commissioner Boorstein said that CMSA is sponsoring the NBWA Bi-Annual Conference to be held in April, and three passes will be available.

13. Oral Reports by Commissioners/General Manager **01:03:46**

Commissioner Kelly reported a few more details regarding the deceased person recently found on the Andersen hillside in November 2019. Chair DiGiovanni said that staff should continue to work with SRPD on these issues.

Commissioner Boorstein said that RVSD has won the 2018-19 CWEA Redwood Empire Section Small Collection System of the Year award and will be competing for the state level award.

GM Dow referred to his handout and reported:

- SRFD fire prevention specialists visited areas on the Andersen Drive hillside and recommended fire prevention activities that will be incorporated into the Agency's annual defensible space work. He said that the SRFD does not recommend goats to clear brush for various reasons.
- Three new Institutional Utility Laborers began work at the San Quentin pump station on 12/16/2019 and the wet well cleaning is going well.
- Staff successfully operated the diesel emergency generator and cogeneration system under load on natural gas during a simulated power outage; testing will take place on biogas after some issues are addressed.

Commissioner Bushey said it is quite a milestone that the Agency is now starting to be energy self-sufficient, and that CMSA is the only entity in the county doing this. She recommends that the Agency plan some public outreach and/or an event, and suggested Marin Clean Energy could be contacted to create a partnership in this effort.

Commissioner Kelly said that RVSD recently purchased TV spots for public service announcements were inexpensive and could be a possible promotional venue.

GM Dow said that the CWEA is planning an article in their trade newsletter featuring CMSA's organic waste and power delivery programs, and fully supports public outreach once the system is up and running.

Commissioner Boorstein commented that a movie currently playing, *Dark Waters*, deals with PFAS pollution, and recommends its viewing.

14. Next Scheduled Meeting

01:17:44

Tuesday, February 11, 2020 at 7:00 p.m. at the Agency office.

Chair DiGiovanni adjourned the meeting at 8:20 p.m.

Respectfully submitted,

Kate Brouillet, Recording Secretary

Eli Beckman, Secretary

**Central Marin Sanitation Agency
Treasurer's Report - Operating Account
For the Month of January 2020**

I. Accounts Summary: Bank & Investment Accounts

Summary of Bank & Money Market Accounts

Westamerica Bank - Account Activity shown below	\$ 500,663.55
Westamerica Bank - unrecorded deposit	
Local Agency Investment Fund (LAIF) - Refer to Schedule of Investments	18,747,491.96
California Asset Management Program (CAMP) - Refer to Schedule of Investments	378,896.04
Total Bank & Investment Accounts: Ending Balance on January 31, 2020	<u>\$ 19,627,051.55</u>

II. Account Activity for Westamerica Bank

Beginning Balance on January 1, 2020 484,396.44


Cash Receipts (Deposits into Westamerica):

Transfers from LAIF	600,000.00
JPA Service Charges (FY20 Q3: RVSD, SD#2, SRSD)	3,003,750.24
Debt Service Charges (FY20 Q3: RVSD, SD#2, SRSD)	886,358.43
Permit and Inspection Fees	5,891.88
TCSD - FOG Program (FY20 2Q: October-December)	371.71
Revenue from Haulers & RVs	3,560.90
Revenue from Organic Waste Programs	16,157.75
SD 2 Operations & Maintenance Contract (FY20: November & December)	69,316.72
SQSP Wastewater Services Contract (FY20: November)	20,439.40
SQ Village Operations & Maintenance Contract (FY20: November)	793.78
Marin Airporter Property Use (FY20: January)	5,400.00
Miscellaneous Reimbursements: Promotional rebates for Ricoh copier and Viscom radio purchase	1,017.00
Void checks #19257	449.22
Total Cash Receipts	<u>\$ 4,613,507.03</u>

Cash Disbursements (Withdrawals from WestAmerica):

January 2020 Operating account disbursements register (see attached)	\$725,106.45
Regular Payroll paid 01/03/20	176,973.50
Regular Payroll paid 01/17/20	155,780.66
Regular Payroll paid 01/31/20	152,178.33
Transfers to EFTPS Federal Payroll Taxes (01/08, 01/22)	76,402.89
Final Separation Pay (2)	10,614.95
Transfers to LAIF (FY20 Q3: JPA Payments)	3,300,000.00
Bank Fee	183.14
Total Cash Disbursements	<u>\$4,597,239.92</u>
Ending Balance on January 31, 2020	<u>\$ 500,663.55</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 January 2020

Check

Check Number	Date	Vendor/Payee	Amount	Description
19363	1/2/2020	Phillip Frye	212.39	Reimbursement for retiree health benefits by check
19364	1/2/2020	James L. Johnson	200.43	Reimbursement for retiree health benefits by check
19365	1/2/2020	Byron Jones	249.15	Reimbursement for retiree health benefits by check
19366-69	12/31/2019	Issued in December 2019		See December 2019 Disbursement Register
19370	12/31/2019			Last check # from prior month's register
19371-72		VOID	-	
19373	1/7/2020	California State Disbursement	250.50	EE Garnishment, PPE 12/28/2019 (Note A)
19374	1/7/2020	ICMA Retirement Trust-457	6,335.00	Deferred compensation contributions, PPE 12/28/2019 (Note A)
19375	1/7/2020	Navia Benefit Solutions	991.88	Flexible spending account, PPE 12/28/2019
19376	1/7/2020	SEIU Local 1021	1,120.97	Union dues, PPE 12/28/2019
19377	1/8/2020	Alliant Insurance Services	875.00	Public Official Bond (1 employee)
19378	1/8/2020	Amazing Solutions, Inc.	225.00	Financial software support, December 2019
19379	1/8/2020	Bob Bally	400.00	Employee expense reimb: Safety glasses
19380	1/8/2020	Caltest Analytical Laboratory	13,468.90	NPDES permit and pilot digester study lab analyses, November-December, 2019 (38 invoices)
19381	1/8/2020	California Department of	64.00	Underground storage tank annual maintenance fee, 2019
19382	1/8/2020	Chemurgic Agricultural	5,400.40	Sodium bisulfite (1 delivery)
19383	1/8/2020	CSRMA	56,368.00	Pooled Liability Insurance, 12/31/2019-12/31/2020
19384	1/8/2020	CWEA TCP	384.00	Membership fee (2 employees)
19385	1/8/2020	Dealers Industrial Equipment	578.42	SQPS Maint: Grinder motor (Note B)
19386	1/8/2020	EDIS	4,879.60	Dental claim payments, November 2019; January 2020 administrative fee
19387	1/8/2020	Electronics Plus	35.22	Electrical supplies
19388	1/8/2020	Evoqua Water Tech LLC	10,877.18	Hydrogen peroxide (1 delivery); DI water for laboratory (2 invoices)
19389	1/8/2020	Flyers Energy LLC	3,172.21	Process tank lubricants
19390	1/8/2020	Hagel Supply Co.	329.75	Utility supplies, December 2019
19391	1/8/2020	Horizon Dist. Inc	197.50	Herbicide
19392	1/8/2020	IEDA, Inc.	837.00	Labor relations consulting, January 2020
19393	1/8/2020	Kaman Industrial Technologies	6,378.98	Headworks grit pump motor; valves and parts for CCTs; gaskets (3 invoices)
19394	1/8/2020	Kone Inc	147.64	Elevator monthly maintenance
19395	1/8/2020	Lystek International LTD	14,523.03	Biosolids beneficial reuse fee, December 2019
19396	1/8/2020	Northern Tool & Equipment	4,391.26	Heated pressure washer
19397	1/8/2020	Ryan Herco Flow Solutions	44.89	Filters for laboratory
19398	1/8/2020	RMC	861.33	Admin copier usage fee, 9/25-12/24/2019
19399	1/8/2020	Rock Steady Juggling	1,500.00	Pub Ed Program: Outreach at three schools (Note B)
19400	1/8/2020	Roy's Sewer Service, Inc.	5,000.00	Quarterly Organic Waste Receiving Facility cleaning; site sump cleaning (2 invoices)
19401	1/8/2020	Rubenstein Supply Co.	41.01	Check valve
19402	1/8/2020	SPURR	3,228.62	Natural gas supply, November 2019
19403	1/8/2020	TEC Associates Inc	734.92	Hydrogen sulfide monitoring sensor
19404	1/8/2020	Thomas Fish Company	145.75	Rainbow trout for monthly bioassay test, December 2019
19405	1/8/2020	Thatcher Company of	7,388.18	Ferric chloride (1 invoice)
19406	1/8/2020	ULINE	447.04	Janitorial supplies
19407	1/8/2020	Univar USA Inc	16,410.17	Sodium hypochlorite (3 deliveries); sodium bisulfite (1 delivery)
19408	1/8/2020	Western Exterminator Co.,Inc.	377.00	Pest control service, September and December 2019

Central Marin Sanitation Agency
Operating Account Disbursements Register
For the Month of January 2020

Check

Number	Date	Vendor/Payee	Amount	Description
19409	1/8/2020	Wine Country Balance	495.00	Calibration of laboratory scales
19410	1/8/2020	Woodland Center Auto Supply	1,307.59	Spark plugs for cogeneration engine
19411		VOID	-	
19412	1/9/2020	Harrington Industrial Plastics	7,027.29	PVC pipes, valves, and fittings
19413	1/9/2020	P.G.& E.	21,003.95	Electricity service, 11/15-12/15/2019 (3 invoices)
19414	1/9/2020	Rockwell Solutions	6,009.73	Organic Waste Receiving Facility maintenance parts
19415	1/9/2020	Dean DiGiovanni	294.00	Employee travel per diem advance: CASA Winter Conference
19416	1/9/2020	Jason Dow	220.00	Employee travel per diem advance: CASA Winter Conference
19417	1/14/2020	Allied Fluid Products Corp	7,578.98	Replacement expansion joints
19418	1/14/2020	Aramark Uniform Services	1,034.06	Uniform service, items for new hires
19419	1/14/2020	VOID	-	
19420	1/14/2020	CWEA TCP	768.00	Membership fee (4 employees)
19421	1/14/2020	Eromosele J Esoimeme	279.00	Employee travel per diem advance: CWEA P3S Conference
19422	1/14/2020	Mark Koekemoer	431.00	Employee travel per diem advance: TNI Conference
19423	1/17/2020	Manco	4,082.53	Replacement pressure transmitter for CCTs
19424	1/17/2020	Aramark Uniform Services	962.76	Uniform service, items for new hires
19425	1/17/2020	AT&T Dataplan	388.42	Fax and emergency phone service, 01/02-02/01/2020
19426	1/17/2020	Bob Bally	68.00	Employee travel per diem advance: Rescape qualification training
19427	1/17/2020	Katherine Brouillet	98.39	Break room and meeting supplies
19428	1/17/2020	CDW Government, Inc.	14,538.80	Annual Office 365 enterprise agreement renewal, 01/01-12/31/2020
19429	1/17/2020	Comcast	195.01	Internet service, 01/04-03/03/2020
19430	1/17/2020	CWEA TCP	610.00	Redwood Empire 11/14/2019 and 01/17/2020 dinner meetings (16 employees)
19431	1/17/2020	Examinetics, Inc.	24.75	Audiometric testing (1 employee)
19432	1/17/2020	Michael Gardea	379.00	Employee expense reimb: Safety glasses
19433	1/17/2020	Lystek International LTD	4,581.07	Biosolids beneficial reuse fee, January 2020
19434	1/17/2020	Marin Sanitary Service	10,714.79	Rag bins, landfill, and grit box disposal, December 2019
19435	1/17/2020	Marin Resource Recovery Center	40.00	Yard waste disposal
19436	1/17/2020	Marin Municipal Water District	2,037.94	Water service, 10/11-12/10/2019
19437	1/17/2020	Waste Management	15,918.15	Biosolids hauling, December 2019
19438	1/17/2020	Wiley Price & Radulovich	406.00	Prof Svcs: Employment law services, December 2019
19439	1/17/2020	California Public Employee	3,584.00	Contribution to Retiree Health Benefits Trust Fund, January 2020 (Note C)
19440	1/17/2020	California State Disbursement	250.50	EE Garnishment, PPE 01/11/2020 (Note A)
19441	1/17/2020	ICMA Retirement Trust-457	6,335.00	Deferred compensation contributions, PPE 01/11/2020 (Note A)
19442	1/17/2020	Navia Benefit Solutions	1,041.81	Flexible spending account, PPE 01/11/2020; monthly fee (2 invoices)
19443	1/22/2020	SEIU Local 1021	1,153.11	Union dues, PPE 01/11/2020
19444	1/24/2020	Hilltop Ford	29,222.41	SQPS Maint: Ford F150 truck (Note B)
19445	1/24/2020	Alcohol & Drug Testing Svcs	180.00	Assoc. Engineer and IUL Recruitments: Pre-employment testing
19446	1/24/2020	Amazon	1,875.57	Computer connectivity and office equipment, December 2019

Central Marin Sanitation Agency
 Operating Account Disbursements Register
 For the Month of January 2020

Check

Number	Date	Vendor/Payee	Amount	Description
19447	1/24/2020	BC Laboratories Inc	120.00	Pretreatment program sampling (2 invoices)
19448	1/24/2020	Katherine Brouillet	103.82	Drinking water for emergency supply storage container
19449	1/24/2020	Caltest Analytical Laboratory	3,178.63	NPDES permit and pilot digester study lab analyses, December 2019 (7 invoices)
19450	1/24/2020	Carbon Activated Corporation	1,558.00	Spent siloxane media recycling
19451	1/24/2020	Rocco Cassella	36.86	Employee travel expense reimb: Mileage to pre-employment physical
19452	1/24/2020	Chemurgic Agricultural	10,816.90	Sodium bisulfite (2 deliveries)
19453	1/24/2020	Joyce Cheung	131.99	Employee travel expense reimb: Mileage to pre-employment physical
19454	1/24/2020	CWEA TCP	384.00	Membership fee (2 employees)
19455	1/24/2020	Evoqua Water Tech LLC	11,073.91	Hydrogen peroxide (1 delivery); DI water for laboratory (3 invoices)
19456	1/24/2020	Fastenal Company	1,184.48	Maintenance vending machine replenishment (3 invoices)
19457	1/24/2020	Fisher Scientific	1,552.48	Chemicals, buffers, and solutions for laboratory (10 invoices)
19458	1/24/2020	IDEXX Distribution Inc	1,676.63	Enterococci testing supplies for laboratory (3 invoices)
19459	1/24/2020	Kaman Industrial Technologies	449.22	Bearings and bolts
19460	1/24/2020	Lee & Ro, Inc	1,013.00	Main Switchgear Condition Assessment project, December 2019
19461	1/24/2020	McMaster-Carr Supply Co.	7,033.38	Chain hoist for site sump; stainless steel pipes and fittings; grinding wheel; valves and fittings; and misc. utility, electrical, and welding supplies.
19462	1/24/2020	Northern Tool & Equipment	1,892.79	Containment cover for corporation yard
19463	1/24/2020	Platt	217.89	Electrical breakers
19464	1/24/2020	Dustin Rice	68.00	Employee travel per diem advance: Rescape qualification training
19465	1/24/2020	Ricoh USA Inc	259.35	Lab copier lease, 12/31/2019-01/08/2020
19466	1/24/2020	RMC	336.90	Lab copier usage fee, 10/09-12/30/2019; maintenance copier usage fee, 12/17-12/30/2019
19467	1/24/2020	S&S Trucking	10,149.48	Biosolids hauling, December 2019
19468	1/24/2020	Safety-kleen Systems, Inc	694.71	Hazardous waste and used oil disposal (2 invoices)
19469	1/24/2020	Calmat Co./Shamrock Materials	61.57	Propane
19470	1/24/2020	SWRCB FEES	1,400.00	SWRCB annual stormwater permit fee
19471	1/24/2020	Univar USA Inc	24,282.01	Sodium hypochlorite (5 deliveries); sodium bisulfite (1 delivery)
19472	1/24/2020	Van Bebbler Bros., Inc.	867.40	Primary clarifier collector system plates
19473	1/24/2020	Water Components & Bldg. Supp.	179.02	Flanges, valves, and couplings, December 2019
19474	1/24/2020	Wells Fargo Vendor	1,179.31	Monthly lease for three replacement Agency copiers/printers; final payment for prior maintenance copier lease (2 invoices)
19475	1/24/2020	Ryan Word	620.00	Employee Expense Reimb: SWRCB Grade V exam and certificate fees
19476	1/24/2020	Western Renewable Energy	125.00	Electricity export annual registration fee
19477	1/29/2020	Hilltop Ford	33,154.35	Replacement Agency vehicle: Ford Transit Wagon
19478	1/30/2020	CAL-CARD	11,108.89	State of California Purchase Card, November-December 2019

Central Marin Sanitation Agency
 Operating Account Disbursements Register
 For the Month of January 2020

Check

Number	Date	Vendor/Payee	Amount	Description
Payments by Automatic Clearing House:				
		Payments to 26 retirees	7,247.30	Reimbursement for retiree health benefits
1/8/2020		Public Agency Retirement Svcs	500.22	Retirement pension contribution: part-time and internship employees, PPE 12/14/2019 (Note C)
1/9/2020		Nitel Inc	1,294.03	Primary telephone and internet service, January 2020
1/9/2020		Polydyne, Inc.	55,270.39	Clarifloc (1 delivery)
1/9/2020		Watson-Marlow Inc	7,883.17	Spare hose parts for Organic Waste Receiving Facility
1/17/2020		Eli H. Beckman	225.00	Stipend for 01/14/2020 Board meeting
1/17/2020		Michael Owen Boorstein	450.00	Stipends for 01/14/2020 Board meeting and 01/03/2020 NBWA Board meeting
1/17/2020		Maribeth Bushey	225.00	Stipend for 01/14/2020 Board meeting
1/17/2020		Dan Hillmer	225.00	Stipend for 01/14/2020 Board meeting
1/17/2020		Douglas T Kelly	225.00	Stipend for 01/14/2020 Board meeting
1/23/2020		PG&E	800.00	Interconnection application fee
01/07/20		EDD PPE 12/28/2019	15,880.91	State & SDI Taxes, PPE 12/28/2019
01/09/20		EDD PPE 01/06/20 -1/13/2020	1,606.48	State & SDI Taxes
01/21/20		EDD 01/11/2020	12,818.38	State & SDI Taxes, PPE 01/11/2020
01/27/20		EDD for Dec 2019 Quarterly	2,152.99	State & SDI Taxes
01/08/20		Calpers PPE 12/28/19	38,847.38	Retirement pension contribution: Agency and employees (Note C)
01/21/20		Calpers PPE 1/11/20	39,583.00	Retirement pension contribution: Agency and employees (Note C)
01/03/20		CalPERS Medical ins	72,246.45	Medical insurance
01/08/20		Lincoln Life Ins	2,502.24	Life insurance
01/08/20		Vision Service Plan -(CA)	1,065.86	Vision insurance
01/07/20		NRS PPE 12/28/19	11,057.29	Deferred compensation and MARA contribution
01/21/20		NRS PPE 1/11/20	11,881.46	Deferred compensation and MARA contribution
Grand Total			725,106.45	

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 January 31, 2020

Description	Book Value	Market Value (1)	% Portfolio	Projected Year End
I. Pooled Investments with California Asset Management Program (CAMP)				
Money Market Funds (< 1 year in maturity)				
CAMP Cash Reserve Pool: 1.78% at 1/31/20				
b1. Operating Reserve (Unrestricted) (2)	\$ 28,896.04	\$ 28,896.04		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	\$ 378,896.04	\$ 378,896.04	2.0%	
II. Pooled Investments with Local Agency Investment Fund (LAIF)				
Money Market Funds (< 1 year in maturity)				
Local Agency Investment Fund (LAIF): 2.043% at 12/31/19				
a1. Current Operating Fund	\$ 4,858,136.00	\$ 4,858,136.00		
b1. Operating Reserve (Unrestricted) (2)	\$ 3,113,578.96	\$ 3,113,578.96		\$ 3,142,475
c1. Capital Reserves (Restricted) (3)	\$ 991,834.00	\$ 991,834.00		\$ 991,834
c2. Capital Reserves (Unrestricted) (4)	\$ 9,783,943.00	\$ 9,783,943.00		\$ 7,778,603
Total with LAIF	\$ 18,747,491.96	\$ 18,747,491.96	98.0%	
TOTAL INVESTMENTS	\$ 19,126,388.00	\$ 19,126,388.00	100.0%	

NOTES:

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

(2) Operating reserves calculated at 25% operating budget

(3) Includes capacity charges and debt service coverage

(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 January 31, 2020

	Monthly Amounts Received (Used)	YTD Amounts Received (Used)
Restricted Capital Reserves Sources and Uses		
Capacity charges revenue	\$ -	\$ 343,786
Debt coverage collection revenue	192,052	991,834
Total restricted capital reserve funding sources	<u>192,052</u>	<u>1,335,620</u>
Capacity charges usage for capital (1st)	-	(343,786)
Debt coverage usage for capital (2nd)	-	(993,302)
Total restricted capital reserve uses	<u>-</u>	<u>(1,337,088)</u>
Net change		(1,468)
Balance - beg of year		993,302
Balance - end of month/year		<u>\$ 991,834</u>
Unrestricted Capital Reserves Sources and Uses		
Capital fee revenue	\$ 255,250	\$ 765,750
Unrestricted operating-reserve-transfer-in	-	-
SRF/FEMA cost reimb proceeds received	-	106,758
Total unrestricted capital reserve funding sources	<u>255,250</u>	<u>872,508</u>
Capital fee usage to fund CIP (3rd)	(80,413)	(347,685)
Unrestricted capital reserve draw (4th)	-	-
Total unrestricted capital reserve uses	<u>(80,413)</u>	<u>(347,685)</u>
Net change		524,823
Balance - beg of year		9,259,120
Balance - end of month/year		<u>\$ 9,783,943</u>
Total capital reserve balances		<u>\$ 10,775,777</u>
Total approved CIP budget		\$ 3,900,626
Total CIP funded from capital reserve sources		<u>(1,684,773)</u>
Total approved capital budget remaining		<u>\$ 2,215,853</u>



BOARD MEMORANDUM

February 6, 2020

To: CMSA Commissioners and Alternates
From: Chris Finton, Treatment Plant Manager
Approved: Jason Dow, General Manager
Subject: January 2020 NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report

Recommendation: Accept the January 2020 NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report.

I. NPDES Permit Compliance

Our NPDES permit testing for January 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 January 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 this past quarter was 1.4 MPN, well below the 35 MPN permit limit.

II. Influent Flow

January typically signifies the start of winter with cold and wet weather conditions. Mother Nature delivered on the cold but only produced one significant rain event and a few brief showers during the month. A total of 2.43 inches of rain was recorded at the Agency's rain gauge and the treatment plant did not exceed its maximum secondary capacity of 30 MGD during the month. The facility's average daily influent flow was 13.2 MGD.

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

Table with 6 columns: January Monthly Influent Flows, San Rafael (SRSD), Ross Valley (RVSD), San Quentin (SQSP), Corte Madera (SD#2), CMSA Plant Total. Rows include Average Daily (MGD), Total for Month (MG), and Percent of Flow.

Wet Weather Peak Flow*	San Rafael (SRSD)	Ross Valley (RVSD)	San Quentin (SQPS)	Corte Madera (SD2)	CMSA
01/16 Total Days Flow	8.1 MG	9.8 MG	.90 MG	3.2 MG	22.0 MG
Peak Flow Rate	18.4 MGD	26.7 MGD	4.5 MGD	6.6 MGD	42.9 MGD

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

III. Treatment Process

Operators spent the majority of their time this past month removing process equipment from service. Without significant rain in January, the treatment plant has been operating in the dry weather mode. With colder water temperatures and a more dilute influent, staff secured one of the two biotowers this past month to ensure enough CBOD "food" was reaching the biomass in the Aeration Basins.

The Mixed Liquor Suspended Solids (MLSS) inventory averaged 1,064 mg/l in January, a slight decrease in inventory from last month. The solids inventory was in alignment with our target Mean Cell Residence Time (MCRT) of 3.6 days.

Graph No. 3 shows the coliform most probable number (MPN), which represents the effectiveness of the disinfection process. All seventeen coliform samples collected in January were below our monthly KPI of 30 MPN, and well below our daily permit limit of 10,000 MPN. The total coliform monthly geometric mean for January was 1.1 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 January was 4.7 mg/l, which is 31.3% of our Key Performance Indicator (KPI) of 15 mg/l, and is 15.7% of our permit's monthly average limit of 30 mg/l.

IV. Maintenance Activities

The cogeneration system produced 97.2% of the Agency's power in January, and MCE supplied the balance. The generator, as indicated on Graph #8, was temporarily out of service on January 9 for a scheduled 2,000-hour maintenance procedure and auxiliary water pump replacement.

The majority of January's work activities were spent performing annual process equipment preventative maintenance. In addition, technicians pulled and de-ragged one of the site sump's pumps, replaced a cracked threaded coupler on hypochlorite storage tank no. 2, replaced a ruptured hose and contaminated lubricant on a Organic Waste Receiving Facility feed pump, repaired a potable water line leak in Gallery F which supplies equipment in the solids handling area, and repaired the discharge shroud on Grit Classifier No. 2. Utility staff also removed old and dying vegetation at the CMSA entrance gate, cleared vegetation and improved site lines at the Sir Francis Drake approach to Andersen Drive, and removed invasive crabgrass sections within the Administration area lawns.

Attachment:

- January 2020 NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report

NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report

January 2020



Operator Claire Ernst pouring “food” into a mixer prior to feeding this cuisine to the Pilot Digesters.

Monthly Compliance Summary Table

Central Marin Sanitation Agency

January, 2020

Final Effluent Monitoring

Parameter	Frequency	Units	Results	Limit
Carbonaceous BOD Highest Weekly Average	Weekly	mg/L	8.0	Maximum 40
Carbonaceous BOD Monthly Average	Monthly	mg/L	5.1	Maximum 25
Carbonaceous BOD Monthly Removal Rate	Monthly	%	97.0	Minimum 85
Total Suspended Solids Highest Weekly Average	Weekly	mg/L	6.2	Maximum 45
Total Suspended Solids Monthly Average	Monthly	mg/L	4.7	Maximum 30
Total Suspended Solids Monthly Removal Rate	Monthly	%	97.9	Minimum 85
Chlorine Residual Instant Limit	Instant	mg/L	ND	Maximum 0.0
Ammonia Monthly Average	Monthly	mg/L	23.5	Maximum 60
Ammonia Maximum Daily	Daily	mg/L	24.6	Maximum 120
pH Lower Limit	Continuous	SU	6.1	Minimum 6
pH Upper Limit	Continuous	SU	7.3	Maximum 9
Bacteriological Analysis				
Total Coliform Monthly Geometric Mean	3 X Week	MPN/100mL	1.1	Maximum 240
Total Coliform Daily Maximum	3 X Week	MPN/100mL	3.9	Maximum 10,000
Enterococcus Quarterly Geometric Mean	Quarterly	MPN/100mL	1.4	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	4.2	Maximum 85
Copper Monthly Average	Monthly	ug/L	4.2	Maximum 49
Cyanide Daily Limit	Monthly	ug/L	J1.5	Maximum 41
Cyanide Monthly Average	Monthly	ug/L	J1.5	Maximum 21
Mercury Weekly Average	Weekly	ug/L	0.0041	Maximum 0.072
Mercury Monthly Average	Monthly	ug/L	0.0041	Maximum 0.066
Mercury Monthly Loading	Monthly	kg/mo	0.00499	
Mercury Annual Loading (watershed permit)	Jan-Dec	kg/yr	0.00499	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	ND	Maximum 20
Oil and Grease Monthly Average	Semiannual	mg/L	ND	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	19.4	29.5	30.0	12.6
Influent Flow	22.0	39.5	42.9	13.2
# Days Blended				0

* 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
January 2020

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:	232.8	mg/l	<i>Expected removal efficiencies as outlined in Metcalf & Eddy Wastewater Engineering Manual.</i>
Average TSS out:	131.1	mg/l	
Average Percent Removal Achieved:	41.9	%	Design 50-70% Removal
Average Total Carbonaceous Biochemical Oxygen Demand (CBOD) in:	171.6	mg/l	
Average CBOD out:	59.2	mg/l	
Average Percent Removal Achieved:	65.1	%	Design 25-40% Removal
Average Plant Influent Flows:	13.2	MGD	

BIOTOWER PERFORMANCE

Average TSS out:	98.0	mg/l	
Average CBOD out:	56.9	mg/l	
Average Percent CBOD Removal Achieved:	2.2	%	Design 25-30% Removal

AERATION TANKS/ACTIVATED SLUDGE

Dissolved Oxygen set point:	2.19	mg/l
Average MLSS:	1,064	mg/l
Average MCRT:	3.62	Days
Average SVI:	192	

SECONDARY CLARIFIERS

Average WAS concentration:	7,403	mg/l
Average TSS out:	7.83	mg/l

FINAL EFFLUENT

Average Effluent TSS for the month:	4.7	mg/l	(Maximum Limit: 30mg/l)
Week #1 weekly average	3.6	mg/l	(Maximum Limit: 45mg/l)
Week #2 weekly average	4.7	mg/l	"
Week #3 weekly average	5.4	mg/l	"
Week #4 weekly average	6.2	mg/l	"
Week #5 weekly average	n/a	mg/l	"
Monthly average TSS removal efficiency through the plant:	97.9	%	(Minimum Limit: 85%)

Average Effluent CBOD:	5.1	mg/l	(Maximum Limit: 25mg/l)
Week #1 weekly average	2.5	mg/l	(Maximum Limit: 40mg/l)
Week #2 weekly average	3.7	mg/l	"
Week #3 weekly average	4.0	mg/l	"
Week #4 weekly average	8.0	mg/l	"
Week #5 weekly average	n/a	mg/l	"
Monthly average CBOD removal efficiency through the plant:	97.0	%	(Minimum Limit: 85%)

Disinfection Dosing Rate:	5.0	mg/l	monthly average
Total Coliform Monthly Geometric Mean:	1.1	MPN	(Maximum 240)
The Daily Maximum Total Coliform Count for the month:	3.9	MPN	(Maximum 10,000)
Enterococcus Monthly Geometric Mean:	1.4	MPN	(Maximum 35 MPN)
Effluent pH for the month was:	Min	6.1	MPN (Min 6.0)
	Max	7.3	MPN (Max 9.0)

DIGESTER TREATMENT

Average Thickened Waste Concentration from the RDT:	6.39	%	
Average percent of Volatile Solids destroyed:	85.4	%	
Cubic feet of biogas produced:	10,007,810 (Total)	332,833 (Daily Average)	
Average temperature of the digester:	102.0	degrees Fahrenheit	

EXECUTIVE SUMMARY PROCESS PERFORMANCE DATA

January 2020

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

DEWATERING

Average Centrifuge Feed concentration:	2.8	%
Average Biosolids concentration:	26.4	%
Average TSS of the Centrate:	246	mg/l
Solids capture of the Centrifuge:	99.2	%
Polymer use per Dry ton of biosolids:	12.2	#/dry ton
Average polymer feed rate per run:	3.89	gpm
Average concentration of the polymer batches:	0.328	%
Average sludge feed rate per run:	57.1	gpm

Comments:

Primary Clarifier and Biotower CBOD removal were lower than their respective KPI's in January and this is primarily due to low influent CBOD coming into the treatment plant which contributed to even lower removal rates in the biotowers, and finally, removing one tower from operation.

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. There were no blending events recorded in January.

Graph #2:

Depicts individual collection agency flows.

The Y-axis is in the flow range of 0-10 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 1.1 MPN through January, which is less than our KPI of 30 MPN and permit limit of 240 MPN.

Graph #4:

Depicts the total suspended solids in the effluent.

Our monthly average was 4.7 mg/l versus our KPI of 15 mg/l and permit monthly average limit of 30 mg/l. Total suspended solids in the effluent remained below the KPI for the entire month.

Graph #5:

Depicts the effluent CBOD which measures the oxygen demand of the wastewater.

The January effluent CBOD average was 5.1 mg/l, well below our NPDES limits of 40 mg/l weekly and 25 mg/l for the month. CBOD in the effluent remained below the KPI for the entire month.

Graph #6:

Depicts the degree to which the biosolids have been dewatered.

Our biosolids % concentration met or exceeded our KPI of 25% throughout January. No dewatering operations occurred on 1/11.

Graph #7:

Depicts the amount of biogas that is produced in the digesters (measured by a flow meter), and then used to produce electricity.

Biogas production in January averaged 332,833 cubic feet per day, which exceeded our monthly KPI of 200,000 cubic feet per day. The low biogas production numbers depicted on 1/, 1/9, and again on 1/13 were a result of receiving fewer organic waste deliveries on those dates.

Graph #8:

This graph depicts the amount of energy produced through cogeneration versus the energy purchased from MCE for Agency operations. The green line represents power exported to the grid. In January, CMSA exported 55,441kWh. The reduced power production on 1/9 was a result of the cogeneration system being offline for scheduled maintenance.

Glossary of Terms Process Performance Data Sheet

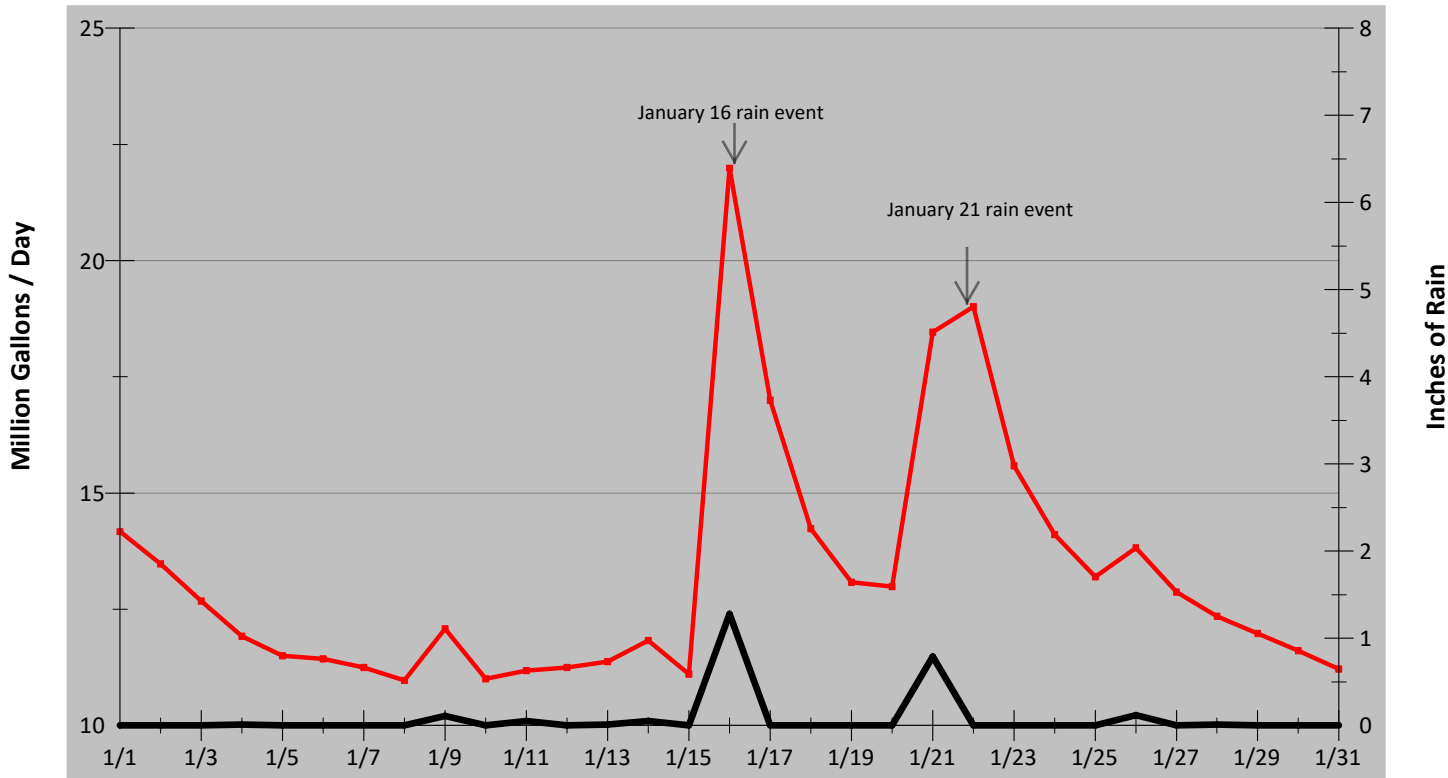
- **Aeration Tanks:** A biological process that takes place after the biotowers, where biomass (microorganisms) is mixed with the wastewater to feed on dissolved and suspended organic material. High speed blowers are used to provide compressed air to mix the tank contents.
- **Anaerobic Digesters:**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

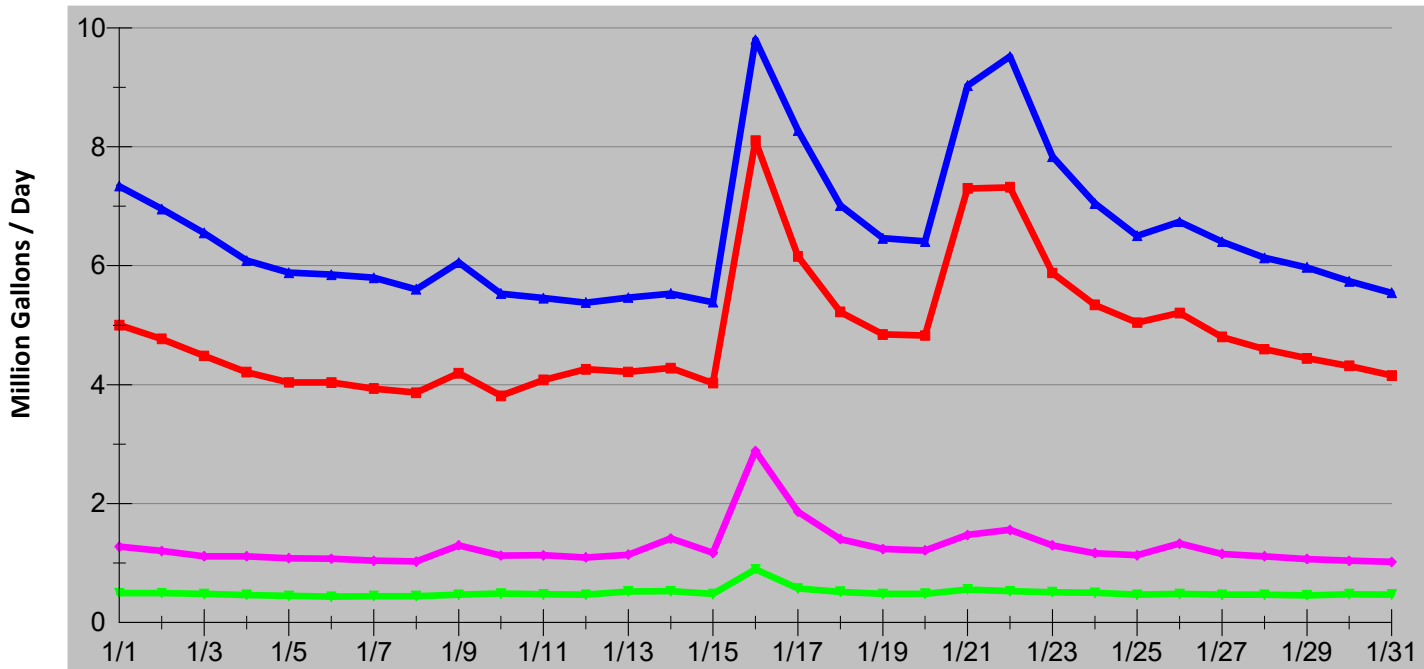


Date (1/1/2020 to 1/31/2020)

▪ Flow (Daily Average) • Rainfall

(#1) CMSA Influent Flow

Graph #2: Collection System Influent Flows

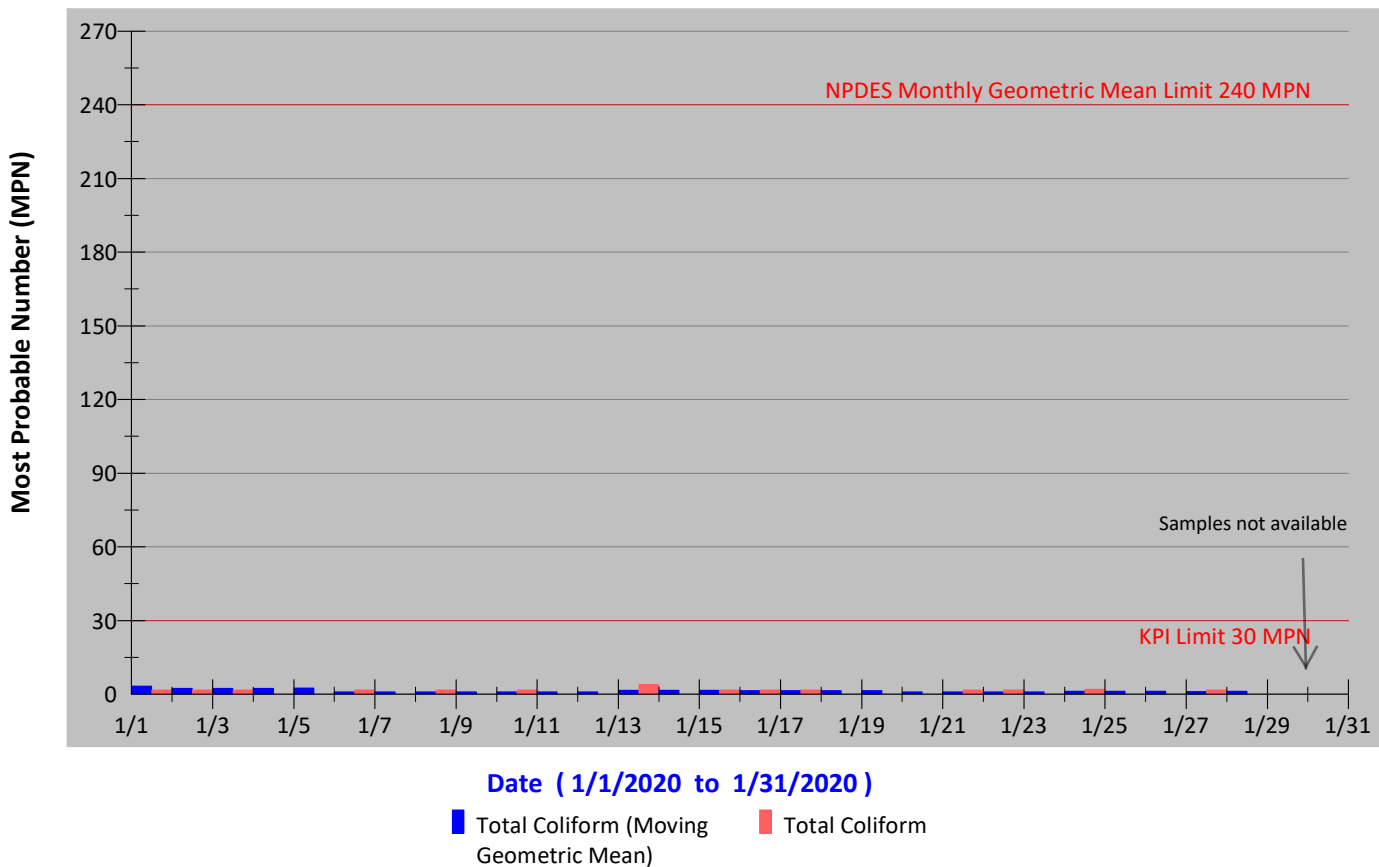


Date (1/1/2020 to 1/31/2020)

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

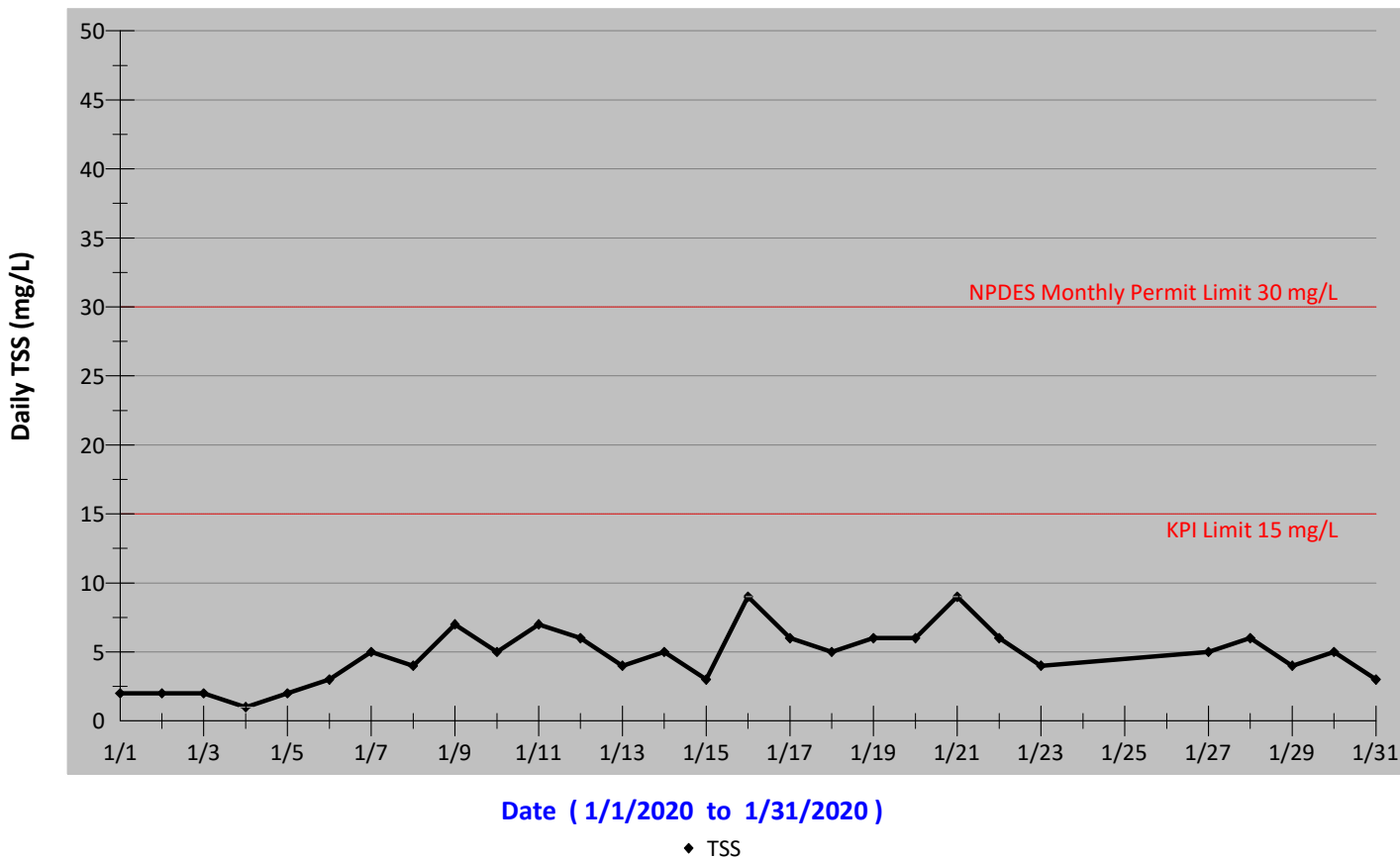
(#2) Collection System Influent Flows

Graph #3: Total Coliform & Monthly Geometric Mean



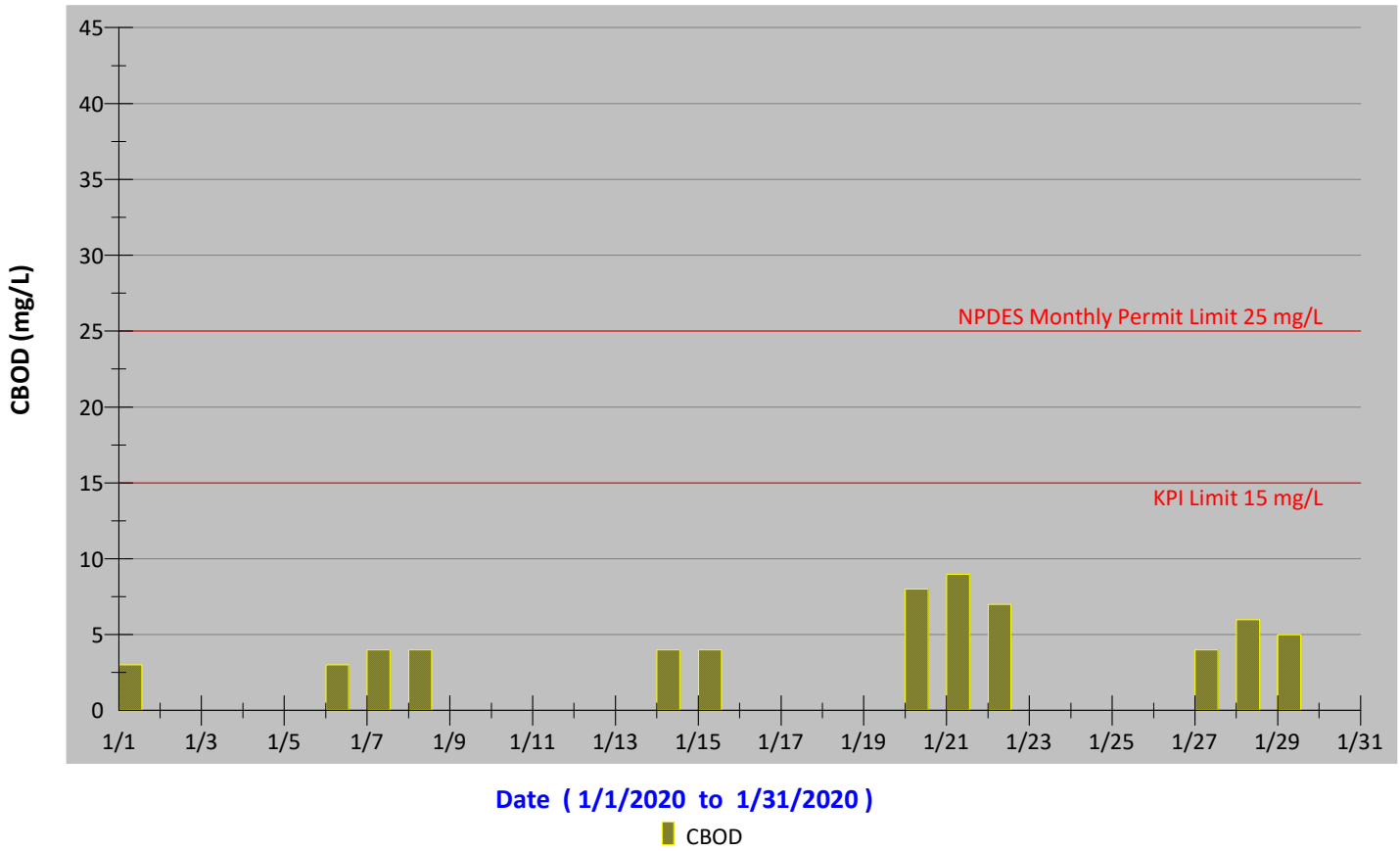
(#3) Total Coliform & Monthly Geometric Mean

Graph #4: Effluent Total Suspended Solids (TSS)



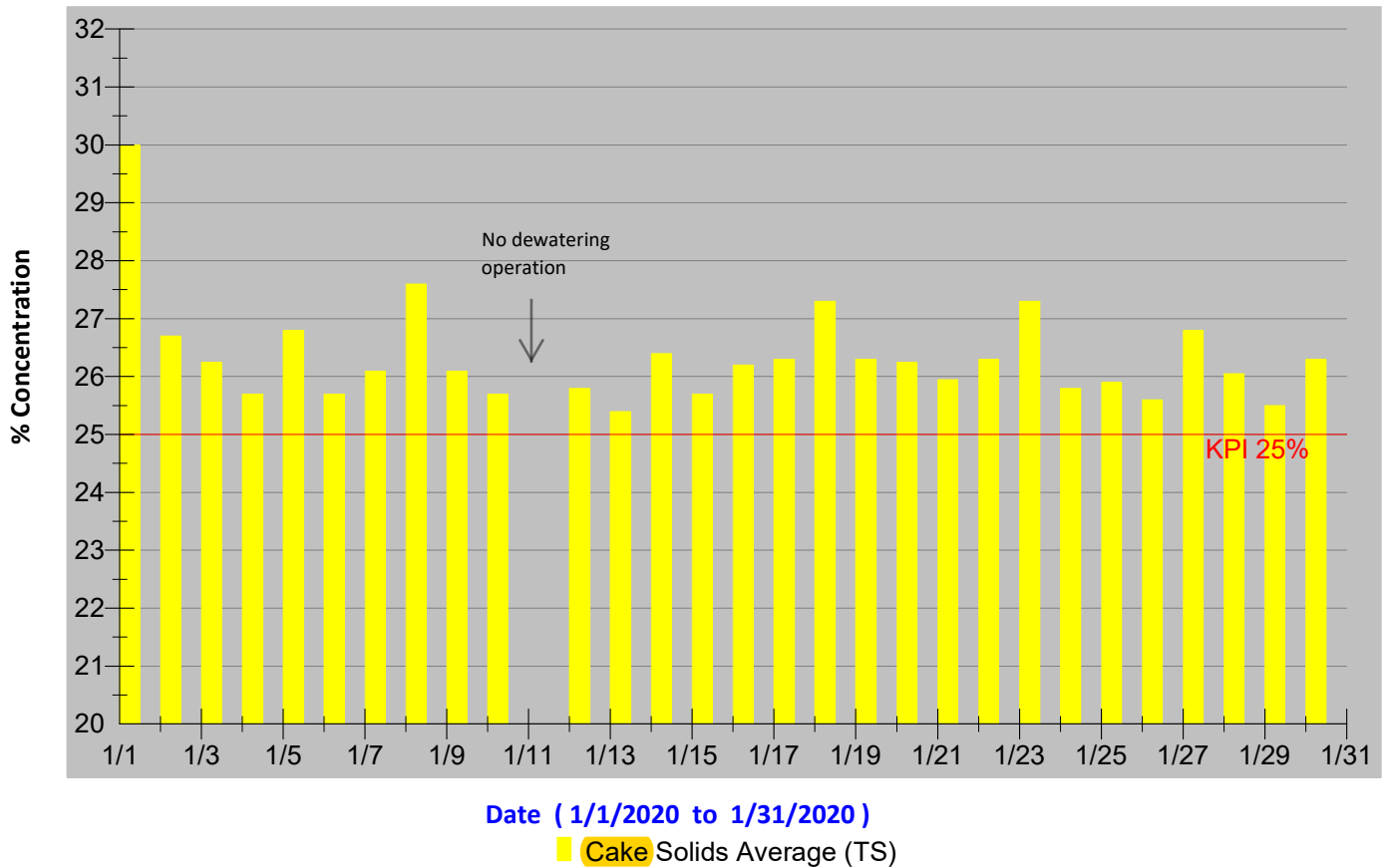
(#4) Effluent Total Suspended Solids (TSS)

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



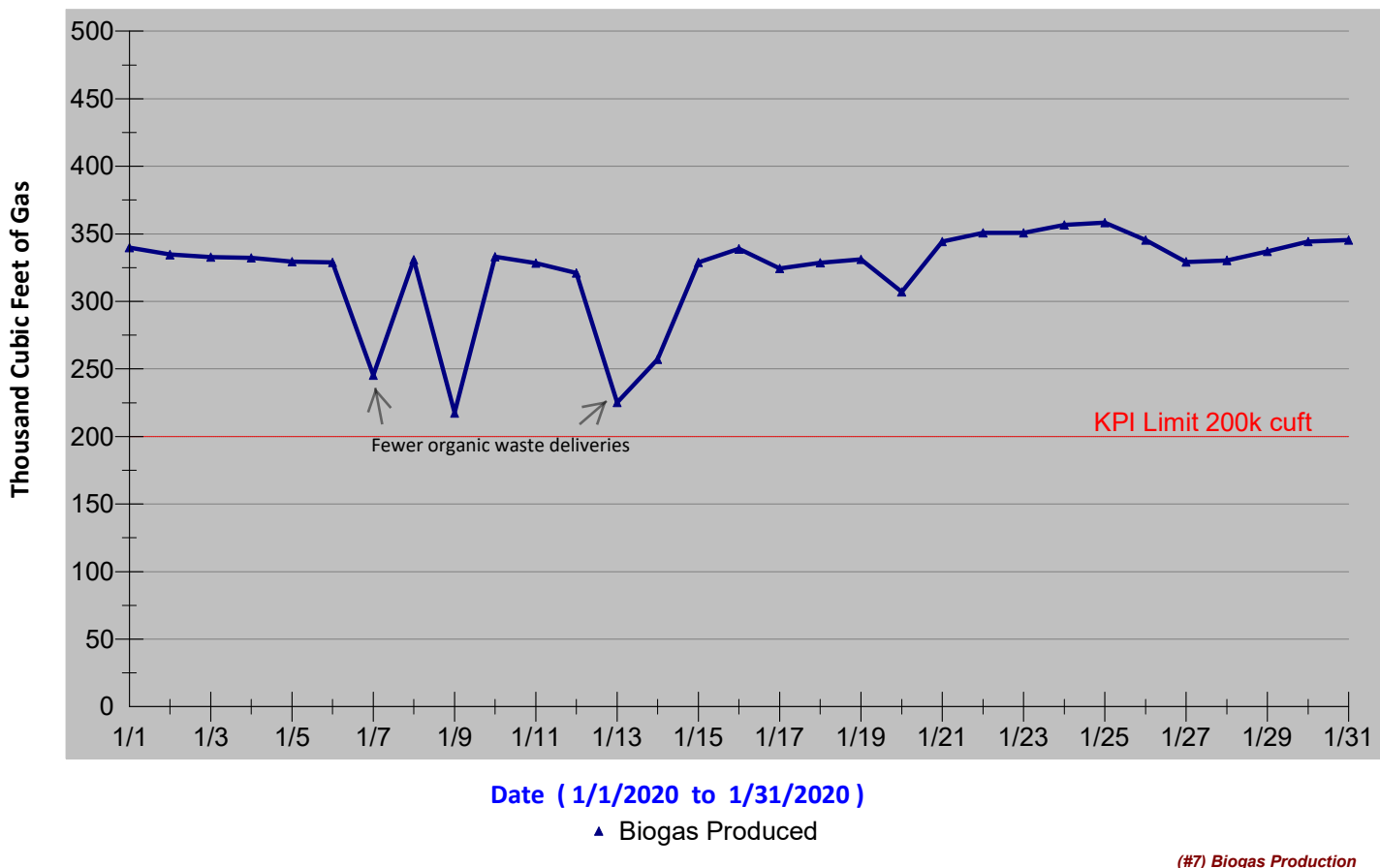
(#5) Effluent Carbonaceous Biological Oxygen Demand (C)

Graph #6: Biosolids Concentration

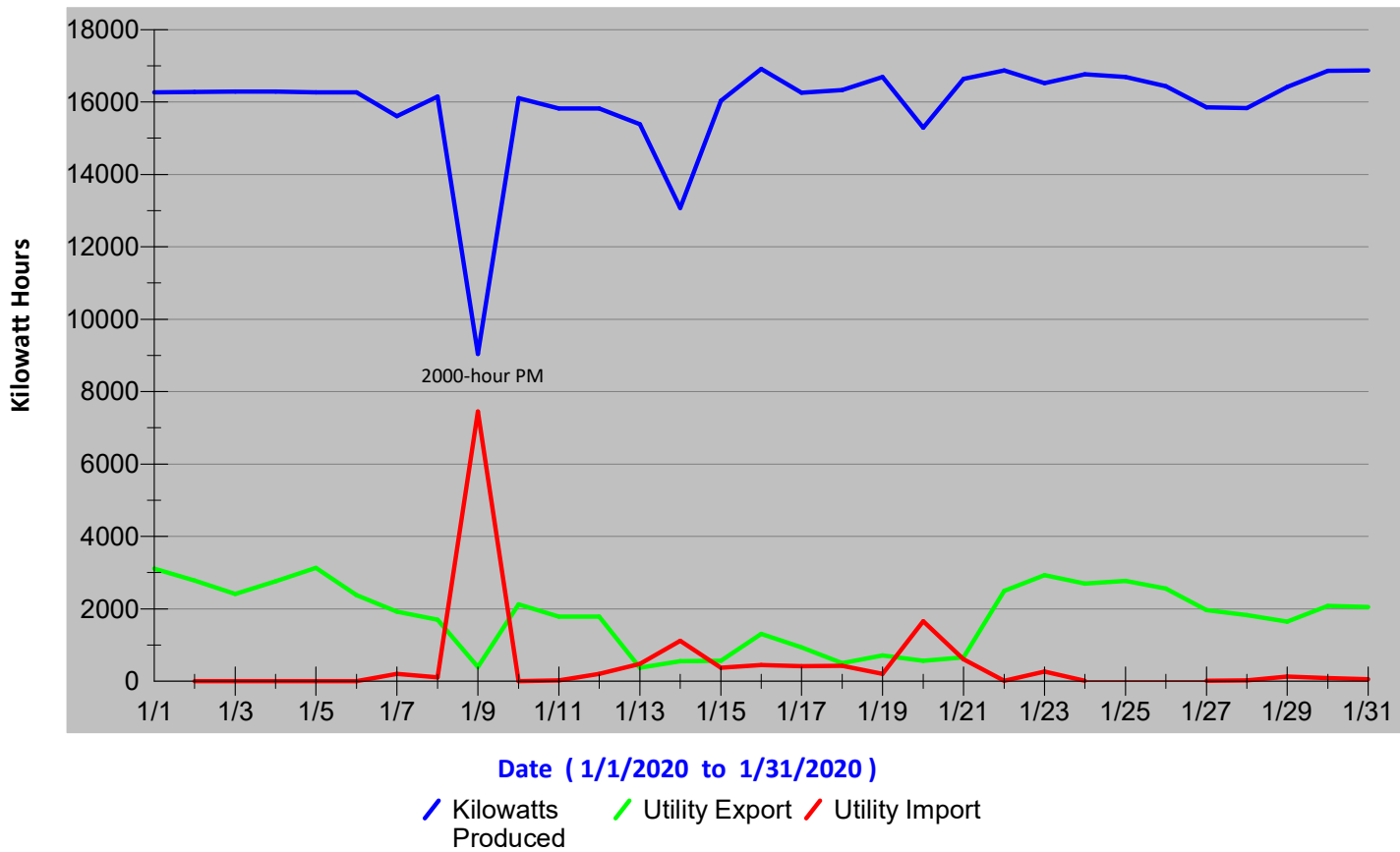


(#6) Biosolids Concentration

Graph #7: Biogas Production (Measured Use)



Graph #8: kW/hr Purchased vs. kW/hr Produced vs. kW/hr Exported





BOARD MEMORANDUM

February 6, 2020

To: CMSA Commissioners and Alternates

From: Jason Dow, General Manager

Subject: Performance Metric Report – January 2020

Recommendation: Accept the January 2020 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

With rain events elevating wastewater flows, sewer pipelines in the service area collection system were flushed of settled material resulting in increased organic loading to the treatment plant. These organics with additional FOG deliveries over the month resulted in the Biogas Production metric (Item 5) and Power Produced metric (Item 6) exceeding the upper end of their respective target ranges. Over the month CMSA produced nearly 96% of our power from the cogeneration system running on biogas.

Table II – Employee Metrics

On-site training included Forklift Certification training for new employees, web-based Fire Extinguisher and Defensive Driving safety training for several staff, San Quentin access training for a few staff, and classification specific development training.

An Environmental Services Analyst attended the annual CWEA Pollution Prevention and Pretreatment Conference, a new Lead Operator attended a leadership and team building skills seminar, and the General Manager and Board Chair attended the Winter CASA Conference.

Table III - Environmental and Regulatory Compliance Metrics

There weren’t any final effluent permit exceedances January, and all routine NPDES regulatory reports were submitted on schedule as was the 2019 Self-Monitoring Report that included the JPA member agency reports on their progress on compliance schedule tasks to reduce blending. Source control staff completed 117 inspections in the CMSA and contract agency service areas.

Process Control Analyses (Item 3), Contract Laboratory Analyses (Item 4), and Quality Control Testing (Item 5) are higher than their target ranges due to the additional sampling and analyses

performed for the digester pilot study, and these items will remain high until the study is finished in a few months.

Table IV - Public Outreach

There were two odor alerts posted to the website over the past month, and the Agency did not receive any public odor complaints. Alerts were posted for taking primary clarifiers out of service due to reduced influent flows.

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 in January.

School Events – Juggler Show Presentations and Classroom Events

<u>Date</u>	<u>School</u>	<u>Attendees</u>
1/6	Lynwood Elementary in Novato	250
1/29	Hidden Valley Elementary in San Anselmo	180

CMSA Tours

<u>Date</u>	<u>School</u>	<u>Attendees</u>
1/15	San Domenico in San Anselmo	24

Attachment:

- January 2020 Performance Metric Report

CMSA CY19 PERFORMANCE METRICS – January 2020

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)	410.7 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)	490 wt 0 wt 122.5 wt	360 – 665 wt
3) Conventional Pollutant Removal	Removal of the conventional NPDES pollutants - Total Suspended Solids (TSS) and Biological Oxygen Demand (BOD) a. tons of TSS removed; % TSS removal b. tons of organics removed (BOD); % BOD removal	378.3 tons; 97.9% 277.1 tons; 97.0%	> 85% > 85%
4) Priority Pollutants Removal	Diversion of priority NPDES metals from discharge to the S.F. Bay: a. % Mercury b. % Copper	98.2% 88.0%	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)	10.00 Mft ³ 6.40 Mft ³	6.0 to 9.5 Mft ³ 3.8 to 6.1 Mft ³
6) Power Produced	Power produced from cogeneration of generated biogas and purchased natural gas - in kilowatt hours. Power produced from cogeneration of generated biogas and exported to grid Cogeneration system runtime on biogas, <i>in hours (hrs.); % time during month</i> Biogas value (natural gas cost equivalent).	493,909 kWh 55,441 kW 710.5 hrs; 95.5% \$36,800	380 to 480,000 kWh TBD 558 hrs.; 75% \$7,000 to \$24,000
7) Efficiency	The cost to operate and maintain the treatment plant per million gallons of wastewater treated, in dollars per million gallons. Energy used, kilowatt hours, per million gallons treated.	\$876 /Mg 1,237 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 = 121.5 External = 87.5	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);	676.5 hrs 458 hrs (69.9%) 197.5 hrs (22.3%) 1.03	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 normal hours worked; % <i>Year to date (YTD)</i>	263 hrs; (263 hrs) 2.3%; (2.3%)	< 5%

CMSA CY19 PERFORMANCE METRICS – January 2020

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	365	150-750
3) Process Control Analyses	# of analyses by the CMSA laboratory for process control monitoring	1,173	400-1,250
4) Contract Laboratory Analyses	# of analyses by contract laboratories for regulatory compliance reporting	117	0-50
5) Quality Control Testing	# of CMSA performed laboratory analyses for QA/QC purposes	456	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.)	86	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	9	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.	81	20 – 50
9) Permits Issued/Renewed	Permits issued for the pretreatment, pollution prevention, and FOG source control programs, and for groundwater discharge	27	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>	3,000/year
2) School Events	Participation or sponsorship in school outreach events; attendees; <i>(YTD)</i>	0; <i>(0)</i>	variable
3) Agency Tours	Tours given to students and the public; # of people, <i>(YTD)</i>	24; <i>(24)</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

February 6, 2020

To: CMSA Commissioners and Alternates
From: Kenneth Spray, Administrative Services Manager
Approved: Jason Dow, General Manager
Subject: **FY20 Second Quarter Budget Status Report**

Recommendation: Review and accept the Second Quarter Budget Status Report for FY20.

Discussion: We are pleased to present the budget status report for the second quarter ended December 31, 2019. Tables for revenues by source, expenses by function, and CIP by major classes of capital projects are reflected below with analytical information for each.

Highlights for the second quarter ended December 31, 2019 are as follows:

- Revenues are tracking well in total at 58.3% for the second quarter.
- Sewer service charges for the second quarter are at 50% as billed.
- Debt service contributions are at approximately 78% as of the second quarter. The second quarter includes the annual debt principal together with the first interest installment.
- Debt service contributions include 25% revenue coverage required by bond indenture provisions and used for capital program funding.
- Other financing sources include the final state revolving fund loan proceeds reimbursement in connection with the Renewable Energy Expansion Project.
- Total expenses incurred are at approximately 55% of budget.
- Employee benefits and insurance are accounted for in the Administration department.

Description	FY20 Budget	YTD	Amount Remaining	Percent Collected /Spent
Total Revenues	\$ 19,589,161	\$ 11,428,125	\$ 8,161,036	58.3%
Total Operating Expenses	\$ 12,569,900	\$ 6,898,440	\$ 5,671,461	54.9%
Total Debt Service	\$ 3,967,331	\$ 3,199,128	\$ 768,203	80.6%
Total Capital Expenses	\$ 3,900,626	\$ 1,670,813	\$ 2,229,813	42.8%

Revenues by Source

Description	FY20 Budget	YTD Actual	Open Invoices	Total Revenue	Budget Remaining	Actual %	Total %
Sewer Service Charges	12,015,001	6,007,501	-	6,007,501	6,007,501	50.0%	50.0%
Contributions for Debt Service	4,959,162	3,818,387	63,605	3,881,991	1,077,171	77.0%	78.3%
Contract Services	1,322,478	520,519	156,145	676,664	645,814	39.4%	51.2%
Program Revenues	107,348	45,318	-	45,318	62,030	42.2%	42.2%
Haulers, Permits & Inspection Fees	274,550	126,649	34,644	161,292	113,258	46.1%	58.7%
Other Non-Operating Revenues	20,000	15,972	-	15,972	4,028	80.0%	80.0%
Interest Income	409,750	203,157	-	203,157	206,593	49.6%	49.6%
Capacity Charges	30,872	329,471	-	329,471	(298,599)	1067.2%	1067.2%
Other Sources	450,000	106,758	-	106,758	343,242	23.7%	23.7%
TOTAL REVENUE	19,589,161	11,173,731	254,393	11,428,125	8,161,036	57.0%	58.3%

Sewer Service Charges: Revenues are billed to JPA members on a quarterly basis and are due upon receipt. Sewer service charges are billed at the beginning of each quarter for operating and capital funding. Sewer service charges are the largest revenue source.

Contributions for Debt Service: Debt service contributions, including coverage, are billed in August and February, prior to each debt service payment.

Contract Services and Program Revenues: These revenues have separate tables and analytical information for each. See below.

Haulers, Permits, and Inspection Fees: Revenue from haulers is at approximately 59% for the second quarter of the FY20. This revenue type represents septic receiving facility use charges, organic waste disposal tipping fees, industrial waste discharge permit fees, reimbursement of costs for source control program permits, and other services.

Other Non-Operating Revenue/Financing Sources: Other non-operating revenues consist mainly of Marin Airporter lease revenue, and other financing sources are the final installment of state proceeds for the Renewable Energy Expansion Program.

Interest Income: CAMP posts interest monthly currently at 1.78% and LAIF posts interest quarterly currently at 2.043% of applicable accounts balances.

Capacity Charges: Budgeted capacity charges are a placeholder for five residential new connections from members. Actual capacity charges received represent new connections and increased fixture units for existing connections. There was approximately \$323,000 received in capacity charges for the second quarter.

Contract Services Revenues

Contract Services	FY20 Budget	YTD Actual	Open Invoices	Total Revenue	Actual Expenses	Invoice Frequency
SQSP Wastewater Services	601,545	271,667	29,106	300,773	300,773	Monthly
SQ Village Wastewater Services	71,686	2,985	1,419	4,404	3,619	Monthly
SQSP Pump Station Maintenance	115,921	41,002	19,320	60,323	53,686.51	Monthly
SD2 Pump Stations	446,475	168,325	72,832	241,157	200,814	Monthly
LGVSD - FOG & Pollution Prevention	19,565	8,643	2,396	11,039	9,132	Quarterly
RVSD – FOG	23,100	2,796	2,085	4,881	4,450	Quarterly
SRSD – FOG	30,900	5,045	1,136	6,181	5,627	Quarterly
TCSD – FOG	1,584	522	372	894	738	Quarterly
SD2 – FOG	7,640	1,676	594	2,270	2,070	Quarterly
Almonte SD-FOG	630	308	512	820	676	Quarterly
NSD - Dental Amalgam	3,432	-	3,128	3,128	2,643	Quarterly
TOTAL CONTRACT SERVICES REVENUE	1,322,478	502,969	132,900	635,869	584,227	

Contract Services: The Agency provides services to sanitary districts and other government entities for wastewater treatment, collection system operations and maintenance, pump station maintenance, and source control program services. Contract service revenues in total are at 51% of budget consistent with amounts for the second quarter. The Agency contracts with San Quentin State Prison (SQSP) for wastewater treatment services and pump station operation & maintenance, to San Quentin Village (SQV) for collection system operation & maintenance, and to SD2 for pump station and force main operation & maintenance. Fats, Oils, and Grease (FOG) inspections and the resulting FOG revenues are at 34% for the second quarter.

Contract service revenues are billed to participating entities for the direct costs of materials, total compensation for employee staff time where applicable, plus overhead rates for the use of Agency equipment and supplies where applicable. Overhead rates are in accordance with contract provisions and range from 10%-22% depending upon the contract. Wastewater treatment services for SQSP are based on flow and strength as a proportion of the total cost of CMSA operation plus capital, and the SQSP pump station contract adjusts annually by CPI.

Program Revenues

Program Name	FY20 Budget	YTD Actual	Open Invoices	Total Revenue	Actual Expenses	Invoice Frequency
Revenue for Health & Safety Program	72,100	32,430	-	32,430	29,537	Quarterly
Countywide Education Program	35,248	12,889	-	12,889	11,208	Recognized quarterly
TOTAL PROGRAM REVENUE	107,348	45,318	-	45,318	40,744	

Program Revenues: The Agency administers joint venture programs for Health & Safety (H&S) with the Novato Sanitary District (NSD) and a Countywide Education Program (CWP) with five participating wastewater agencies in Marin County. Costs of the H&S program are allocated between the Agency and NSD for salary and benefits, incidental program expenses, and outside safety training costs. The Agency administratively manages the H&S program and charges an administrative fee to NSD, accordingly. Revenue for the H&S program is near target at 45% for the second quarter.

CWP participants plan their programs as a group and pay their annual share of program costs based upon percentages established in the Cooperative Public Education Program agreement at the beginning of each fiscal year, and are given credit at the end of each fiscal year for monies unapplied. or the CWP, the Agency recognizes revenue for reimbursed expenditures plus an administrative fee for the purchase of materials that generally occurs in the spring and not equally throughout the year. Special projects of the CWP can occur at any time during the year and material purchases, when needed, are at the request of the program committee.

Expenses by Function

Description	FY20 Budget	Budget Transfers	Adjusted FY20 Budget	Budget (50%)	Actual Expenses	Budget Remaining	% Spent
Salaries & Wages	5,693,800	-	5,693,800	2,846,900	2,829,622	2,864,178	49.7%
Benefits	2,872,800	-	2,872,800	1,436,400	1,661,523	1,211,277	57.8%
Chemicals & Fuel	1,289,800	-	1,289,800	644,900	669,842	619,958	51.9%
Biosolids Management	418,500	-	418,500	209,250	196,581	221,919	47.0%
Permit Testing & Monitoring	143,800	-	143,800	71,900	89,945	53,855	62.5%
Repairs & Maintenance	364,700	-	364,700	182,350	148,719	215,981	40.8%
Insurance	384,500	-	384,500	192,250	447,805	(63,305)	116.5%
Utilities	486,600	-	486,600	243,300	345,908	140,692	71.1%
General & Administration	915,400	-	915,400	457,700	508,494	406,906	55.5%
TOTAL EXPENSES	12,569,900	-	12,569,900	6,284,950	6,898,440	5,671,461	54.9%

Expenses by Department

Description	FY20 Budget	Budget Transfers	Adjusted FY20 Budget	Budget (50%)	Actual Expenses	Budget Remaining	% Spent
Administration	5,098,400	-	5,098,400	2,549,200	3,036,465	2,061,935	59.6%
Maintenance	1,998,300	-	1,998,300	999,150	992,880	1,005,420	49.7%
Operations	3,490,400	-	3,490,400	1,745,200	1,864,220	1,626,180	53.4%
Technical Services	1,982,800	-	1,982,800	991,400	1,004,874	977,926	50.7%
TOTAL EXPENSES	12,569,900	-	12,569,900	6,284,950	6,898,440	5,671,461	54.9%

Salary & Wages and Benefits: Salary expense includes 13 of 26 payrolls and is 50% spent at second quarter right at target. Benefit expenses were slightly higher at approximately 58% due to a lump sum amount paid for the CalPERS unfunded liability employer cost in the first quarter of the year that will balance out as of fiscal year end. The lump sum payment option saved the Agency approximately \$26K when compared to the monthly remittance option. All other benefit expenses without the lump sum payment amount to 44% spent at second quarter.

General Purchasing Information: Expenses and capital disbursements follow purchasing procedures established by policy to ensure protection of public assets, fairness in the purchasing process, and transparency to the public. Purchases are recognized as expenses or additions to capital projects when the goods are received or the services performed.

General & Administration (G&A): Expenditures are tracking at approximately 56% of budget with a few large permit fees paid at full annual amount rather than evenly spread. The G&A expense category includes professional services (legal, financial, regulatory, etc.), operating permits, memberships in local, state, and national wastewater organizations, employee certifications, conferences, training, telephone, internet, and office expenses.

Insurance: Insurance is at 116% spent for the second quarter reflecting premiums that are largely paid at the beginning of the fiscal year. General liability is the only premium that is paid on a calendar year basis. The below schedule provides the payment status for insurance coverage. Insurance premiums are paid when policies are renewed and the expenses are prorated between fiscal years based on the policy’s coverage time period. Workers’ Compensation insurance is high due to an \$86K retroactive adjustment that was made for two long-term claims liabilities for separated employees. The base premium is consistent with budget at \$260K.

Description	FY20 Premium	Status
Property Insurance	75,622	FY20 paid in full
General Liability & Auto	26,142	FY20 July-Sept prepaid FY19
Pollution Liability	-	
Employee/Commissioners Bond	146	Pending receipt of bill
Commercial Crime Insurance	1,425	FY20 paid in full
Workers Compensation	344,470	FY20 paid in full

Repairs & Maintenance: Expenditures for repairs and maintenance are at approximately 41% of the years' budget spent. Expenditures alone do not necessarily reflect the quality or quantity of repair and maintenance activities taking place. For example, periods of high expenditures reflect the purchasing of materials and supplies to prepare for upcoming planned maintenance, while periods of low expenditures can relate to staff performing planned maintenance utilizing available parts inventory. Parts inventory is extensive at approximately \$1.8M total value.

Chemicals & Fuel: Chemicals and fuel are close to budget at approximately 52%. Chemical usage varies throughout the year depending upon differing weather conditions. Chemical deliveries received as of the second quarter include 27 for ferric and nitrate, 24 for hydrogen peroxide and sodium bisulfite, 28 for sodium hypochlorite, 2 deliveries for polymer, and 3 deliveries for odor control. Fuel is used generally equally throughout the year for vehicles.

<u>Chemicals</u>	<u>Expenditures as % of Budget</u>	<u>Comments</u>
Ferric Chloride	39%	7 deliveries through December 2019
Polymer-Cationic	67%	2 deliveries through December 2019
Odor Control	53%	3 deliveries through December 2019
Nitrate	90%	20 deliveries through November 2019
Hydrogen Peroxide	39%	10 deliveries through December 2019
Sodium Hypochlorite	45%	28 deliveries through December 2019
Sodium Bisulfite	32%	14 deliveries through December 2019

Biosolids Management: Expenditures were at 47% of budget for the second quarter. Management expenses vary, and are primarily dependent upon seasonal weather-related circumstances: (1) land application during the months of May to November results in lower reuse tipping fee costs when compared to alternate daily cover at the Redwood Landfill and biofertilizer production at the Lystek facility, and (2) the volume for disposal is lower during the warmer weather spring and summer months.

Permit Testing & Monitoring: Expenditures are at 63% for NPDES permit sampling and other contract laboratory analyses costs. Expenditures for this category vary; sampling costs can range widely from \$150 to \$5,000 each based on the type and frequency of analyses performed. There has been an increase in biogas and sludge sampling in connection with the digester pilot study.

Utilities: Expenditures for utilities are at approximately 71% of budget for electricity purchased from PG&E due to the failure of the cogeneration engine. The engine failed in May 2019 and went back online in September 2019. The Agency exclusively purchased electricity from PG&E during this time. Thanks to the diligent efforts of Operations and Technical Services staff, a refurbished engine was identified, shipped here, installed, and troubleshooted in a relatively short period of time. The cogeneration engine replacement project is complete and once again the Agency operates using green cogenerated electricity versus electricity purchased.

Debt Service Expenditure

Description	FY20 Budget	YTD Actual Spent	Amount Remaining	% Spent	Invoice For Debt Collection
Principal	2,395,000	2,395,000	-	100.0%	JPA: Annual SQSP: Monthly
Interest	1,572,331	804,128	768,203	51.1%	JPA: Biannual SQSP: Monthly
TOTAL DEBT SERVICE	4,959,164	3,199,128	768,203	80.6%	

The annual debt service payment for principal and interest shown above represents the standard scheduled payment for the 2015 refunding revenue bonds. The annual amount is paid in two installments consisting of principal and interest due September 1 of each year, and interest-only due March 1 of each year. Debt service amounts are invoiced to the JPA members approximately one month in advance of when the debt service payments are due. San Quentin Prison is invoiced monthly for its proportionate share.

Capital Improvement Program

Description	FY20 Budget	Budget Transfers	Adjusted FY20 Budget	Actual	Budget Remaining	% Spent
Salaries & Benefits	189,200	-	189,200	40,173	149,027	21.2%
Facility Improvements	477,600	-	477,600	402,254	65,346	86.0%
General Equipment	736,000	-	736,000	122,128	613,872	16.6%
Liquids Treatment Equipment & Systems	1,349,400	-	1,349,400	492,636	856,764	36.5%
Solids Treatment & Energy Generation Equipment & Systems	1,148,426	-	1,148,426	613,623	544,803	53.0%
TOTAL	3,900,626	-	3,900,626	1,670,813	2,229,813	42.8%

Total capital program expenditures amount to approximately \$1.7M as of the second quarter ended December 31, 2019. There are payments made for numerous projects with each of the capital improvement program categories of (1) Facility Improvements, (2) General Equipment, (3) Liquids, Treatment Equipment and Systems, and (4) Solids Treatment and Energy Generation Equipment and Systems. Specific projects and their status can be viewed at the Monthly Budget-to-Actual Project Report, attached. Salaries and benefits for in-house staff are generally charged at year-end and allocated between certain projects on the basis of the proportion of project expenditures in relation to the total of applicable project expenditures.

Attachment:

- Budget-to-Actual CIP Project Report

Central Marin Sanitation Agency
Capital Improvement Program

Monthly Budget to Actual Project Report
For Period 06 Ending December 31, 2019 50% of FY 2019-20



Project Title	PM	Annual Budget Amount	Adjusted Annual Budget (w/Transfers)	YTD Project Payments	Annual (Over) Under	Annual % Spent	Total Contract(s) Remaining	Comments: Reflecting project status as of January 29, 2020 for bills paid through December 31, 2019.
Facility Improvements								
Industrial Coat/Concrete ReHab	TSM	209,100	209,100	53,605	155,495	25.64%		- A maintenance contract was issued to a contractor to repair the coating on the CCTs 5-6 pipes, valves, and gates as well as seal the leaking ceiling in Gallery A. The work was completed at the end of October.
Outfall Inspection & Repairs	TSM	80,000	70,000	43,587	26,413	62.27%		- A diver survey of the outfall diffusers was performed in June and a maintenance contract was issued to Tidal Marin to install riser extensions and new numbering tags for the outfall. The work was completed at the end of October. A budget transfer from this account to 7300-691-00 was completed to cover the upcoming digester membrane cover inspection.
Facility Improvements	TSM	35,000	35,000	-	35,000	0.00%		- No activity to date.
Facility Paving/Site Work	TSM	45,000	45,000	3,477	41,523	7.73%		- Minor stripping was added in the road and parking lot areas near the main gate. Minor pavement repair work is being designed by engineering for construction prior to the end of this fiscal year.
Hillside Slope Stabilization	TSM	25,000	25,000	300,477	(275,477)	1201.91%	9,809	The Board accepted the project as substantially complete at the October meeting. Final punch list work was completed on 11/5, and the FEMA reimbursement application was submitted. A budget transfer will need to be completed after the FEMA reimbursement
Facility Roofs Rehab	TSM	68,500	68,500	1,107	67,393	1.62%		- Staff is evaluating options to permanently repair the new leak that was observed in the skylight area and the office area in the Administration Building.
SHB Elevator Control Replacement	TSM	15,000	15,000	-	15,000	0.00%		- No activity to date.
Subtotal		\$ 477,600	\$ 467,600	\$ 402,254	\$ 65,346	86.03%	\$ 9,809	
General Equipment								
Process Control	ISA	44,600	44,600	10,154	34,446	22.77%		- Handheld UHF radios were ordered and received. Batteries and a wind turbine for the hilltop repeater site were purchased and installed. Modbus gateways for plant equipment were purchased and installed.
Security/Fire Systems	TSM/ISA	10,500	10,500	2,423	8,077	23.08%		- The annual fire sprinkler system inspection was completed last year and the first quarterly inspection for 2020 is being scheduled.
IT Hrdwr/Communication Equip	ISA	209,900	209,900	35,135	174,765	16.74%		- Annex network connectivity equipment was installed, used network inventory was replenished, parts were received to consolidate Admin network rack, portable radios were received for replacements of broken units and for new staff. 40GBE Ethernet card for servers were purchased and installed. Tyler Incode accounting software 25% licensing fees was paid.
Agency Vehicle Replacement	MS	40,000	40,000	-	40,000	0.00%		- Staff is working with vendors to secure quotes for two vehicles, one to replace an aging fleet vehicle and the other will be a dedicated SQ pump station vehicle.
Laboratory Equipment	RCM	108,000	108,000	12,226	95,774	11.32%		- The bioassay room relocation work is in the planning stage and will be completed before the end of the fiscal year.
Electrical Equipment	MS	120,000	120,000	17,175	102,825	14.31%		- Board approved the purchase of five hypochlorite storage tanks isolation valves and actuators at their December 2019 meeting. A PO has been issued for this equipment. Currently awaiting delivery.
Plant Lighting	MS	14,000	14,000	9,615	4,385	68.68%		- All FY20 purchases have been received into inventory, CCT 5 and 6 light standard upgrade work is complete, and staff is currently working on lighting in the Headworks.
Process Instrumentation	MS	79,000	79,000	31,003	47,997	39.24%		- New handheld gas meters for confined space and atmospheric testing have been ordered and are currently awaiting delivery.
Electrical Distribution Rehab	MS	110,000	110,000	4,398	105,602	4.00%	38,373	Lee & Ro was hired to assist with completing a condition assessment of the main plant switchgear and the planning work for this effort is underway.
Subtotal		\$ 736,000	\$ 736,000	\$ 122,128	\$ 613,872	16.59%	\$ 38,373	
Liquids Treatment Equipment and Systems								
Plant Pumps	MS	80,000	80,000	2,722	77,278	3.40%		- Engineering is currently verifying specifications to correctly size the replacement of three water supply pumps to ensure proper process flow and energy efficiency.
Chemical Pumps	MS	77,600	77,600	4,909	72,691	6.33%		- Five replacement calcium nitrate solution metering pumps have been selected and a PO has been issued for their purchase.
Gates Rehabilitation	MS	474,500	474,500	418,505	55,995	88.20%		- Contractor replaced the primary clarifier gate hydraulic system with motor electric operators. The project was accepted as complete at the October Board meeting.
Headworks Equipment	MS	28,900	28,900	5,247	23,653	18.16%		- Eight headworks process piping plug valves have been ordered for replacement due to age and condition.
Odor Control System Improvemnt	TSM	20,000	20,000	-	20,000	0.00%		- No work planned for this month.
Process Tank Maintenance	MS	60,000	60,000	846	59,154	1.41%		- Staff is working to procure materials for the repair and replacement of reclaimed water piping.



Project Title	PM	Annual Budget Amount	Adjusted Annual Budget (w/Transfers)	YTD Project Payments	Annual (Over) Under	Annual % Spent	Total Contract(s) Remaining	Comments: Reflecting project status as of January 29, 2020 for bills paid through December 31, 2019.
Primary Clarifier Rehab	TSM/MS	35,000	35,000	29,545	5,456	84.41%	-	The gear boxes, installation plates, and all necessary materials for the installation of five primary clarifier scum skimmers are on site. Staff is scheduling the installation work around the weather conditions.
Secondary Clarifiers Rehab	MS	185,000	185,000	-	185,000	0.00%	31,298	The design engineer's scope was finalized and a professional services agreement was executed with Lee & Ro in January. Planning work is underway.
Aeration System Rehabilitation	TPM	20,000	20,000	4,805	15,195	24.02%	-	The core replacement on Aeration Blower No. 2 has been scheduled for rehabilitation and will be reinstalled by Neros factory
Process Pipe Inspect'n/Repairs	TSM	220,000	220,000	-	220,000	0.00%	-	Staff has developed a scope of work and solicited quotes from qualified consultants and will be presenting the recommended selection at the February Board meeting.
Chemical Tanks	MS	65,100	65,100	-	65,100	0.00%	-	No activity to date. Staff is planning to procure and replace one Nitrate solution and one Hypochlorite bulk chemical storage tank before the end of this fiscal year.
Piping-Valves-Operators	MS	58,300	58,300	26,058	32,242	44.70%	-	Process piping expansion joints have arrived and technicians are currently working on installing them in the Gallery C process piping.
Influent Flow Meter Replacemnt	TSM	25,000	25,000	-	25,000	0.00%	-	This project was assigned to the new Associate Engineer who has been reviewing the project background.
Subtotal		\$ 1,349,400	\$ 1,349,400	\$ 492,636	\$ 856,764	36.51%	\$ 31,298	
Solids Treatment and Energy Generation Equipment and Systems								
Digester Inspect/Cleaning	TSM	-	10,000	-	10,000	0.00%	-	A budget transfer from 7300-987-00 was completed to cover the inspection of the digester membrane covers. The inspection will be scheduled before the end of this fiscal year.
Cogeneration Maintenance	MS	400,000	400,000	204,544	195,456	51.14%	15,228	This project is complete.
New Cogeneration System	TSM	598,226	598,226	337,516	260,710	56.42%	1,815,197	Carollo is continuing with the final design. Jenbacher has been selected, and the cogen system prepurchase process is underway. Additional research and coordination is underway around engine operational options during a Public Safety Power Shutdown.
Hot Water Systems	MS	29,000	29,000	-	29,000	0.00%	-	No activity to date, soon technical services will assist with developing the scope of work for this project which will be completed before the end of this fiscal year.
Boilers & Gas Processing Equip	MS	13,000	13,000	-	13,000	0.00%	-	No activity on this project to date.
Sludge Recirc Pump Grinders	MS	19,400	19,400	17,105	2,295	88.17%	-	This project is complete. A new grinder cartridge has been installed.
Biosolids Hoppers-Maintenance	MS	9,300	9,300	-	9,300	0.00%	-	No activity to date but minor routine repairs are planned to be completed before the end of this fiscal year.
Organic Waste Facility Equip	MS	54,500	54,500	46,219	8,281	84.81%	-	Both new mixing pumps have been installed, this work was completed during the last station cleaning on December 4.
PG&E Inter-Connection Agrmnt	TSM	25,000	25,000	8,239	16,761	32.96%	59,474	Staff executed a new contract with MBE to assist with the PG&E Interconnection Agreement Modifications for the new engine which is in progress. A budget transfer will need to be completed to cover this account depending on the final cost of MBE's work.
Subtotal		\$ 1,148,426	\$ 1,158,426	\$ 613,623	\$ 544,803	52.97%	\$ 1,889,900	
TOTAL CIP COST (excluding staff costs)		\$ 3,711,426	\$ 3,711,426	1,630,640	\$ 2,080,786	43.94%	\$ 1,969,379	
CMSA CIP STAFF COSTS		189,200	189,200	40,173	149,027	21.23%		
ANNUAL TOTAL		\$ 3,900,626	\$ 3,900,626	\$ 1,670,813	\$ 2,229,813	42.83%	\$ 1,969,379	



BOARD MEMORANDUM

February 6, 2020

To: CMSA Commissioners and Alternates

From: Peter Kistenmacher, Technical Services Manager

Approved: Jason Dow, General Manger

Subject: **Organic Waste Pilot Project with South Bayside Waste Management Agency**

Recommendation: Approve the Agency’s participation in an organic waste pilot project with the South Bayside Waste Management Authority, and authorize the General Manager to sign the Memorandum of Understanding.

Summary: At the February 2019 Board meeting, staff reported on the status of the Agency’s power delivery program that included various long term efforts to increase the Agency’s biogas production. A key long-term element of this program is finding and accepting additional sources of organic waste for processing in the Agency’s digesters to generate additional biogas. Over the last several months, staff has become aware of, and has begun investigating, a new potential source of liquid organic waste from the South Bayside Waste Management Authority (SBWMA), a joint powers authority in San Carlos that provides waste management services to approximately 500,000 people on the mid-peninsula. The initial staff investigations indicated that this material appears to be quite promising, and staff and SBWMA have outlined proposed terms of a joint 12-month pilot project in a draft Memorandum of Understanding (MOU) for the Board’s consideration of approval.

Fiscal Impact: No capital investments are required by CMSA for this pilot. During the pilot period, CMSA proposes to accept the material free of charge while SBWMA will incur the cost for pre-processing the material and transporting it to CMSA.

Discussion: Due to limited development in CMSA’s service area, biogas production growth from wastewater solids is expected to be relatively limited. Therefore, the Agency’s best strategy for increasing biogas production is to accept additional external organic material. Currently, biogas production varies throughout the year due to a complex set of factors, including weekly and seasonal variations in FOG truck deliveries, and weekly and longer-term seasonal variations in the strength of CMSA’s wastewater influent.

For example, in the month of January, CMSA produced sufficient biogas to operate its existing cogeneration system on biogas for almost 24 hours per day at about 90 percent of the engine’s output, at many times producing sufficient power to satisfy on-site demands and export small

quantities to the local electricity grid. However, during the summer months the Agency may only operate between 15-20 hours per day on biogas at times, and is required to switch the engine to natural gas for the remainder of the day. Additionally, staff has noticed a general trend of higher FOG deliveries during the middle part of the week (Tuesday, Wednesday, and Thursday) with deliveries often dropping off Friday through Mondays. There is also limited storage capacity in the Organic Waste Receiving Facility (OWRF) and the digester's biogas storage covers, requiring staff to carefully manage the receipt of external organic materials so as not to overload the OWRF or digester storage covers. At infrequent times, this has necessitated the turning away of FOG deliveries on a short-term basis.

Considering these factors, staff has determined the Agency still has a current biogas "deficit," and that with the cogeneration system operating at full capacity it would likely still need 1-2 additional truckloads per day of additional external organic material to fully maximize its renewable energy production. Once the new Jenbacher based cogeneration system is operational in mid-2021, due to its larger capacity, the Agency will require even more external organic materials to utilize 100 percent of the new engine's capacity.

The organic material produced by SBWMA is an energy-dense flowable slurry that is transported in tanker trucks similar to FOG trucks. The consistency and low contaminant levels of the material are ensured by the extensive pre-processing system installed at the SBWMA facility. The pre-processing system includes a complex set of screens, presses, magnets, dilution systems and rotating cyclone devices that are carefully engineered to remove various types and sizes of contaminants from the incoming food waste streams. The final product is stored on-site at SBWMA in large storage tanks before being transferred to the tanker trucks. This multi-step, highly automated system provides ample opportunities to observe and sample for any contamination or inconsistencies that may occur prior to the material being shipped offsite.

The proposed MOU has a 12-month term for CMSA to accept one 5,000 gallon tanker truck of the material per day during the work week, and either party can terminate the partnership at any time. During the pilot term, both parties would evaluate the effectiveness of this arrangement and determine if a long-term partnership makes sense.

Alignment with Strategic Plan: This project aligns with CMSA's strategic action to support Goal 3 – Objective 3.1 in the Agency's FY20 Business Plan as shown below.

Goal Three: CMSA will further incorporate green business principles and consider renewable resource opportunities in its short- and long-term planning.

Objective 3.1: Implement steps to deliver extra power

Action: Identify potential organic waste sources to increase biogas production

Attachment:

- Draft MoU between CMSA and SBWMA

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (“MOU”) is entered into as of _____, 2020 by and between the **South Bayside Waste Management Authority (“SBWMA”)** and the **Central Marin Sanitary Agency (“CMSA”)**, (hereafter, also “Party” or “Parties”):

RECITALS

A. SBWMA is a joint exercise of powers authority comprised of twelve (12) member public agencies located in San Mateo County, California which owns and operates solid waste reduction and recycling facilities and programs.

B. CMSA is a joint powers agency located in San Rafael, California. CMSA owns and operates a regional wastewater treatment plant (WWTP) that has an organic waste receiving facility.

C. The purpose of this MOU is to facilitate the Parties' desire to conduct a joint pilot project processing organic waste from SBWMA at the WWTP, and to evaluate energy production benefits at the WWTP utilizing existing infrastructure. The pilot project will be conducted in two phases as outlined below.

1. Interpretation and Effect. This MOU commits neither Party to enter into a legally binding agreement or other legally enforceable commitment. The Parties agree to consult upon the Action Items described in paragraph 2 below regarding development of a potential agreement pertaining to an organic waste-to-energy project (“Project”).

2. Pilot Project Outline. The following outline provides an overview of the key aspects of the proposed pilot project with non-binding roles and responsibilities for each party to provide a framework and schedule for the project.

<u>Action</u>	<u>Tentative Responsible Party and Action</u>
Management of Project	SBWMA and CMSA each shall be responsible for managing their respective roles and responsibilities associated with the pilot project as outlined below.
General Role and Responsibility of SBWMA	Generate and transport the organic fraction (i.e. wet fraction) from source separated organics (SSO). SBWMA will deliver material as a “slurry” form that is transported in a tanker truck. The slurry form undergoes a polishing step that removes residual plastic film and grit. SBWMA will deliver polished slurry.
General Role and Responsibility of CMSA	Accept the SBWMA polished slurry at the CMSA organic waste receiving facility, and process it in the WWTP anaerobic digesters.

Term	The first phase of the pilot project is anticipated to begin on or around March 1 of 2020, with an approximate 12-month initial duration.
Delivery	SBWMA will target transporting one tanker truck per day on average between Monday and Saturday of each week, and possibly two tanker trucks on Saturday. The delivery quantity and schedule will be continuously coordinated as needed between each party. It may be adjusted at any time by mutual agreement in consideration of SBWMA's operational schedule and delivery cost constraints, as well as CMSA's need at times to receive more material during the beginning and end of the week, and possibly less during the middle of the week. If at any time adverse effects are noticed at CMSA that are thought to be attributed to the slurry, slurry delivery shall be stopped immediately until further evaluation is conducted.
Fees	No tipping fees during pilot period.
Phase Two	Mutually collaborate to design and possibly implement a larger project at a future date based on performance of the first phase.
Collaboration	Collaborate to evaluate pilot project performance by sharing performance data.

3. Costs, Expenses. Costs and expenses incurred pursuant to this MOU by each Party through the performance of their respective officers, employees or consultants shall be borne by the Party incurring such expenses.

4. Term and Termination. The term of this MOU shall be 12 months ("Initial Term") commencing upon March 1, 2020; Notwithstanding the foregoing, and at any time during the Initial or Renewal Term, either Party may terminate this MOU, with or without cause, by giving not less than thirty (30) days' prior written notice to the other Party. Either party may terminate, with or without cause, the delivery and acceptance of slurry at any time without advanced notice.

5. Liability. Each Party shall solely be liable for any and all damages, including attorney's fees, resulting from the actions or omissions arising from its performance of the terms of this MOU. Each Party (the "Indemnifying Party") shall indemnify, defend and hold harmless the other Party (the "Indemnified Parties") from and against any and all claims, demands, actions, losses, damages, assessments, charges, judgments, liabilities, costs and expenses (including reasonable attorneys' fees and disbursements) that may from time to time be asserted by third parties against the Indemnified Parties because of any personal injury, including death, to any person or loss of, physical damage to or loss of use of real or tangible personal property, to the

extent caused by the negligence or misconduct of the Indemnifying Party, its agents, employees or contractors in the performance of this MOU.

For purposes of indemnification set forth in this MOU, "Indemnified Parties" means the applicable party, its affiliates, successors and assigns and its and their employees, directors, officers, agents, and volunteers. The Indemnified Parties: 1) shall notify the Indemnifying Party in writing promptly upon learning of any claim or suit for which indemnification may be sought, provided that failure to do so shall have no effect except to the extent the Indemnifying Party is prejudiced thereby; 2) shall have the right to participate in such defense or settlement with its own counsel and at its own expense, but the Indemnifying Party shall have control of this defense or settlement; and 3) shall reasonably cooperate with the defense.

6. Notices. Notices required by or convenient to the performance of the Parties hereunder shall be written and deposited with the U. S. Postal Service, first class mail, postage prepaid, or by e-mail, or by facsimile addressed as follows:

Notice to CMSA: Peter Kistenmacher, Technical Services Manager
Central Marin Sanitary Agency
1301 Anderson Dr., San Rafael, CA 94901
e-mail: pkistenmacher@cmsa.us

Notices to SBWMA: Hilary Gans, Senior Operations and Contracts Manager
South Bayside Waste Management Authority
610 Elm Street, Ste 202, San Carlos, CA 94070
e-mail: hgans@rethinkwaste.org

7. Miscellaneous

A. Governing State Law; Venue. This MOU shall be governed by and construed in accordance with the domestic laws of the State of California without reference to its choice of law principles. Venue shall take place in the County of San Mateo, State of California.

B. No Waiver. The failure of any Party hereto to enforce any of the provisions of this MOU, or the waiver thereof in any instance, shall not be construed as a general waiver or relinquishment on its part of any such provision, and said provision shall nevertheless be and remain in full force and effect.

C. Entire Agreement. This MOU constitutes the entire and final agreement and understanding between the Parties with respect to the subject matter hereof and supersedes all prior oral and

written communications, understandings and agreements relating to the subject matter hereof, which are of no further force or effect. This MOU may only be modified or supplemented by an instrument in writing executed by a duly authorized representative of each Party.

D. No Partnership. The relationship between the Parties shall not be that of partners, agents or joint ventures for one another, and nothing contained in this MOU shall be deemed to constitute a partnership or agency agreement between them for any purposes, including, but not limited to federal income tax purposes. The Parties, in performing any of their obligations hereunder, shall be independent contractors or independent parties and shall discharge their contractual obligations at their own risk.

E. Severability. No provision of this MOU shall be interpreted to require any unlawful action by either Party. If any section or clause of this MOU is held to be invalid or unenforceable, then the meaning of that section or clause shall be construed so as to render it enforceable to the extent feasible. If no feasible interpretation would save the section or clause, it shall be severed from this MOU with respect to the matter in question, and the remainder of the MOU shall remain in full force and effect. However, in the event such a section or clause is an essential element of the MOU, the Party shall promptly negotiate a replacement that will achieve the intent of such unenforceable section or clause to the extent permitted by law.

F. Counterparts. This MOU may be executed in duplicate counterparts and so executed shall constitute one MOU effective upon the date above set forth.

IN WITNESS WHEREOF, the Parties have signed this Memorandum of Understanding.

South Bayside Waste Management Authority ("SBWMA")

Central Marin Sanitary Agency ("CMSA")

Name: _____

Name: _____

Title: _____

Title: _____



BOARD MEMORANDUM

February 6, 2020

To: CMSA Commissioners and Alternates

From: Peter Kistenmacher, Technical Services Manager
Jason Dow, General Manager

Subject: **Pilot Digester Study Status Report**

Recommendation: Receive the status report on the pilot digester study, and provide direction to the General Manager, as appropriate.

Summary: At the February 2019 Board meeting, staff reported on the status of the Agency's power delivery program that included a planned digester pilot study. Since that meeting, used trailer mounted 600-gallon pilot digesters were purchased, engineering staff designed the pilot system's equipment layout and process control details (see Attachment 1), support equipment was sourced and procured, and maintenance staff constructed the pilot system. In early August 2019, the system was started up, and after a few months of equipment troubleshooting and commissioning and resolving a critical digester temperature stability issue, the system began steady-state operation. On February 10, the system will have successfully operated at a 40 percent organic loading rate, which will then be increased to a 50 percent feed rate.

Pilot Study Purpose: The 2017 Facilities Master Plan evaluated long-term opportunities for expansion of CMSA's renewable power production. It was noted that the Agency's two anaerobic digesters are currently accepting grease (FOG) and food waste at a combined loading rate that is approaching a published 30 percent industry threshold for stable digester operations, and that CMSA would need to exceed this threshold in order to increase its renewable energy production. Because only limited industry reference papers have been published, a pilot study approach was recommended to determine what the organic loading rate threshold, measured on a volatile solids mass loading basis, are under actual digester operating conditions. Potential future CMSA capital projects related to the expansion of organic waste receiving and renewable energy facilities are contingent upon determination of this long-term acceptable organic loading threshold.

Staff has learned there are hundreds of digesters around the world operating successfully on 100 percent food waste and/or agricultural waste, but not many that co-digest wastewater solids with food, FOG, and other liquid organic wastes. The purpose of the pilot study is to systematically increase the percentage of external organic waste from our approximate 30 percent baseline level to 40, 50, 60 percent, and hopefully higher, to see at which level adverse digester health impacts are measured. This information will then be used to plan out the future

expansion of our organic waste program, including full-scale digester implementation on a trial basis.

Discussion: Since beginning steady-state operations in late October 2019, the pilot digesters were operated in the following three distinct phases. Each phase is about one Solids Retention Time (SRT) in duration, which for the purposes of the pilot was set at 25 days to minimize the overall study duration. For comparison, the 2019 average CMSA digester SRT was 44 days.

The first phase was used to ensure the pilot digester contents were comprised of exactly 30 percent external organic wastes by feeding them the exact same amount/percentage every day (and discharging an equivalent volume of digester content every day). The photo shows the two insulated pilot digesters, with their recirculation pumps, biogas pressure equalization bags, and ancillary equipment.



The second phase was used to run the pilot at the 30 percent level for at least one SRT. During this phase the digester health was very stable in terms of temperature, pH, gas production, and volatile acid concentration. Laboratory staff have analyzed numerous daily organic waste feed and digester content samples over the pilot study period, as shown in Attachment 2.

With the stable 30 percent operation, the next study phase was implemented, which involved slowly increasing the digester contents to the 40 percent organics level over the course of one SRT. As of January 17, the contents of both pilot digesters have been operating at the 40 percent organics content. On February 10, if the lab analysis data indicates continued stable digester operations and health, staff will increase the organic waste feed rate to 50 percent over the course of one SRT. Additional future increases will follow a similar pattern, all assuming that no adverse digester health impacts are observed. The table below shows the pilot study's organic loading volumes in order to achieve the desired loading rates.

Target External Organic Loading Rate (%)	Food Waste (Gal)	FOG (Gal)	TWAS (Gal)	Primary Sludge (Gal)	Total Daily Volume per Digester (Gal)
30	0.77	5.23	6.45	10.75	23.2
40	0.77	8.05	5.39	8.99	23.2
50	0.77	10.87	4.34	7.23	23.2
60	0.77	13.48	3.35	5.59	23.2

For the study, staff conservatively assumed that wastewater solids from the CMSA service area and delivered food waste quantities from Marin Sanitary Service will not increase in the future, and the only increase in organic material would be from FOG. In reality, wastewater and food waste volumes may slowly increase, and CMSA may receive additional high strength liquid organic wastes. The photo below shows the organic material mixing tanks, feed preparation buckets, and pilot digester feed pumps that are located in a room adjacent to the pilot digester system.

According to the study schedule, the first round of the pilot will be completed this summer. However, that could change if digester health impacts are discovered, in which case, the pilot schedule will be adjusted to increase the organic loading in smaller increments to determine where precisely problems occurred.



The team may also consider additional future testing of concepts that have a potential to benefit CMSA in the long-term, such as pre-digesting feed material in a compact acid-phase digester prior to the feeding the main digesters, which has been shown to help increase stability during co-digestion.

At the conclusion of the study, staff will collaborate with our Technical Advisory Committee, digestion experts from Veolia, Black & Veatch and Carollo, to compile and analyze the study data for use in a comprehensive pilot study report that may be published in industry journals.

Alignment with Strategic Plan: This activity supports three strategic actions in Goal 3 – Objective 3.2 in the Agency’s FY20 Business Plan as shown below.

Goal Three: CMSA will further incorporate green business principles and consider renewable resource opportunities in its short- and long-term planning.

Objective 3.2: Perform a Digester Volatile Loading Pilot Study.

Action a: Conduct the Digester VSL Study.

Action b: Assess the study results, prepare a report, and determine feasibility for publication.

Action c: Based on the study results, assess future phases for the study

Attachments:

- 1) Pilot Digester Process Flow Diagram
- 2) Pilot Digester Study Data – January 2020

Digester Pilot Study Data

Date	Pilot Digester #1													Operations Comments	
	Total Alkalinity	COD	Soluble COD	Total Solids	Volatile Solids	Volatile Acids	Ammonia (Wet Weirht)	pH	Temp	Gas	Methane	CO2	H2S		
	10349 mg/l	10350 mg/l	10365 mg/l	10351 %	10352 %	10353 mg/l	10354 mg/kg	10361 SU	10362 Deg F	10337 cf/hr	10383 %	10384 %	10385 ppm		
12/28/19								7.7	99.9	81					
12/29/19								7.7	99.9	73					
12/30/19								7.7	99.9					it was discovered that D1 and D2 meters were flipped for both wires	
12/31/19	6,060	32,500		2.3	70.2			7.7	100.0	73					
01/01/20								7.6	100.0	77				Maint install valves on gas lines. Found a leak at fitting to bag	
01/02/20								7.7	99.9	78					
01/03/20								7.7	99.9	75					
01/04/20								7.7	99.9	73					
01/05/20								7.7	99.9	70					
01/06/20								7.7	100.0	68					
01/07/20								7.7	99.9	77					
01/08/20	5,356	23,700		2.1	70.8	34		7.7	99.9	78					
01/09/20	5,250	27,400		2.1	70.9	38		7.7	98.5	69				recirc rate increased to 35 hz	
01/10/20		24,700	1,192	2.1	71.2			7.7	99.9	65					
01/11/20								7.7	99.9	80					
01/12/20								7.7	100.0	76					
01/13/20	5,250	25,500		2.1	72.0	36		7.6	99.5	68		40	210		
01/14/20	5,434	22,800		2.0	70.7	38		4.5	60.0						
01/15/20	5,228	27,700		2.0	70.8	57		7.3	99.0	75				Due to a power falure, temperature control lost	
01/16/20	5,204	17,800	990	2.0	71.5	48		7.4	99.8	76				Hach005 sentry sensor was de-ragged by Kevin	
01/17/20	5,270	24,700		2.0	71.3	35		7.3	100.0	74					
01/18/20								7.2	100.0	82					
01/19/20								7.2	99.9	81	59	39	100		
01/20/20								7.2	99.9	83					
01/21/20	5,252	27,100		2.0	71.5	40		7.3	100.0	88				Maint install valves on gas lines. Found a leak at fitting to bag	
01/22/20	5,278	24,100		2.1	71.4	44		7.3	100.0	83					
01/23/20	5,260	25,500	1,210	2.0	71.5	52		7.3	100.0	84					
01/24/20		25,500				35		7.3	100.1	75					
01/25/20								7.2	100.1	79					
01/26/20								7.2	100.0	78	60	30	50		
01/27/20								7.1	100.2	0					
Minimum	5,204	17,800	990	2.0	70.2	34.0		4.5	60.00	0	59	30	50		
Maximum	6,060	32,500	1,210	2.3	72.0	57.0		7.7	100.15	88	60	40	210		
Average	5,349	25,308	1,131	2.1	71.2	41.5		7.4	98.58	74	60	36	120		

Digester Pilot Study Data

Date	Pilot Digester #2													Operations Comments		
	Total Alkalinity	COD	Soluble COD	Total Solids	Volatile Solids	Volatile Acids	Ammonia (Wet Weight)	pH	Temp	Gas	Methane	CO2	H2S			
	10355 mg/l	10356 mg/l	10366 mg/l	10357 %	10358 %	10359 mg/l	10360 mg/kg	10363 SU	10364 Deg F	10338 cf/hr	10391 %	10401 %	10386 ppm			
12/28/19								7.5	99.8	0						
12/29/19								7.5	99.9	0						
12/30/19								7.5	99.8							see D1 detailed notes
12/31/19	5,940	33,800		2.2	70.5			7.5	99.9	56						
01/01/20								7.5	100.0	65						
01/02/20								7.5	99.8	58						
01/03/20								7.5	99.8	60						
01/04/20								7.5	96.0	60						
01/05/20								7.5	99.9	60						
01/06/20								7.5	99.9	61						
01/07/20								7.5	99.6	65						
01/08/20	5,294	24,800		2.1	70.8	42		7.5	99.9	66						
01/09/20	5,394	25,900		2.1	71.0	46		7.5	97.9	57						recirc rate increased to 35 hz
01/10/20		24,900	1,040	2.1	70.9			7.5	99.9	53						
01/11/20								7.5	99.9	64						
01/12/20								7.5	99.9	63						
01/13/20	5,188	28,400		2.1	72.4	39		7.5	99.7	59		40	205			
01/14/20	5,330	22,400		2.0	71.1	34		4.5	59.8							
01/15/20	5,240	27,700		2.0	71.7	57		7.4	98.1	61						Due to a power failure, temperature control lost and gas production reset.
01/16/20	5,180	28,300	990	2.1	71.3	51		7.3	99.8	63						
01/17/20	5,384	17,800		2.0	71.6	42		7.3	99.8	64						
01/18/20								7.3	99.9	74						
01/19/20								7.4	99.8	64	59	39	100			
01/20/20								7.4	99.9	59						
01/21/20	5,234	36,700		2.0	71.3	41		7.3	99.9	67						Maint installing valves on gas lines
01/22/20	5,408	24,800		2.1	72.2	61		7.2	99.9	64						
01/23/20	5,218	26,200	1,730	2.0	72.0	50		7.3	100.0	60						
01/24/20		28,900				45		7.3	100.0	38						
01/25/20								7.3	100.1	57						
01/26/20								7.3	100.0	65	60	30	50			
01/27/20								7.1	100.3	0						
Minimum	5,180	17,800	990	2.0	70.5	34		4.5	59.77	0	59	30	50			
Maximum	5,940	36,700	1,730	2.2	72.4	61		7.5	100.25	74	60	40	205			
Average	5,346	26,969	1,253	2.1	71.4	46		7.3	98.35	55	60	36	118			

Digester Pilot Study Data

Date	Primary Sludge					
	Total Alkalinity	COD	Soluble COD	Volatile Acids	Total Solids (Avg.)	Volatile Solids (Avg.)
	2850 mg/l	2849 mg/l	2847 mg/l	2848 mg/l	2841 %	2843 %
12/28/2019						
12/29/2019						
12/30/2019						
12/31/2019	740	24,100		2,000	5.0	86.5
1/1/2020						
1/2/2020						
1/3/2020						
1/4/2020						
1/5/2020						
1/6/2020						
1/7/2020						
1/8/2020	1,040	68,100		2,000	4.7	90.9
1/9/2020	700	108,600		2,000	5.0	91.1
1/10/2020		76,700	5,600	1,000	5.0	88.6
1/11/2020						
1/12/2020						
1/13/2020	940	82,300		1,570	5.2	88.7
1/14/2020	720	66,300		1,310	4.8	88.7
1/15/2020	940	89,400		1,250	5.3	86.5
1/16/2020	740	71,200	3,075	1,380	4.4	88.1
1/17/2020	1,082	69,300		1,590	4.2	87.6
1/18/2020						
1/19/2020						
1/20/2020						
1/21/2020	1,000	75,400		780	5.6	87.1
1/22/2020	1,060	83,400		1,470	5.4	88.4
1/23/2020	1,140	79,300	3,700	1,410	6.1	87.8
1/24/2020		63,300		1,340		
1/25/2020						
1/26/2020						
1/27/2020						
Minimum	700	24,100	3,075	780	4.2	86.5
Maximum	1,140	108,600	5,600	2,000	6.1	91.1
Average	918	73,646	4,125	1,469	5.1	88.3

TWAS					
Total Alkalinity	COD	Soluble COD	Total Volatile Acids	Total Solids	Volatile Solids
4644 mg/L	4648 mg/L	4667 mg/L	4650 mg/L	4645 %	4647 %
2,580	130,900		2,000	7.2	84.9
2,300	106,400		800	7.4	86.6
2,380	112,400		2,000	7.2	86.2
	121,500	12,160	1,000	7.5	86.6
3,120	86,000		1,580	6.6	86.0
2,240	98,300		897	6.5	86.6
2,840	107,800		1,550	6.9	84.1
2,080	91,900	11,100	900	6.4	86.8
2,660	94,900		1,360	6.4	86.9
3,120	99,800		1,430	5.9	84.9
2,780	85,800		1,980	5.8	84.9
2,340	94,500	12,000	2,230	6.5	84.6
	91,400		1,620		
2,080	85,800	11,100	800	5.8	84.1
3,120	130,900	12,160	2,230	7.5	86.9
2,585	101,662	11,753	1,488	6.7	85.8

Digester Pilot Study Data

Date	FOG					
	COD	Soluble COD	Total Volatile Acids	Total Solids	Volatile Solids	Ammonia
	4893 mg/l	4889 mg/l	4892 mg/l	4890 %	4891 %	4902 mg/l
12/28/2019						
12/29/2019						
12/30/2019						
12/31/2019	58,900		3,000	2.65	97.1	
1/1/2020						
1/2/2020						
1/3/2020						
1/4/2020						
1/5/2020						
1/6/2020						
1/7/2020						
1/8/2020	47,600		1,000	1.17	93.6	
1/9/2020	28,800		1,000	1.24	94.0	
1/10/2020	40,800	5,200	1,000	2.41	95.6	
1/11/2020						
1/12/2020						
1/13/2020	40,100		1,060	1.58	92.7	
1/14/2020	24,000		973	0.63	91.5	
1/15/2020	13,200		998	0.30	81.3	
1/16/2020	71,700	7,400	2,660	3.73	94.7	
1/17/2020	35,700		1,780	1.21	89.6	
1/18/2020						
1/19/2020						
1/20/2020						
1/21/2020	43,700		2,000	1.96	91.4	
1/22/2020	180,800		1,930	10.10	98.9	
1/23/2020	22,200	3,750	957	0.76	87.6	
1/24/2020	25,900		1,090			
1/25/2020						
1/26/2020						
1/27/2020						
Minimum	13,200	13,200	957	0.30	81.3	
Maximum	180,800	180,800	3,000	10.10	98.9	
Average	48,723	48,723	1,496	2.31	92.3	

Date	Food					
	COD	Soluble COD	Total Volatile Acids	Total Solids	Volatile Solids	Ammonia
	4901 mg/l	4905 mg/l	4900 mg/l	4898 %	4899 %	4903 mg/l
12/28/2019						
12/29/2019						
12/30/2019						
12/31/2019	570,000		10,000	20.6	92.3	
1/1/2020						
1/2/2020						
1/3/2020						
1/4/2020						
1/5/2020						
1/6/2020						
1/7/2020						
1/8/2020	378,400		10,000	22.5	90.8	
1/9/2020	341,600		9,000	25.3	89.2	
1/10/2020	251,200	50,600	8,000	22.7	91.7	
1/11/2020						
1/12/2020						
1/13/2020	403,600		11,400	26.9	88.8	
1/14/2020	322,800		13,700	23.9	90.3	
1/15/2020	306,400		6,330	25.2	83.6	
1/16/2020	300,000	99,500	10,400	23.6	84.8	
1/17/2020	230,800		12,700	25.3	87.4	
1/18/2020						
1/19/2020						
1/20/2020						
1/21/2020	330,800		11,000	26.1	87.1	
1/22/2020	281,200		9,210	24.0	87.3	
1/23/2020	366,800		15,300	26.2	90.7	
1/24/2020	214,800		4,394			
1/25/2020						
1/26/2020						
1/27/2020						
Minimum	214,800	214,800	4,394	20.6	83.6	
Maximum	570,000	570,000	15,300	26.9	92.3	
Average	330,646	330,646	10,110	24.4	88.7	



BOARD MEMORANDUM

February 6, 2020

To: CMSA Commissioners and Alternates

From: Joyce Cheung, Associate Engineer

Approved: Jason Dow, General Manger

Subject: Process Piping Inspection Project – Professional Services Agreement

Recommendation: Authorize the General Manager to sign a Professional Services Agreement for the Process Piping Inspection Project with either V&A or JDH Corrosion, depending on their final proposal costs.

Summary: There are several large diameter pipelines within the Agency’s wastewater treatment facility that transfer water between treatment processes. Some of these pipelines have not been inspected since being put into service in 1985. These process pipes are critical to the operation of the wastewater treatment plant, and some have elastomeric joints that are near the end of their useful service lives. In order to continue to operate and maintain the treatment facility, it is crucial to conduct an assessment to understand existing pipeline conditions and what repairs, if any, are necessary. Staff has received and reviewed a proposal from V&A and expects to receive the JDH proposal the day the February Board meeting agenda packet is published and distributed. At the Board meeting, staff will have completed the proposal review and will recommend a consulting firm for the pipeline inspection and condition assessment work.

Fiscal Impact: The Agency’s 10-year Capital Improvement Program has allocated \$220,000 this fiscal year (FY20) for the Process Pipeline Inspection Project. This initial phase of assessments may lead to recommendations for further investigations involving the excavation of the pipelines for external testing and/or repairing some elastomeric joints or pipelines.

Discussion: Process pipelines within the Agency’s wastewater treatment facility carry wastewater that includes caustic chemicals and are oftentimes exposed to corrosive environments including being located subsurface at or below the local water table. To understand the condition of the pipelines, inspections would include a combination of visual assessment, ultrasonic testing, broadband electromagnetics, closed circuit television video, cement mortar lining testing, soil resistivity testing, and other less intrusive means to evaluate the internal and external conditions of the process pipes. The exterior of pipelines encased in concrete will not be assessed at this time as this would require costly exterior excavations.

Pipeline interiors will be inspected based on the feasibility of pipeline isolation and access. The process pipelines selected for this assessment include the following:

- **48" Primary Effluent:** This cement mortar lined and coated steel (CMLS) pipe is the only pipeline that conveys water from the primary clarifiers to the biotowers, and is buried 16-feet below ground until it reaches the biotower pump room, where it is accessible under a grate.
- **30" Primary Effluent:** There are two 30" CMLS pipes exposed in the biotower pump room that split the primary effluent flow for pumping to the two biotowers.
- **36" Biotower Effluent:** There are two 36" CMLS pipes exposed in the biotower pump room that convey effluent from each biotower to the aeration tanks.
- **30" Biotower Effluent:** There are two CMLS pipes exposed in Gallery H that convey effluent from each biotower to the aeration tanks.
- **30" Secondary Influent:** There are four CMLS buried lines from the aeration tanks to the secondary clarifiers. A portion of these pipelines is exposed in Gallery L, where they are then directly buried with approximately 13-feet of ground cover. To minimize disruption to operations, internal inspection of these lines will be performed in tandem with the upcoming Secondary Clarifiers Rehabilitation Project when the pipelines are offline. Because only one clarifier will be rehabilitated during summer 2020, this current inspection project limits the scope of work to internal inspection of one of the four 30" Secondary Influent lines.

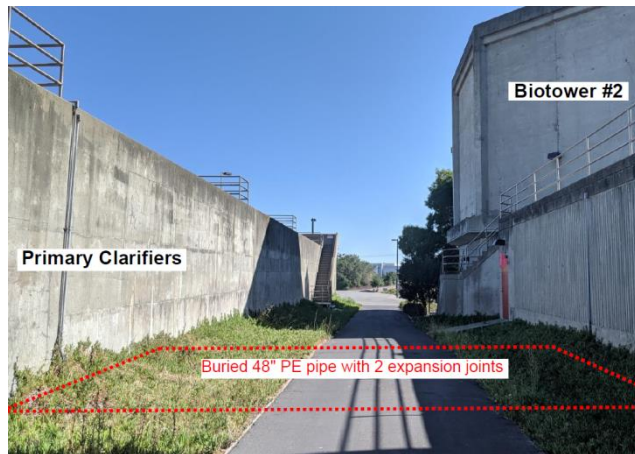


Photo 1: Buried 48" Primary Effluent pipe between Primary Clarifiers and Biotowers

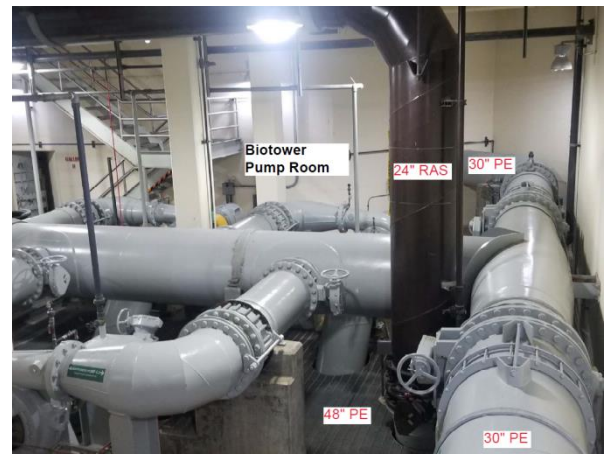


Photo 2: Biotower Pump Room

- **42" Pond Inlet:** This 180-foot CMLS pipe conveys water from the chlorine contact tank pit to the storage pond.
- **24" Return Activated Sludge:** This returned-activated sludge (RAS) header collects the RAS from the 12" pipelines from the secondary clarifiers and transfers RAS back to the aeration tanks. This pipeline is buried approximately eight feet under the aeration tanks.

- **72" Final Effluent:** This is a newer CM lined and coated pipe installed in 2010 from the chlorine contact tanks (CCT) 1-4 effluent box to CCT 5-6.
- **66" Final Effluent:** This is a newer CM lined and coated pipe installed in 2010 from the effluent pump station to the 84" final effluent line.

Based on the results from this pipeline condition assessment and inspection project, the Agency will have a better understanding of the current conditions, a forecasted rate of pipeline degradation, and can proactively plan for future maintenance, repair, remediation, or replacement work to minimize disruptions to process and operations.

Staff solicited proposals from two local firms, V&A and JDH Corrosion, which are specialized in this type of work, have in-house testing equipment, and are familiar with the Agency's facilities from previous work. V&A's proposal was in the amount of \$161,343 and JDH Corrosion's proposal was received after the Board agenda was published. Therefore the recommendation for the winning firm, including their proposal cost, will be reported by the General Manager at the Board Meeting. The work on this project is expected to be completed by the end of October 2020.

Alignment with Strategic Plan: This project actively supports Goal 1 – Objective 1.2 in the Agency's FY20 Business Plan as shown below.

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

Objective 1.2: Manage the Agency's assets

Action: Inspect the large diameter buried plant pipelines

Attachment:

- Process Piping Inspection Project Professional Services Agreement

**CENTRAL MARIN SANITATION AGENCY
PROCESS PIPING INSPECTION PROJECT
PROFESSIONAL SERVICES AGREEMENT**

This Professional Services Agreement (hereinafter "Agreement") is made and entered into this _____ day of **February 2020** by and between the **Central Marin Sanitation Agency** (hereinafter referred to as "Agency") and [REDACTED] (hereinafter referred to as "Consultant").

RECITALS:

WHEREAS, the Agency desires to retain Consultant to perform the **Process Piping Inspection Project** (hereinafter referred to as "Services"), which include, but are not limited to, providing condition assessment and inspection services for selected process piping throughout the Agency's wastewater treatment plant, including a combination of visual assessment, ultrasonic testing, broadband electromagnetic testing, closed circuit television video, cement mortar lining testing, and soil resistivity testing to determine existing conditions of the pipes; and

WHEREAS, Consultant represents and warrants that it is qualified, competent, and ready to perform such Services;

NOW, THEREFORE, for and in consideration of the promises contained herein, and the payments to be made by Agency, the parties agree to the following:

1. CONSULTANT'S SCOPE OF SERVICES:

Consultant shall provide the Services described in **Exhibit A** attached hereto and by this reference made a part of this Agreement. If the Agency desires to engage Consultant to perform optional or additional services, the Agency and Consultant will prepare and execute an amendment to this Agreement for the performance of the optional or additional services.

2. AGENCY'S OBLIGATIONS:

The Agency shall:

- (A) Provide access to and make provisions for the Consultant to enter the Agency's facilities as needed by Consultant in order for it to perform the Services, subject only to Consultant providing the Agency with reasonable advance notice of its need for access to one or more of the Agency's facilities.
- (B) Make available to Consultant all pertinent data, contract documents, record drawings, reports, studies, and other records (hereinafter collectively "Information") requested by Consultant for its review and use, and reliance in its performance of the Services.
- (C) Provide review comments on project deliverables per the agreed upon activity and project schedules.

3. FEES:

The fees for furnishing the Services to be performed under this Agreement are set forth in the fee and task proposal which is attached hereto as **Exhibit B** and by this reference incorporated herein and made a part of this Agreement. Said fees shall remain in effect for the entire term of the Agreement.

If during the performance of the Services, Consultant makes a good faith determination that there will be a balance remaining in a task upon its completion, the Consultant, with the Agency's prior agreement, which shall not be unreasonably withheld, may reallocate that amount among other tasks that have not been completed but have exceeded or are estimated to exceed the amount originally allocated for those tasks.

4. PAYMENT:

The Agency shall pay Consultant for proper performance of the Services according to the fee schedule set forth in **Exhibit B**. On a monthly basis, Consultant will provide the Agency with a written invoice setting forth the hours spent by Consultant's assigned personnel along with any reimbursable expenses incurred during that month together with supporting documentation as requested by the Agency. The fees for services under this Agreement shall be due within thirty (30) calendar days after approval by the Agency of the invoice covering the services and reimbursable expenses.

5. AGREEMENT TIME:

This Agreement shall commence when executed by the Agency and Consultant and shall terminate on **October 31, 2020**. Time is of the essence with respect to this Agreement. This Agreement's Time may be extended by mutual agreement of the parties. Consultant's Services shall be performed and the deliverables provided in accordance with the Schedule that is attached in **Exhibit A** and by this reference made a part of this Agreement.

6. INSURANCE:

Consultant shall procure and maintain at all times during the performance of the Agreement at its expense the following insurances:

(A)(i) **Workers' Compensation and Employer's Liability Insurance** for protection of Consultant's employees as required by the State of California and as will protect Consultant from loss or damage because of personal injuries, including death to any of its employees. Employers Liability insurance shall be provided in amounts not less than:

\$1,000,000 each accident for bodily injury

\$1,000,000 each employee for bodily injury by disease

\$1,000,000 policy limit for bodily injury by disease

- (A)(ii) **Comprehensive Automobile Liability Insurance** shall provide coverage for bodily injury and property damage liability. This policy shall protect Consultant against all liability arising out of the use of owned or leased automobiles both passenger and commercial. Automobiles, trucks, and other vehicles and equipment (owned, not owned, or hired, licensed or unlicensed for road use) shall be covered under this policy. Limits of liability for Comprehensive Automobile Liability Insurance shall not be less than \$1,000,000 per accident for bodily injury and property damage.
- (A)(iii) **Comprehensive General Liability Insurance** as will protect Consultant and the Agency from any and all claims for damages or personal injuries, including death, which may be suffered by persons, or for damages to or destruction to the property of others, which may arise from the Consultant's Services under this Agreement. Said insurance shall provide a minimum of \$1,000,000 Combined Single Limit coverage for personal injury, bodily injury, and property damage for each occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately for this Agreement or the general aggregate limit shall be twice the required occurrence limit. Such insurance will insure Consultant and the Agency from any and all claims arising from the following:
1. Personal injury;
 2. Bodily injury;
 3. Property damage;
 4. Broad form property damage;
 5. Independent contractors;
 6. Blanket contractual liability.
- (A)(iv) **Professional Liability Insurance** shall protect Consultant from claims arising out of negligent acts, errors or omissions of Consultant in the performance of the Service in an amount of not less than \$1,000,000. The policy shall cover the indemnity provisions under this Agreement. Consultant shall maintain this insurance for twelve (12) months after the Services required under this Agreement have been completed.
- (B) Consultant agrees to procure and maintain such insurances at Consultant's expense in full force and effect in a company or companies satisfactory to the Agency. All coverage shall remain in effect until completion of the Services.
- (C) Consultant will furnish the Agency with certificates of insurance issued by Consultant's insurance carrier(s) and countersigned by an authorized agent or representative of the insurance company. The certificates shall show that the insurance will not be cancelled, altered, or reduced without at least ten (10) days' prior written notice to the Agency. The certificates for liability insurance will show that liability assumed under this Agreement is included.
- (D) Consultant hereby grants to CMSA a waiver of any right to subrogation which any insurer of said Consultant may acquire against CMSA by virtue of the payment of any loss under such insurance. Consultant agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of

whether or not the CMSA has received a waiver of subrogation endorsement from the insurer.

- (E) The general liability and automobile liability insurance policies shall contain or be endorsed to contain the following provisions:
- (i) The Agency, its members including San Rafael Sanitation District, City of Larkspur, Ross Valley Sanitary District, Sanitary District No. 2 of Marin County, the City of San Rafael, the Town of Corte Madera, their respective commissioners, directors, councilmembers, officers, officials, employees and volunteers are to be covered as additional insured as respects: liability arising out of activities performed by or on behalf of the Consultant; products and completed operations of the Consultant; premises owned, occupied or used by the Consultant; or automobiles owned, leased, hired or borrowed by the Consultant. The coverage shall contain no special limitations on the scope of protection afforded to the Agency, its members including San Rafael Sanitation District, City of Larkspur, Ross Valley Sanitary District, Sanitary District No. 2 of Marin County, the City of San Rafael, the Town of Corte Madera, their respective commissioners, directors, councilmembers officers, officials, employees and volunteers.
 - (ii) For any claims related to this Agreement, the Consultant's insurance coverage shall be primary insurance as respects the Agency, its members including San Rafael Sanitation District, City of Larkspur, Ross Valley Sanitary District, Sanitary District No. 2 of Marin County, the City of San Rafael, the Town of Corte Madera, their respective commissioners, directors, councilmembers, officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the Agency, its members including San Rafael Sanitation District, City of Larkspur, Ross Valley Sanitary District, Sanitary District No. 2 of Marin County, the City of San Rafael, the Town of Corte Madera, their respective commissioners, directors, councilmembers, officers, officials, employees and volunteers shall be excess of the Consultant's insurance and shall not contribute to it.
 - (iii) The Consultant's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
 - (iv) Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party except after ten (10) days' prior written notice by mail, has been given to the Agency. Consultant agrees to provide notification to the Agency in the event the insurance policies are suspended, voided, or reduced in coverage or limits.
- (F) Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII, unless otherwise acceptable to CMSA.

Failure to provide and maintain the insurance required by this Agreement will constitute a material breach of this Agreement. In addition to any other available remedies, Agency may suspend payment to the Consultant for any services provided during any time that insurance was not in effect and until such time as the Consultant provides adequate evidence that Consultant has obtained the required insurance coverage.

CMSA, at its discretion, may waive insurance requirements or reduce the above stated coverage limits based on the Consultant's scope of work and complexity of the associated tasks.

7. NONDISCRIMINATORY EMPLOYMENT:

Consultant and/or any permitted sub-consultant, shall not unlawfully discriminate against any individual based on race, color, religion, nationality, sex, sexual orientation, age, condition of disability, or other protected category. Consultant and/or any permitted sub-consultant understands and agrees that Consultant and/or any permitted sub-consultant is bound by and will comply with the nondiscrimination mandates of all federal, state and local statutes, regulations and ordinances.

8. LICENSING AND PERMITS:

The Consultant shall procure and maintain as required the appropriate licenses and permits required to perform the Services throughout the life of this Agreement.

9. BOOKS OF RECORD AND AUDIT PROVISION:

Consultant shall maintain on a current basis complete books and records relating to this Agreement and the Services performed. Such records shall include, but not be limited to, documents supporting all billings to the Agency for the Services performed. The books and records shall be original entry books with a general ledger itemizing all debits and credits for the work on this Agreement. In addition, Consultant shall maintain detailed payroll records including all subsistence, travel and field expenses, and canceled checks, receipts and invoices for all items. These documents and records shall be retained for at least five years from the completion of this Agreement. Consultant will permit Agency to audit all books, accounts or records relating to this Agreement or all books, accounts or records of any business entities controlled by Consultant who participated in this Agreement in any way. Any audit may be conducted on Consultant's premises or, at Agency's option, Consultant shall provide all books and records within a maximum of fifteen (15) days upon receipt of written notice from Agency. Consultant shall refund any moneys erroneously charged.

10. TITLE TO INFORMATION & DOCUMENTS:

It is understood that any and all documents, including but not limited to Information, documents, and reports concerning this Agreement's Services prepared by and/or submitted to the Consultant, shall be the property of the Agency. The Agency may provide the Consultant's

work product(s) to another person or entity in the future for a separate specific assignment. However, Consultant retains all intellectual property rights, including copyrights, applicable to its work. The Consultant may retain reproducible copies of the documents that it prepares as part of the Services. In the event of the termination of this Agreement, for any reason whatever, Consultant shall promptly deliver all Information, including but not limited to writings, plans, reports and other documents to Agency without exception or reservation.

11. TERMINATION:

- (A) **Notice to Cure.** If Consultant at any time fails to properly and diligently perform the Services covered by the Agreement, or has committed a material breach of a provision of this Agreement, the Agency shall give Consultant written notice that within two (2) working days of its receipt of said notice, Consultant shall commence and continue satisfactory correction of such default or breach with diligence and promptness.
- (B) **Consultant Default.** If Consultant fails to commence, within two (2) working days after receipt from the Agency of the notice issued under the above paragraph (A) and diligently thereafter, to correct the default or breach, then the Agency may pursue any remedies available by common law, statute, or this Agreement, including, but not limited to, one or more of the following:
- (i) withhold any sums due or thereafter to become due to Consultant under the Agreement and during such period such withheld amounts shall not accrue interest; or
 - (ii) terminate the Agreement.

Within seven (7) business days of Consultant's correction of the default or breach, the Agency shall release to the Consultant any monies withheld.

- (C) **Termination for Convenience.** The Agency may for its convenience and at any time and for any reason terminate Consultant's Services and this Agreement. Termination shall be by service of written notice to Consultant at its address for notice set forth below. Upon receipt of such notice, Consultant shall, unless the notice directs otherwise, immediately discontinue performing the Services.

Upon such termination, sub-consultants shall be entitled to payment only for the Services completed as of the date of termination pursuant to the Agreement. Consultant shall not be entitled to any claim or claim for any additional compensation, lost profit, or other damages in the event of such termination.

12. RELATIONSHIP BETWEEN THE PARTIES:

It is expressly understood that in the performances of the Services herein, the Consultant, and the agents and employees thereof, shall act as an independent contractor and not as officers, employees or agents of the Agency. Consultant shall be solely responsible to pay all required

taxes, including but not limited to, all withholding social security, and worker's compensation for its employees.

13. AMENDMENT:

This Agreement may be amended or modified only by written agreement of all parties.

14. ASSIGNMENT OF SERVICES AND PERSONNEL:

The Consultant shall not subcontract or assign any portion of the Services required to be performed pursuant to this Agreement without the prior written approval of the Agency. Further, Consultant shall not substitute any personnel for those specifically named in its proposal unless personnel with substantially equal or better qualifications and experience are provided and are acceptable to Agency, as is evidenced in writing.

15. JURISDICTION AND VENUE:

This Agreement shall be construed in accordance with the laws of the State of California and the parties hereto agree that venue shall be in Marin County, California.

16. INDEMNIFICATION:

Consultant shall indemnify, defend, and hold harmless the Agency, its members including San Rafael Sanitation District, City of Larkspur, Ross Valley Sanitary District, Sanitary District No. 2 of Marin County, the City of San Rafael, the Town of Corte Madera, and their respective commissioners, directors, councilmembers, officers, officials, and employees (collectively "Indemnitees") from any and all claims for damages including, but not limited to, money, expenses, and/or losses (collectively "Claim") to the extent Claim arises from Consultant's negligence, recklessness, and/or willful misconduct in the performance of the Services under this Agreement.

Notwithstanding the foregoing, for any Claim alleging Consultant's negligence, recklessness, and/or willful misconduct, Consultant's obligations and liability for costs of the Indemnitees' defense shall not exceed the Consultant's proportionate percentage of fault for the Claim.

17. STANDARD OF CARE:

Consultant shall complete the services required hereunder in accordance with the prevailing standard of care by exercising the skill and ability ordinarily required to perform the same or similar services, under the same or similar circumstances, in the State of California. Consultant shall, at no cost to the Agency, re-perform any part of the services which fail to satisfy the foregoing standard of care.

18. ESTIMATES AND PROJECTIONS:

Consultant has no control over the cost of labor, materials, equipment or services furnished by others, over the incoming water quality and/or quantity, or over the way the Agency's facilities and/or associated processes are operated and/or maintained. Data projections and estimates are based on Consultant's opinion based on experience and judgment. Consultant cannot and does not guarantee that actual costs and/or quantities realized will not vary from the data projections and estimates prepared by Consultant and Consultant does not and will be not liable to and/or indemnify the Agency and/or any third party related to any inconsistencies between Consultant's data projections and estimates and actual costs and/or quantities realized by the Agency and/or any third party in the future.

19. THIRD PARTIES:

The services to be performed by Consultant are intended solely for the benefit of Agency and its members. No person or entity not a signatory to this Agreement shall be entitled to rely on Consultant's performance of its services hereunder, and no right to assert a claim against Consultant by assignment of indemnity rights or otherwise shall accrue to a third party as a result of this Agreement or the performance of Consultant's services hereunder.

20. FORCE MAJUERE:

Neither Consultant nor Agency shall be considered to be in default of this Agreement if delays in or failure of performance shall be due to uncontrollable forces, the effect of which, by the exercise of reasonable diligence, the nonperforming party could not avoid. The term "uncontrollable forces" shall mean any event which results in the prevention or delay of performance by a party of its obligations under this Agreement and which is beyond the control of the nonperforming party. It includes, but is not limited to, fire, flood, earthquake, storms, lightening, epidemic, war, riot, civil disturbance, sabotage, inability to procure permits, licenses, or authorizations from any state, local, or federal agency or person for any of the supplies, materials, accesses, or services required to be provided by either Consultant or Agency under this Agreement, strikes, work slowdowns or other labor disturbances, and judicial restraint.

21. COMPLIANCE WITH APPLICABLE LAWS:

In performance of the services, Consultant will comply with applicable regulatory requirements including federal, state, and local laws, rules, regulations, orders, codes, criteria, and standards.

22. WAIVER:

A waiver by either the Agency or Consultant of any breach of this Agreement shall not be binding upon the waiving party unless such waiver is in writing and executed by the waiving party. In the event of a written waiver, such a waiver shall not affect the waiving party's rights with respect to any other or further breach.

23. SEVERABILITY:

The invalidity, illegality, or unenforceability of any provision of this Agreement, or the occurrence of any event rendering any portion or provision of this Agreement void, shall in no way affect the validity or enforceability of any other portion or provision of the Agreement. Any void provision shall be deemed severed from the Agreement and the balance of the Agreement shall be construed and enforced as if the Agreement did not contain the particular portion or provision held to be void.

24. INTEGRATION:

This Agreement supersedes all prior agreements, contracts, proposals, representations, negotiations, letters, or other communications between the Consultant and Agency pertaining to this Agreement and the Services to be performed, whether written or oral.

25. NOTICES AND DESIGNATED REPRESENTATIVES:

Joyce Cheung is the designated representative for CMSA and will administer this Agreement for CMSA. [redacted] is the designated representative for Consultant. Changes in designated representatives shall occur only by advance written notice to the other party.

All invoices shall be submitted and approved by the designated Agency representative and all notices shall be given to Agency at the following location:

1301 Andersen Drive
San Rafael, CA 94901

Notices shall be given to Consultant at the following address:

[redacted]

IN WITNESS WHEREOF, the parties hereunto have executed this Agreement on the date first above written.

APPROVED BY:

CENTRAL MARIN SANITATION AGENCY:

CONSULTANT:

Jason R. Dow, General Manager

[redacted]

Federal Tax ID #: _____

Exhibit A:

Consultant's Scope of Services (to be provided after review of final proposal)

Exhibit B

Consultant's Fees to be provided (to be provided after review of final proposal)



BOARD MEMORANDUM

February 6, 2020

To: CMSA Commissioners and Alternates

From: Joyce Cheung, Associate Engineer

Approved: Jason Dow, General Manger

Subject: Procurement of Turntable Drives for the Secondary Clarifiers Rehabilitation Project

Recommendation: Authorize the purchase of three secondary clarifier turntable drive units from DBS Manufacturing, not to exceed \$95,400, excluding taxes.

Summary: The Secondary Clarifiers Rehabilitation Project (Project) is currently in the design phase, and rehabilitation of Clarifier No. 3 is scheduled for summer 2020. The purpose of this Project is to rehabilitate the four secondary clarifiers in the treatment facility, and the current plan in the Capital Improvement Program is to rehabilitate one clarifier each summer over four consecutive years. The Project scope of work includes removing corrosion and applying industrial coatings on mechanical equipment, metal structural components, and internal pipes, resurfacing the effluent channel concrete surfaces, and replacing the original steel walkways with fiber reinforced plastic (FRP) grating. As part of the Project, the original turntable drives in Secondary Clarifiers Nos. 1, 3, and 4 will also be replaced.

Due to long lead times associated with the manufacturing and delivery of the drive units, advanced procurement is necessary to facilitate the timely construction of the Project during the 2020 dry weather season.

Fiscal Impact: The Agency's 10-year Capital Improvement Program has \$1,249,100 allocated for the design and multi-year construction of the Project, which includes the purchase and installation of three (3) turntable drives. The FY20 budget is \$185,000, of which \$31,298 has been encumbered to-date for the Project's professional engineering design assistance, leaving \$153,702 available for the remainder of this fiscal year. The contract award for rehabilitation of Clarifier No. 3 is anticipated in July 2020 under the FY21 Project budget.

Discussion: The original turntable drives in Secondary Clarifiers Nos. 1, 3, and 4 were installed during the original facility construction and start-up in 1985. The turntable drive for Secondary Clarifier No. 2 was replaced in 2011. In each clarifier, the turntable drive system supports and slowly rotates the one-hundred foot diameter steel collector mechanism. The drive gear is

three feet in diameter, rolls on a bearing ring of one-inch ball bearings to support the collector weight, and weighs over one ton. The drive's motor, gear reducers, and metal frame are coated for protection in this corrosive environment.

Each drive unit is taken out of service during summer low flows for annual preventative maintenance. The drive units operate on average 11 months a year. Because three of the units have been in service for approximately 35 years and are reaching the end of their useful life, replacement of these drives is necessary to ensure continued reliable operation. Purchasing the drives now will streamline construction efforts this summer, by having the drive unit on site when the general contractor mobilizes for the construction work.

The original drives were supplied from WesTech, and replacement drives can be purchased from WesTech or DBS Manufacturing; the current drive for Secondary Clarifier No. 2 is from DBS. Both drive units are suitable for an identical "bolt in" replacement and are equipped with a 0.5 HP motor, have an output speed of 0.03 rpm, and rotate clockwise to match existing conditions. Staff obtained the attached quotes from WesTech (\$141,520) and DBS (\$95,400).



Current conditions of Secondary Clarifier No. 4 Drive (WesTech unit installed in 1985)



Current conditions of Secondary Clarifier No. 2 Drive (DBS unit installed in 2011)

Alignment with Strategic Plan: This project aligns with CMSA's strategic action to support Goal 1 – Objective 1.3 in the Agency's FY20 Business Plan as shown below.

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

Objective 1.3: Deliver Critical and High Priority Agency Projects

Action: Begin the design phase of the Secondary Clarifier Rehabilitation Project

Attachments:

1. DBS Quote for three Model D30-AE drive units and ancillary items
2. WesTech Quote for three Model DV8050 drive units and ancillary items

DBS MANUFACTURING

45 SouthWoods Parkway Atlanta, Georgia 30354 USA

ph: 404-768-2131

www.dbsmfg.com

Date 1/14/2020

Price Quotation

To:	CENTRAL MARIN SANITATION AGENCY 1301 Andersen Drive San Rafael, CA 94901 USA	Quote Number: 15288 R4
Attn:	Paul Bruemmer	(Inquiry #: 9440)
Reference:	WESTECH SECONDARY CLARIFIER	

Model Number:	D30-AE Replacement for Westech 30 PD cage drive on a Ø100 ft Secondary Clarifier	Unit Price:	\$ 31,400.00
		Quantity:	3
		Total:	\$ 94,200.00

Continuous Torque:	16,000 Ft-Lbs	Maximum Torque:	32,000 Ft-Lbs
Drive Motor:	Mill & Chemical 230-460/3/60	HP:	1/2
Alarm Torque:	16,000 ft-lbs	Cutoff Torque:	20,000 ft. lbs.
Mounting:	Pier mounting	Output Speed:	0.031 rpm
Flange:	To match existing	Speed Control:	N/A
Output Flange:		Speed Control:	
Freight Terms:	Delivered to Plant	Valid Period:	60 Days
Delivery Estimate:	16 weeks	Terms:	See terms below
Warranty:	One-year warranty on all parts and ten year warranty on the main gear-bearing		

Features & Options:

1. O&M Manual (PDF).
2. Torque Gauge
3. Alarm and Cutoff Switches.
4. Shear Pin protection against torque overloads.
5. Drive unit shall be made similar to DBS D30-AE sn 913JABE.
6. Installation Inspection, Warranty Certification, O&M Manual training, and Startup \$1,200.

Revision 2	Date was 2/6/2019. Freight term was EXW Atlanta, GA. JLI
Revision 3	Date was 6/27/2019. JLI
Revision 4	Quantity was 1. Added item 6. JLI

Prepared by: Jorge Iduate, Director of Engineering
Direct Number: 404-591-5112 Email: jiduate@dbsmfg.com

Commercial Firm Proposal

Quote Name: Central Marin Sanitation Agency

Proposal Number: 1999078A.1

Date: 27 January 2020

WesTech Reference Project #: 2033

1. Bidder's Contact Information

Company Name	WesTech Engineering, Inc.
Contact Name	David Mortensen
Phone	801.290.1877
Email	dmortensen@westech-inc.com
Address: Number/Street	3665 S West Temple
Address: City, State, Zip	Salt Lake City, UT 84115

2. Budget Pricing

Currency	US Dollars
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Scope of Supply

Item A – Replacement Three (3) WesTech C31 Cage Drives	\$ 141,520.00
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Prices are for a period not to exceed 30 days from date of proposal.

Taxes (sales, use, VAT, IVA, IGV, duties, import fees, etc.)	Not Included
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3. Payment Terms

Net due 30 days after shipment	100%
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All payments are net 30 days. Partial shipments are allowed. Other terms per WesTech proforma invoice.

4. Schedule

The estimated time to shipment after a purchase order is received OR written submittal approval.	12 weeks
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5. Freight

FOB Shipping Point, with the freight cost to the jobsite included in the price.



BOARD MEMORANDUM

February 6, 2020

To: CMSA Commissioners and Alternates

From: Jason Dow, General Manager

Subject: 2019 California Water Environment Association Awards – Redwood Empire Section

Recommendation: Adopt the Resolution of Appreciation (No. 342) to Agency staff for receiving the 2019 awards from the Redwood Empire Section of the California Water Environment Association.

Discussion: The California Water Environment Association (CWEA) is the state's water and wastewater industry association. CWEA provides training programs, conferences and seminars, technical publications, and certification for maintenance, collection system, laboratory, electrical/instrumentation, and environmental compliance staff. CMSA is a member of the Redwood Empire Section of the CWEA, which includes the wastewater agencies in Marin, Sonoma, Napa, and parts of Mendocino and Solano counties.

Each CWEA section administers a competitive award program for individual members to nominate their respective agencies for organizational awards and/or fellow employees for position specific awards. In 2019, CMSA received the following five awards.

- 1) Treatment Plant of the Year
- 2) Safety Program of the Year
- 3) Mechanical Technician of the Year – *Abel Villareal*
- 4) Operator-in-Training (OIT) of the Year – *Thomas Hansen*
- 5) P3S Person of the Year – *Eromosele Esoimeme*

The award recipients will now progress to the state level competition between the award winners in the seventeen CWEA sections. Pursuant to the Board adopted Administrative Policy #58 - Employee Award Recognition, individual award recipients will receive a \$100 monetary award, and all employees will receive \$100 for the Treatment Plant award and \$100 for the Safety Program award.

Attachment:

- CMSA Resolution No. 342



CMSA Resolution No. 342

***RESOLUTION OF APPRECIATION
TO THE EMPLOYEES OF CMSA FOR RECEIVING
2019 CWEA - REDWOOD EMPIRE SECTION AWARDS***

WHEREAS, On October 15, 1979, the Central Marin Sanitation Agency (CMSA) was formed through a joint exercise of powers agreement, and a regional treatment facility was constructed and has been operating since January 1985; and

WHEREAS, CMSA staff have operated and maintained the Agency's treatment plant, solids handling facilities, energy production systems, and organic waste receiving facility in an effective, efficient, and safe manner to continuously protect the public health and environment for the residents in Central Marin county; and

WHEREAS, CMSA is a member of the California Water Environment Association's (CWEA) Redwood Empire Section, which includes wastewater organizations in Marin, Sonoma, Napa, Solano, and Mendocino counties;

WHEREAS, the CWEA recognized the Agency as the **Treatment Plant of the Year** for exceptional overall performance, excellent NPDES permit compliance history, innovative organic waste receiving and power delivery programs, power monitoring of facilities and treatment equipment, overall process efficiency, contributions to the wastewater industry, and many facility accomplishments; and

WHEREAS, the CWEA also awarded the Agency with the **Safety Program of the Year** for our exceptional loss control and risk management programs and activities, and our participation in the collaborative safety director program with Novato Sanitary District; and

WHEREAS, the CWEA awarded the Mechanical Technician Person of the Year Award to **Abel Villarreal**, who has been with the Agency for ten years, in recognition of his work ethic within our Maintenance Department, his in-depth knowledge of a wide variety of mechanical systems and machine tools, and his aptitude for planning and scheduling maintenance projects; and

WHEREAS, the CWEA also awarded the Operator-in-Training of the Year Award to **Thomas Hansen**, who has been with the Agency for one year now, in recognition of his contribution to the successful operation of the organic waste receiving facility, his involvement with the safety committee, and his willingness to advance his skills as an Operator; and

WHEREAS, the CWEA also awarded the P3S Person of the Year Award to **Eromosele Esoimeme**, who has been with the Agency for one year, in recognition of his integral support of CMSA's Fats, Oils, and Grease Program, regulatory knowledge, and implementation of CMSA's Pretreatment Program; and

NOW, THEREFORE, BE IT RESOLVED that the Board of Commissioners recognizes and appreciates the dedication and commitment of the Agency employees for operating, maintaining, and managing the Agency facilities and conducting Agency business in a manner to achieve the CWEA award recognition.

PASSED AND ADOPTED at the meeting of the Central Marin Sanitation Agency Commissioners, County of Marin, State of California, on February 11, 2020.

AYES:

NAYS:

ABSTAIN:

ABSENT:

Dean DiGiovanni, Commission Chair

ATTEST:

By _____
Eli Beckman, Secretary



BOARD MEMORANDUM

February 6, 2020

To: CMSA Commissioners and Alternates
From: Jason Dow, General Manager
Subject: **Draft Resolution of Appreciation for Jack Govi**

Recommendation: Review the draft CMSA Resolution No. 341, A Resolution of Appreciation for Jack Govi, and provide any suggested revisions to the General Manager.

Summary: Jack Govi has served as CMSA's general legal counsel since February 1981, and will be retiring from the County of Marin on March 27, 2020. Staff prepared the attached draft resolution for Jack that has been reviewed by Chair DiGiovanni and Vice-Chair Boorstein, and staff is seeking Board edits or contributions at the February meeting.

On Thursday, March 12, the Board has a special meeting scheduled. Chair DiGiovanni and I propose having the meeting start at 6:45pm with the first order of business being adoption of the final resolution and a celebration for Jack. Then at 7pm, the regular Board meeting business will commence.

Jack recommended and County Counsel Brian Washington approved Brandon Halter to serve as the Agency's new general counsel. Brandon plans to attend the March 12 special meeting to meet the Board members.

Attachment:
- Draft Resolution No. 341



CMSA Resolution No. 341

***Resolution of Appreciation for
Jack Govi***

WHEREAS, Jack Govi started his career as an intern with the Office of the Public Defender in Marin County in 1977 and became an Investigator and Special Deputy Public Defender after graduating from law school in 1979. In February 1981, he became a Deputy County Counsel; and

WHEREAS, on February 17, 1981, when **Jack** arrived for his first day of work at the County Counsel, he discovered a three-foot pile of construction documents on his desk and learned he was assigned to CMSA, and his first assignment was the review of the \$85 million Treatment Plant documents; and

WHEREAS, Jack has served as CMSA's general counsel where he has provided exceptional administrative, employment, and contract legal services for over 39 years; and

WHEREAS, over his career, **Jack** worked with dozens of appointed CMSA Board members and the Agency's three general managers, and was respected by all of them for his sound advice, pleasant demeanor, wry sense of humor, and pragmatic approach to solving legal situations; and

WHEREAS, Jack regularly attended the California Association of Sanitation Agencies (CASA) conferences to further his wastewater treatment, biosolids management, and regulatory compliance knowledge, which led him to become the County's wastewater expert; and

WHEREAS, during the long lunch breaks at the CASA conferences, **Jack** and one of the general managers would ride bikes up the steepest hills they could find. On many rides, at the top of the hill, Jack would do push-ups while he waited, and when the manager arrived he often chided him by saying "Where have you been? This is my fourth set of push-ups and I did six sets of sit-ups"; and

NOW, THEREFORE, BE IT RESOLVED that the Commissioners for the Central Marin Sanitation Agency do express their appreciation to **Jack** for his dedication to the Agency and wish him a happy and eventful retirement.

PASSED AND ADOPTED by the CMSA Board of Commissioners at a regular meeting held on February 11, 2020 by the following vote:

AYES:

ABSTAIN:

ABSENT:

Dean DiGiovanni, Commission Chair

ATTEST:

Eli Beckman, Commission Secretary



BOARD MEMORANDUM

January 9, 2020

To: CMSA Commissioners and Alternates
From: Kate Brouillet, Administrative Specialist
Approved: Jason Dow, General Manager
Subject: February Informational Items

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

- A. Letter dated January 3, 2020 to "To Whom It May Concern"
Re: Interest in the developing technology by Beyond the Dome (BTD)
- B. Letter dated January 23, 2020 to Anna Gallagher, California Regional Water Quality Control Board
Re: Monthly Self-Monitoring Report (SMR) – December 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

January 3, 2019

To Whom It May Concern,

This letter serves to express our strong interest in the technology Beyond The Dome (BTD) is developing and to pursue a pilot of their system at Central Marin Sanitation Agency (CMSA) when it's available in the future.

CMSA's treatment plant receives and processes wastewater from 105,000 central Marin County residents in the Cities of Larkspur and San Rafael, the Towns of Corte Madera, Fairfax, Ross, and San Anselmo, the unincorporated areas of Ross Valley, San Quentin Village, and San Quentin State Prison. I have been in the role of General Manager at CMSA for 17 years.

One of the major challenges faced by CMSA and many wastewater treatment facilities throughout California and the US is biosolids management. Biosolids are a byproduct of the wastewater treatment process, have a high organic content, and have to be properly managed. They have been traditionally hauled to landfills for direct disposal or use as alternate daily cover, to agricultural fields for land application as a fertilizer and soil amendment, or to an incinerator. In California, over the past 20 years, many counties have passed ordinances limiting or prohibiting biosolids land application. In 2016, the California senate passed SB-1383 that requires a 75% diversion of organics from landfills by 2025, which will limit biosolids landfill disposal. Incineration is very energy intensive, constitutes less than 15% of biosolids handling in the US, and due to air quality regulations incinerators are no longer permitted in California. These regulatory changes compel wastewater treatment agencies to diversify their biosolids management strategies with existing and novel solutions. In addition to regulatory changes, biosolids management represents significant operational costs, including chemical treatment and hauling and tipping fees for hundreds of thousands of tons of biosolids each year.

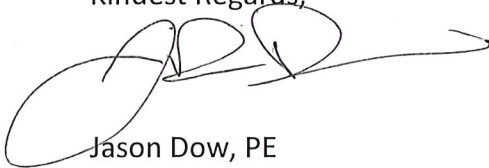
In response to these challenges, CMSA joined a group called the Bay Area Biosolids Coalition (previously known as the Bay Area Biosolids-to-Energy Coalition). In my capacity of General Manager at CMSA, I was very involved in the coalition between 2008 and 2017. Our primary objective was to diversify biosolids management options. During that period, we identified a facility willing to pilot new technologies, identified several companies developing energy positive solutions, ran education and lobbying initiatives at the state and federal level, and obtained a \$1M California Energy Commission (CEC) grant to pilot a new technology.

Unfortunately, the technologies never materialized, and the coalition resolved to promote tried and true biosolids management solutions, such as composting, drying, and land application. These effective management options are costly, operator-intensive, and still produce greenhouse gas emissions which make them subject to future regulations.

I am interested in working with BTM not only because it has the potential to reduce regulatory challenges, operational costs, and staff time, but also because a successful pilot of the technology would represent substantial progress for the industry as a whole. The expected timeline to begin a pilot is during the fourth quarter in 2020. The agreed upon next step is for BTM to deliver key pilot parameters, such as how much digested sludge the system can receive each day and the electricity needs of the system, and regular updates of their progress.

This Letter of Intent does not create any binding, contractual rights, obligations, or liabilities, including no obligation to negotiate in good faith, between CMSA and Beyond The Dome, and shall serve only as an expression of interest between us.

Kindest Regards,



Jason Dow, PE
General Manager



CENTRAL MARIN SANITATION AGENCY

B
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

January 23, 2020

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) – December 2019**

The December 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, Alternate Monitoring and Reporting Requirements Order #R2-2016-0008 and the Mercury and PCBs Order #R2-2017-0041. Additionally, effective July 1, 2019, Order #R2-2019-0017 removed CMSA influent nutrient monitoring requirements. The results provided in this report comply with these new requirements.

Violations

There are no reportable NPDES Permit violation(s) for this reporting period.

Blending Events

The CMSA treatment facility did exceed the maximum secondary capacity of 30 MGD. Five (5) blending events occurred over six (6) days during this monitoring period. Analytical data pertaining to these blend events are below and are included within the eSMR CIWQS data submittal.

Blending Date	Volume	Start Time	End Time	TSS	Min pH	Max pH	CBOD	Enterococcus	Total Coliform	Rainfall
	MG	-	-	mg/L	SU	SU	mg/L	MPN/100ml	MPN/100ml	inches
12/1/19	7.36	12:25	23:59	10	6.3	7.1		16.35	3.00	2.85
12/2/19	14.03	0:00	22:40	32	6.2	6.6	16	ND	ND	0.86
12/3/19	0.01	2:20	2:45	7	6.6	6.9	6	ND	ND	0.02
12/7/19	6.58	0:25	23:25	16	6.3	7.0		1.41	ND	0.66
12/18/19	3.34	13:55	23:35	17	6.6	7.1	19	19.45	166.28	1.29
12/22/19	1.86	10:20	19:30	14	6.6	6.9		2.45	ND	1.09

Data Validation

All regulatory daily, weekly, and monthly quality control calibrations/checks conducted during the month of December met established quality assurance acceptance criteria, except those data results indicated within the attached Quality Assurance report.

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