

**PROPOSED  
BIENNIAL  
OPERATING AND CAPITAL  
BUDGET**

**JULY 1, 2019 – JUNE 30, 2020  
JULY 1, 2020 – JUNE 30, 2021**



**CENTRAL MARIN SANITATION AGENCY**

1301 Andersen Drive • San Rafael, CA 94901 • 415.459.1455 • [www.cmsa.us](http://www.cmsa.us)



**CMSA PROPOSED BIENNIAL BUDGET**

**FY20: JULY 1, 2019 – JUNE 30, 2020**

**FY21: JULY 1, 2020 – JUNE 30, 2021**

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PROPOSED

# Central Marin Sanitation Agency

## Budget Acknowledgements

### San Rafael Sanitation District

Dean DiGiovanni, Chair, appointed, January 2018  
Maribeth Bushey, Commissioner, appointed January 2018  
Katie Rice, Alternate, appointed January 2018  
Mark Solomon, Alternate, December 2018  
Alan Zahradnik, Alternate, appointed December 2018

### Ross Valley Sanitary District

Michael Boorstein, Vice Chair, appointed July 2016  
Doug Kelly, Commissioner, appointed July 2016  
Thomas Gaffney, First Alternate, appointed July 2016  
Pamela Meigs, Secondary Alternate, appointed July 2016  
Mary Sylla, Secondary Alternate, appointed July 2016

### Sanitary District No. 2

Eli Beckman, Secretary, appointed December 2018  
Sloan Bailey, Alternate, appointed March 2017

### City of Larkspur

Dan Hillmer, Alternate Commissioner, appointed October 2010

### Executive Team

Jason R. Dow, P.E., General Manager  
Loren Chris Finton, Treatment Plant Manager  
Kenneth Spray, CPA, Administrative Services Manager  
Peter Kistenmacher, P.E., Technical Services Manager

### Finance Team

Heidi Lang, Financial Analyst  
Ahn Ta, Personnel & Accounting Technician  
Kate Brouillet, Administrative Assistant

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



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**Central Marin Sanitation Agency  
California**

For the Fiscal Year Beginning

**July 1, 2018**

*Christopher P. Morill*

Executive Director



## **Message from the General Manager**

On behalf of the Board of Commissioners and staff of the Central Marin Sanitation Agency (CMSA), I am pleased to present the Agency's FY20 & FY21 budget. This budget serves as the financial plan for FY20 & FY21, and details the resource requirements and costs associated with providing safe, effective, and environmentally sound wastewater services to approximately 105,000 residents, businesses, and institutions in Central Marin County. All the financial documents referenced in this document are available online at [www.cmsa.us/finance](http://www.cmsa.us/finance).

This is the Agency's ninth comprehensive budget using Government Finance Officers Association (GFOA) presentation guidelines. Our goal is to prepare high quality budgets and financial documents that are readily accessible and easily understandable to CMSA's Joint Powers Authority (JPA) members and ratepayers, customers, stakeholders, regulators, and other interested parties.

## **Achieving Outstanding Performance Past, Present, and into the Future**

Since 1985, CMSA has operated a regional wastewater treatment facility that receives, cleans, and discharges wastewater, and beneficially reuses biosolids that are collected from households and businesses within the Central Marin County, California service area. CMSA strives for, and will continue to maintain or exceed, high industry standards in all aspects of its business and operations. The Agency's high performance has been recognized by national, state, and regional industry groups in key areas:

- Achieved compliance with the Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES) permit requirements for the calendar year 2018.
- Received recognition from the GFOA for Excellence in Financial Reporting for the Agency's Comprehensive Annual Financial Report (seventeen consecutive years), Outstanding Achievement in Popular Annual Financial Reporting (nine consecutive years) and the Distinguished Budget Presentation Award (eight consecutive years).
- Garnered state-level recognition of first place from the California Water Environment Association (CWEA) for Engineering Achievement award for the CMSA Power Delivery Program.
- Recognized by the regional CWEA Redwood Empire Section for Engineering Achievement of the Year, Community Engagement and Outreach Project of the Year, as well as recognizing four Agency employees for exceptional performance in their respective professions.

## Major Agency Objectives for FY20 & FY21

- Exceed all NPDES permit requirements for both fiscal years.
- Explore opportunities for CMSA Laboratory regional resource development.
- Increase the Agency's energy efficiency through implementation of the Power Monitoring Program.
- Operate the treatment facilities to minimize odors and public complaints.
- New financial system implementation.
- Consistency of asset management and inventory system with new financial system
- Implement the Agency's upcoming business plan for FY20 & FY21.
- Maintain or increase community engagement on the Agency's Facebook page.
- Maintain a safe work environment and promote a culture of safety as measured by no incidents of employee lost time injuries.
- Maintain a high level of service to customers in our service area and other clients outside the service area who contract for Agency services.

## FY20 & FY21 Budgets

The Agency is committed to developing fiscally responsible and sustainable biennial budgets, and planning for the future through developing 10-Year Capital Improvement Programs (CIP) and Financial Forecasts with each biennial budget.

The FY20 Budget includes an expected operating surplus of approximately \$665,000 and \$764,000 for FY21. The budget includes an overall operating revenue increase of 6.4% for FY20 and 5% for FY21, and an overall expenditure increase of 5.4% for FY20 and 4.5% for FY21. Debt service revenues total nearly \$5.0 million, of which approximately \$992,000 comprises debt service coverage used for CIP funding. The Agency plans to spend approximately \$3.9M on 37 capital improvement projects for FY20 and approximately \$8.5M for 31 projects for FY21 using dedicated capital funding sources accumulated in the restricted capital reserve accounts and amounts from unrestricted capital reserve accounts to balance. Detailed discussions of the FY20 & FY21 Budget, the Capital Improvement Program, and the 10-Year Financial Forecast can be found in Sections 7, 8, and 9, respectively.



The main features of the FY20 & FY21 Budget are:

- Total Operating Revenues of approximately \$13.1M for FY20 and \$13.8M for FY21, and dedicated capital related fees in the amount of approximately \$2M for FY20 and \$2.3M for FY21 that consist of the capital fee, the debt service coverage fee, and capacity charges.
- Application of a 36-month wastewater flow and strength methodology for the allocation of the regional sewer service charges to the JPA member agencies. The allocation is based on the JPA member's proportionate share of the 13,638 million gallons of wastewater treated by CMSA during the April 1, 2016 to March 31, 2019 period, along with 28.8 million pounds of Biological Oxygen Demand (BOD) and 36.6 million pounds of Total Suspended Solids (TSS) during the April 1, 2016 to March 31, 2019 period. The FY20 regional sewer service and capital charges CMSA will receive from its JPA member agencies is approximately \$581K more than FY19, and FY21 is approximately \$616K more than FY20 as scheduled in the Agency's current Five-Year Revenue Program.
- The Agency expects to receive approximately \$2.1M in revenues from other sources for FY20 and \$2.4M for FY21. The single largest source of these other revenues is for contracted services with the state of California for providing wastewater and pump station services to San Quentin State Prison.
- Debt Service of \$4.96 million, or \$95.29 per Equivalent Dwelling Units (EDU), in the combined service area.
- Total Operating Expenditures of approximately \$12.5 million, an overall increase of 5.4% from FY19. The main changes to the FY20 budget are due to scheduled salary increases of 3%, increases in chemicals and fuels of 13.8%, increases in utilities of 21.6%, and increases in insurance of 53.3%. For FY21, the main changes are due to scheduled salary increases of 4% and benefit increases of 9% due mainly to an uptick in the annual pension UAL cost.

### **Making Significant Capital Investments in the Agency's Infrastructure**

The treatment and disposal of wastewater and reuse of its by-products is a highly regulated enterprise that requires significant capital infrastructure. CMSA operates an around-the-clock wastewater facility, and the various fixed assets and equipment used in the treatment processes are subjected to heavy usage, sometimes under a challenging operating environment. Capital assets are used to move large volumes of wastewater through the treatment facilities and are subjected to constant contact with wastewater and various chemicals used in the treatment processes. Agency staff monitors new technologies and operational approaches, and evaluates those that may improve the treatment process, save energy, reduce chemical usage, minimize greenhouse gas emissions, and meet changing regulatory requirements. The maintenance, replacement, and addition of capital assets are an essential part of the Agency's CIP and Budget.

Budgeted capital improvements for FY20 amount to approximately \$3.9 million and for FY21 \$8.8 million for priority projects that include a new cogeneration system, the rebuild of the existing cogeneration engine that recently experienced a catastrophic failure event, replacement of blowers and associated diffusers for process tank maintenance, and secondary clarifier rehabilitation.

The total cost of the planned CIP over the next ten years is approximately \$55 million. The 10-year CIP focuses on replacing and rehabilitating aging infrastructure and assets, implementing new projects to reduce energy use and greenhouse gas emissions, meeting regulatory objectives, and increasing energy self-sufficiency. CIP funding sources are from ongoing capital-related service charges, debt coverage charges, capacity fees, and capital reserves. By the end of FY20 the Agency will have an estimated \$5.9M in capital reserves and for FY21 will have an estimated \$6.5M in capital reserves to finance projects of the 10-Year CIP.

### **Sustainable Budgeting for the Future**

The Agency has pursued a number of budget initiatives over the past few years to achieve long-term budgetary sustainability and financial stability. One such initiative was a methodology change for the allocation of sewer service charges to JPA members resulting in equitable allocation based upon their respective wastewater flow and strength. Another initiative was to adopt a Five-Year Revenue Plan to provide JPA members ample time to incorporate Agency revenue requirements into respective financial plans and rate increase processes. The Agency fixed its debt service cost allocation to the JPA members based upon their 10-year average dwelling unit counts to smooth annual fluctuations. CMSA locked-in a five-year, \$8.7 million contract with the State of California to provide wastewater services to San Quentin Prison. Lastly, to smooth potential rate increases, the Agency is anticipating debt issues in each of FY21 and FY23 to finance major capital improvements.

On the expense reduction side, the Agency previously retired \$1.5 million in pension obligations by paying off its CalPERS side fund that resulted in budget savings of approximately \$300,000 per year for seven years. The Agency's most recent labor negotiations with its two employee groups resulted in a six-year agreement with employee cost-sharing for their pension contributions to CalPERS. The Agency took advantage of historically low interest rates to advance refund debt to defease and retire original issue debt from 2006. This transaction resulted in total savings of \$15 million to our customers over the period from FY16 to FY32.

The focus for the next two years will be on starting up a new, more efficient cogeneration system, delivering renewable power to our local community that is generated by the cogeneration system, to explore opportunities for CMSA Laboratory regional resource development, to perform a digester pilot study to explore expanding our organic waste receiving program, and to implement a new financial software system.

## **Our People Make Us a High-Performing Agency**

CMSA is recognized as a high performance wastewater utility within Marin County and the San Francisco Bay Area, and we are sought out by local agencies to provide various wastewater and environmental services. The Agency continues to be recognized by state and national organizations in the areas of permit compliance, facility operations, safety, and financial reporting. I am privileged to work alongside 43 talented, experienced, and dedicated professionals.

On behalf of all the employees, I would like to express our thanks and appreciation to the CMSA Board of Commissioners for supporting the Agency's mission, vision, and goals and in securing the necessary resources to enable us to achieve a recognized level of high performance in safeguarding public health and the environment.

We hope that the biennial budget for FY20 & FY21 will provide the reader with a thorough understanding of the sources and uses of Agency resources. We welcome your comments, feedback, and suggestions for improving future budget publications.

Respectfully,

A handwritten signature in blue ink, appearing to read "J. Dow".

Jason R. Dow, P.E.  
General Manager

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## **SECTION 1. ORGANIZATION**

### **Formation History and Organization**

Faced with wastewater collection and treatment challenges unique to Central Marin County and the need to meet the 1972 Federal Clean Water Act and subsequent State Water Code requirements, Ross Valley Sanitary District (RVSD), Sanitary District No. 2 (SD #2) of Marin County, the City of Larkspur (LARK), and the San Rafael Sanitation District (SRSD) united in 1979 to form a joint powers authority (JPA) and created the Central Marin Sanitation Agency (CMSA). San Quentin State Prison (SQSP), which represents the largest single customer of wastewater treatment services in the combined service area, opted not to join the JPA. The treatment facilities were constructed at a cost of \$84 million and were funded by federal (75%) and state (12.5%) clean water grants and local contributions (12.5%) from the four local wastewater agencies and SQSP. The CMSA wastewater treatment facility, the largest in Marin County, became operational in January 1985.

CMSA's governing body is a six-member Board of Commissioners (Board), appointed by the JPA members. Each JPA member determines the term for its appointed representative(s). SRSD and RVSD each have two members on the Board, while LARK and SD #2 each have one.

The Board sets policy and adopts the biennial budget for CMSA, and appoints the General Manager and Treasurer/Controller. The General Manager is the chief executive officer and the Treasurer/Controller is responsible for all financial operations.

#### Agency Officials as of June 30, 2019

##### Board of Commissioners (year appointed):

Dean DiGiovanni, Chair, San Rafael Sanitation District (January 2018)  
Maribeth Bushey, Commissioner, San Rafael Sanitation District (January 2018)  
Katie Rice, Alternate, San Rafael Sanitation District (January 2018)  
Marc Solomon, Alternate, San Rafael Sanitation District (December 2018)  
Alan Zahradnik, Alternate, San Rafael Sanitation District (December 2018)  
Michael Boorstein, Vice Chair, Ross Valley Sanitary District (July 2016)  
Doug Kelly, Commissioner, Ross Valley Sanitary District (July 2016)  
Thomas Gaffney, First Alternate, Ross Valley Sanitary District (July 2016)  
Pamela Meigs, Secondary Alternate, Ross Valley Sanitary District (July 2016)  
Mary Sylla, Secondary Alternate, Ross Valley Sanitary District (July 2016)  
Eli Beckman, Secretary, Sanitary District No. 2 (December 2018)  
Sloan Bailey, Alternate, Sanitary District No. 2 (March 2017)  
Dan Hillmer, Alternate, City of Larkspur (October 2010)

##### Agency Managers (tenure):

Jason R. Dow, P.E., General Manager (employee since 1993, General Manager since 2002)  
Loren Chris Finton, Treatment Plant Manager (employee since 1997, Manager since 2010)  
Kenneth Spray, CPA, Administrative Services Manager (Manager since 2017)  
Peter Kistenmacher, P.E., Technical Services Manager (Manager since 2018)

## Employees, Service Achievements, and Recognitions

The authorized staffing level for CMSA is 44 full-time positions, including a safety professional position whose salary and benefit costs are shared with another wastewater agency in Marin County. Characteristics of the workforce:

- 44 authorized positions
- Average age 44.6 years old
- Average length of service is 6.6 years
- 9 employees with over 10 years of service
- 23.6% of the current employees meet the minimum requirements for retirement benefits from the California Public Employees Retirement System

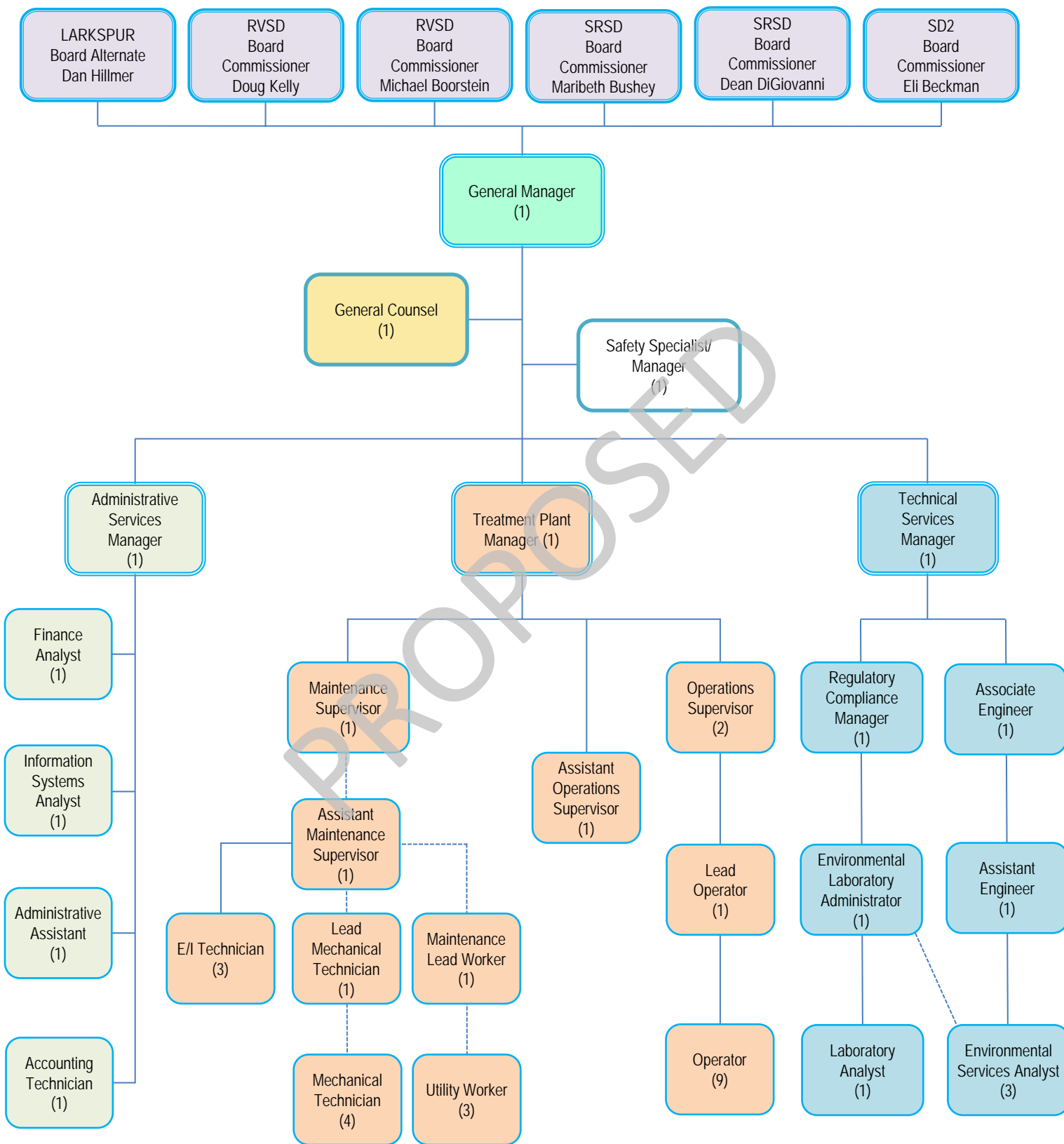
The exceptional dedication, experience, and caliber of the workforce are reflected in the service achievements and recognitions that have been received by the Agency over the years. Below is a summary of the significant accomplishments and the most recent industry awards that have accompanied these accolades.

- **Record of Regulatory Compliance:** Recognition by the National Association of Clean Water Agencies (NACWA) with the Silver Peak Performance Award (2017). The award recognizes the achievement of obtaining compliance with the National Pollutant Discharge Elimination System (NPDES) permit requirements over the calendar year, with less than five violations. NACWA annually recognizes excellent performance at wastewater utilities through its Peak Performance Awards program. For 2018, CMSA applied to be recognized by NACWA with the Gold Peak Performance Award. Award notification of applications will be provided during NACWA's Utility Leadership Conference, July 16-19, 2019, in Minneapolis, MN.
- **Certificate of Achievement for Excellence in Financial Reporting:** Recognition from the Government Finance Officers Association (GFOA) for the Agency's FY17 Comprehensive Annual Financial Report (CAFR). The Certificate of Achievement is the highest form of recognition in governmental accounting and financial reporting and its attainment represents a significant accomplishment by a governmental entity. This marked the sixteenth consecutive year that the Agency's CAFR had met the high standards of the GFOA for governmental accounting and financial reporting. The Agency expects to receive its seventeenth CAFR by June 30th. The Agency continually strives to comply with GFOA guidelines and recommendations. All its financial reports—from the Biennial Budget, audited Annual Financial Statements, and CAFR reports to the monthly Treasurer's, Investment and Quarterly Budget Status Reports—are transparent representations of the Agency's financial operations. Each of aforementioned reports are presented to the Board for review and acceptance and are posted on the Agency's website [www.cmsa.us/finance](http://www.cmsa.us/finance).
- **Award for Outstanding Achievement in Popular Annual Financial Reporting:** Recognition from the GFOA for the Agency's FY17 Popular Annual Financial Report (PAFR). The PAFR Award is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government popular reports. The PAFR is specifically designed to be readily accessible and easily understandable to the general public and other interested parties who do not have a background in public finance. This marked the eighth

consecutive year that the Agency's PAFR had met the high standards of the GFOA for governmental accounting and financial reporting. The Agency expects to receive its ninth PAFR by June 30<sup>th</sup>.

- **Distinguished Budget Presentation Award:** Recognition from the GFOA for the Agency's FY19 Adopted Budget. The award is the highest form of recognition in governmental budgeting and its attainment represents a significant accomplishment by a governmental entity. The GFOA encourages public entities to prepare budget documents that fully explain the agency's business, are transparent, and are designed to be readily accessible to the general public and other interested parties. The Budget Award deems the Agency's Budget to be proficient as a policy document, financial plan, operational guide, and communication device for the Agency's business. This marked the eighth consecutive year that the Agency's budget has met the high standards of the GFOA for budget presentation.
- **State-level Awards from the California Water Environment Association (CWEA):** For 2018, recipients of Regional CWEA Awards (below) and the Agency were recognized by CWEA at the state level for the following achievements:
  - First Place - Engineering and Research - Engineering Achievement award for the CMSA Power Delivery Program
  - Third Place - Mary Jo Ramey for Community Engagement and Outreach Person of the Year
  - Third Place - Community Engagement and Outreach: Project of the Year - Large award for Wastewater Treatment Agencies of Marin's Cooperative Public Education Program
- **Redwood Empire Section CWEA Awards:** For 2018, Redwood Empire Section of the California Water Environment Association (CWEA) recognized the Agency for outstanding work in the disciplines listed below.
  - Ryan Word for Operator of the Year
  - Jon Farr for Electrical/Instrumentation Person of the Year
  - Jacob Dellinger for Mechanical Technician of the Year
  - Jose Gutierrez for P3S Person of the Year
  - Mary Jo Ramey for Community Engagement and Outreach Person of the Year
  - Engineering Achievement of the Year – Power Delivery Program
  - Amy Hwang for Outstanding Young Professional of the Year

# CMSA ORGANIZATIONAL CHART



44 Full Time Equivalent Employees (FTE)  
July 1, 2019



<b>CMSA Authorized Staff Positions</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20 &amp; FY21</b>
<b>ADMINISTRATION</b>			
General Manager	1	1	1
Administrative Assistant	1	1	1
Treatment Plant Manager	1	1	1
Administrative Services Manager	1	1	1
Financial Analyst	1	1	1
Personnel and Accounting Technician	1	1	1
Information Systems Analyst	1	1	1
<b>Total Administration</b>	<b>7</b>	<b>7</b>	<b>7</b>
<b>COOPERATIVE AGREEMENTS</b>			
Safety Specialist/Manager (Replaced Health and Safety Manager)	-	1	1
Health and Safety Manager (Replaced Safety Director)	1	-	-
<b>Total Cooperative Agreements</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>MAINTENANCE</b>			
Maintenance Supervisor	1	1	1
Assistant Maintenance Supervisor	1	1	1
Maintenance Lead	1	1	1
Maintenance Repair (Eliminated Maintenance Repair position replaced with Mechanical Technician)	1	-	-
Mechanical Technician	4	5	5
Utility Worker	3	3	3
Electrical/Instrumentation Assistant Maintenance Supervisor	1	-	-
Electrical/Instrumentation Tech	2	3	3
<b>Total Maintenance</b>	<b>14</b>	<b>14</b>	<b>14</b>
<b>OPERATIONS</b>			
Operations Supervisor	2	2	1
Assistant Operations Supervisor (new position: promoted Lead Operator)	-	1	1
Lead Operator	2	1	1
Operator (Trainee, I-III)	9	9	10
<b>Total Operations</b>	<b>13</b>	<b>13</b>	<b>13</b>
<b>TECHNICAL SERVICES</b>			
Technical Services Manager	1	1	1
Associate Engineer (Promotion for obtaining Professional Engineer license)	-	-	1
Assistant Engineer	2	2	1
Regulatory Compliance Manager*	-	-	1
Laboratory Director	1	1	-
Environmental Laboratory Administrator	1	1	1
Laboratory Analyst (New FY 19)	-	1	1
Environmental Services Analyst (I-II)	3	3	3
<b>Total Technical Services</b>	<b>8</b>	<b>9</b>	<b>9</b>
<b>TOTAL AUTHORIZED STAFFED POSITIONS</b>	<b>43</b>	<b>44</b>	<b>44</b>

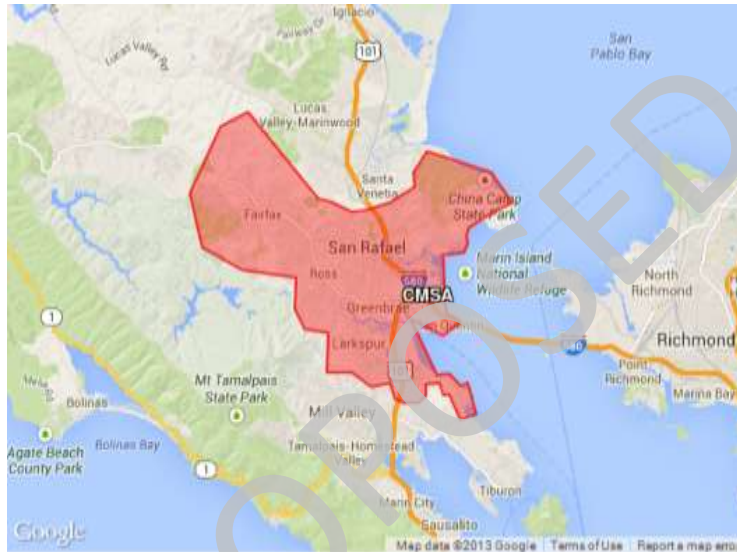
\*New Regulatory Compliance Manager position was approved by the Board in December 2018 to replace the Laboratory Director position

**SECTION 2. LOCATION AND SERVICE AREA, LOCAL DEMOGRAPHICS AND ECONOMY**

**Location and Service Area**

CMSA is located in San Rafael, California and is adjacent to the San Rafael side of the Richmond-San Rafael Bridge. The shaded area on the below map highlights the CMSA service area. It measures approximately 43.5 square miles, and encompasses the residents, businesses, and institutions within the City of Larkspur, the Towns of Corte Madera, Fairfax, Ross, and San Anselmo, portions of the City of San Rafael, the unincorporated areas of Ross Valley and San Quentin Village, and San Quentin State Prison (SQSP). The population served within this area is approximately 104,500.

The shaded area shows the location of CMSA service area.



**Local Demographics and Economy**

Marin County has a total population 260,651 with a growth rate of less than one percent annually. The county’s residents continue to have the highest California per capita income of \$66,748, and a median per household income of \$104,703.

Population of Cities, Towns, and Correctional Facilities in the CMSA Service Area

City of San Rafael (Approximately 2/3 of the city’s population)	39,500
City of Larkspur	12,382
Town of Corte Madera	9,858
Town of San Anselmo	12,599
Town of Fairfax	7,598
Town of Ross	2,467
San Quentin State Prison	4,004
Unincorporated CMSA Service Area (San Quentin Village, Greenbrae, Kentfield, Sleepy Hollow, Tiburon Peninsula)	16,092

Sources: United States Census Bureau State (2013-2017) and County Quick Facts (2010 Census), Bureau of Economic Analysis; California Department of Finance Demographic Research Census 2010 and Population Factors; Bureau of Labor Statistics

Marin’s unemployment rate of 2.1% remains among the lowest in California and remains below the national level of 3.6% as of April 2019. Six of the top ten employers in the CMSA service area as measured by number of employees are governmental entities. The majority of the remaining businesses employ between 1-250 employees, and approximately 90% of these business enterprises include goods and services occupations.

Ten Largest Employers and Number of Employees in CMSA Service Area

BioMarin	1,700
San Quentin State Prison	1,600
Marin General Hospital	1,650
Dominican University	1,000
Golden Gate Transit	820
Restoration Hardware	500
City of San Rafael	404
College of Marin	360
San Rafael City Schools	355
Kentfield Rehabilitation & Hospital	345

The local real estate and housing market continued to improve during FY19. The annual mean/median home sale price for a home in Marin was \$1,446,014/\$1,150,000 as reported by the Marin County assessor’s office website for the calendar year ending December 2018, compared to \$1,338,367/\$1,000,000 reported at end of December 2017. The upward trend declined somewhat through April 2019 where the county reported at April 30th a mean/median sales price of \$1,404,757/\$1,131,250 sales data statistic for a mean home living area of 2,004 square feet.

Source: [www.marincounty.org/depts/ar/divisions/assessor/sales](http://www.marincounty.org/depts/ar/divisions/assessor/sales)

Equivalent Dwelling Units (EDU’s)

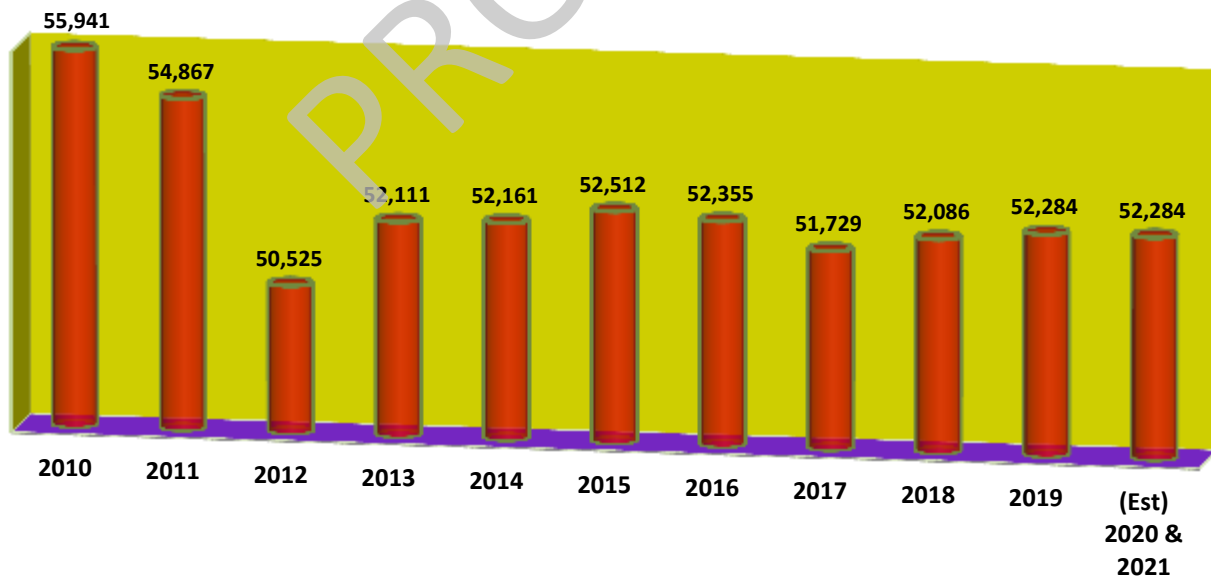
In past fiscal years, EDU’s had been used to determine the number of households served, as well as the sewer service charge (SSC) to set the Agency’s annual service fee. An EDU refers to a unit of wastewater discharge, and is the estimated volume and strength generated by an average, single-family residence. Each JPA member agency is responsible for determining the number of EDU counts in its jurisdiction and works with the County Tax Collector to add the SSC to the property tax bill, which is the method used to collect SSC payments from its customers. The annual SSC EDU rate is established each July 1 in the CMSA adopted budget. The Agency’s EDU Rate is based on the total revenue budget for SSC, capital fee and debt service charged to members divided by the number of reported EDU. The EDU rate is used to determine fee schedules for waste haulers and industrial monitoring. Additional information can be found by referring to CMSA’s Fee Schedule Ordinance available on the [www.CMSA.us](http://www.CMSA.us) website.

The Agency utilizes two different units of measure for allocating sanitary sewer charges (SSC) and debt service charges to the JPA member agencies. The allocation of SSC is based on the strength and volume of wastewater discharged from each satellite collection system into CMSA for treatment, as indicated by measurements taken by CMSA the prior wet weather period (the 36-month period April 1 to March 31 for strength and volume).

The allocation of debt service is pursuant to an October 2016 Debt Service Payment Agreement between CMSA and the member agencies, as well as the Master Indenture between CMSA and the Bond Trustee. The proportionate allocation of the debt service payment and coverage to each member is based upon average EDU counts over a 10-year period from FY07 to FY16 reported for the JPA service area. This allocation method smooths out unit count fluctuations and promotes stable/predictable debt service costs to members.

The chart and table below displays the total EDU count within the CMSA service area for the last ten years, and estimates FY20 & FY21 to be the same as FY19. The number of residential EDUs tends to be stable in the Central Marin service area because there is generally very little commercial and residential development in central Marin County. The fluctuations from year-to-year are generally due to new sewer connections for new construction and variable water usage for commercial properties. There were three consecutive years (FY10-FY12) of decreases in the total number of reported EDUs, with a significant decrease in FY12 attributable to a 3,962 drop in EDU reported by SQSP. Effective FY13, CMSA entered into a service contract with the State of California for wastewater service for SQSP, and is now responsible for determining the prison’s EDU count. The increased EDU count in FY13 is the result of new construction for single family dwellings and a multi-unit residential development in the service area. Since FY13 there has been little development. Additionally, increased drought-related water conservation efforts and reduced water consumption by commercial users have had a stabilizing effect on the EDU count.

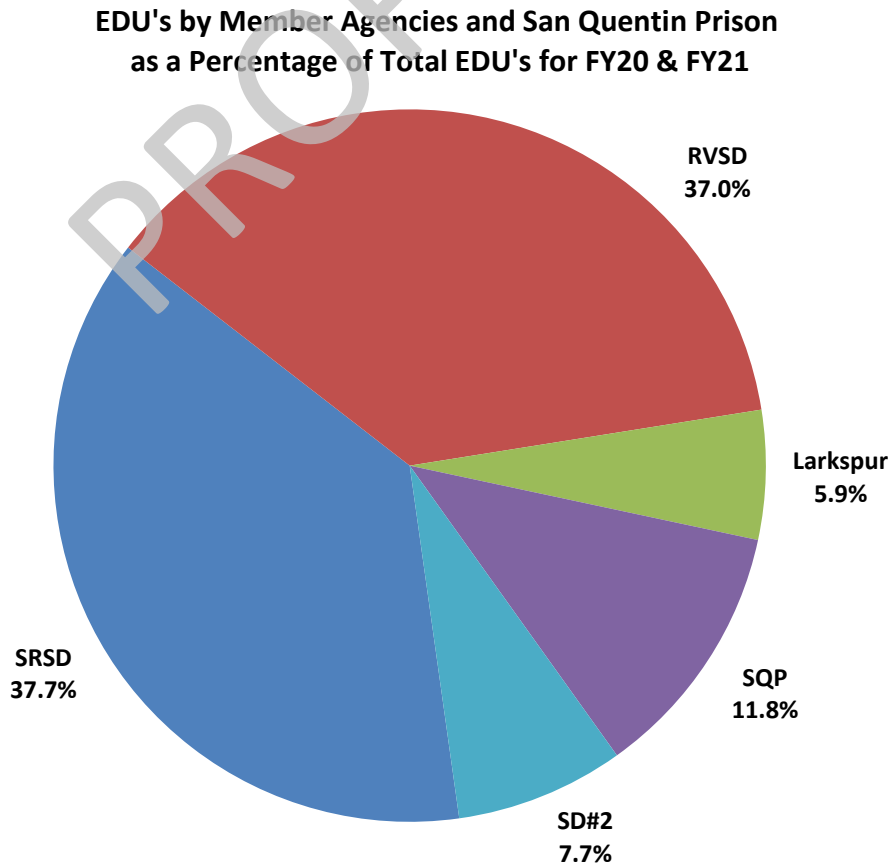
**EDU Totals for CMSA Service Area Fiscal Year End June 30th**



**EDU Count by JPA Member Agency and San Quentin State Prison FY10 to FY21**

<b>Fiscal Year Actual</b>	<b>San Rafael Sanitation District (SRSD)</b>	<b>Ross Valley Sanitary District (RVSD)</b>	<b>City of Larkspur (RVSD)</b>	<b>San Quentin State Prison (SQSP)</b>	<b>Sanitary District #2 (SD #2)</b>	<b>Total EDU Count</b>
(Est) 2020 & 2021	19,716	19,345	3,066	4,005	6,152	52,284
2019	19,716	19,345	3,066	4,005	6,152	52,284
2018	19,565	19,448	3,060	4,005	6,008	52,086
2017	19,332	19,298	3,039	4,005	6,055	51,729
2016	19,555	19,700	3,019	4,005	6,076	52,355
2015	19,643	19,666	2,982	4,005	6,216	52,512
2014	19,703	19,498	2,949	4,005	6,006	52,161
2013	19,482	19,511	2,997	4,005	6,116	52,111
2012	19,409	18,835	3,079	3,247	5,955	50,525
2011	19,401	19,261	3,021	7,209	5,975	54,867
2010	19,575	19,709	3,050	7,529	6,078	55,941

The pie chart below shows the EDU count reported by each member agency as a percentage of the total number EDUs in the service area.



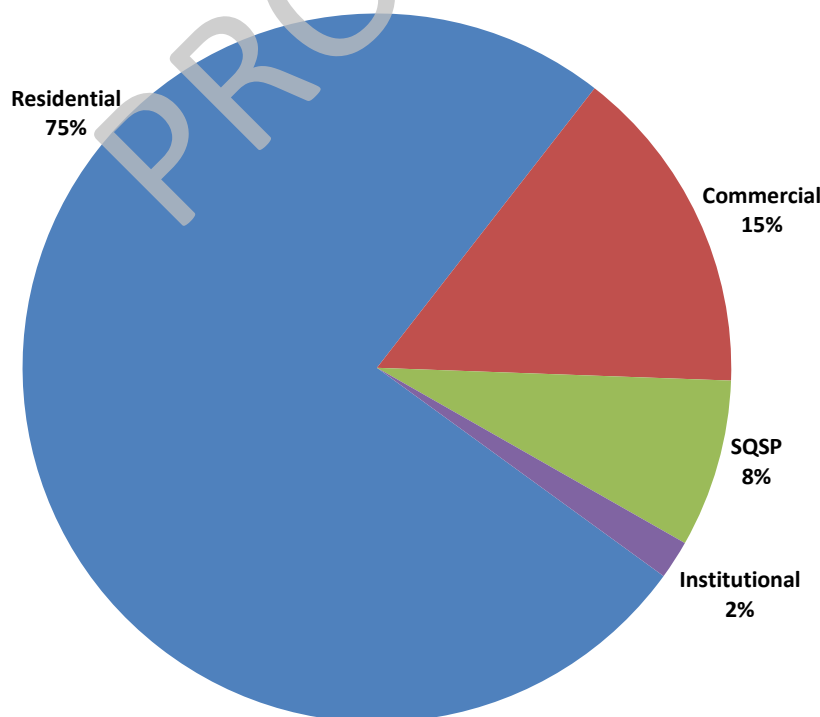
The table and chart below show the EDU count presented by connection type reported by participating JPA members. There are three types of connections: residential, commercial, and institutional. Institutional connections represent property tax exempt governmental entities (federal, state, county, city, and special district) that are billed separately because these institutions are not on the Marin County property tax rolls. EDU counts for these institutions are not included in county property tax reports.

**FY20 & FY21 Initial EDU Count by Connection Types**

	San Rafael Sanitation District (SRSD)	Ross Valley Sanitary District (RVSD)	City of Larkspur (RVSD)	San Quentin State Prison (SQSP)	Sanitary District #2 (SD #2)	Total by Type
<b>Residential</b>	15,733	16,488	2,624	-	4,645	<b>39,490</b>
<b>Commercial</b>	3,800	2,349	398	-	1,319	<b>7,865</b>
<b>Institutional</b>	183	508	44	4,005	188	<b>4,929</b>
<b>Total</b>	<b>19,716</b>	<b>19,345</b>	<b>3,066</b>	<b>4,005</b>	<b>6,152</b>	<b>52,284</b>

Source: Property Tax Reports, County of Marin

**FY20 & FY21 EDU by Connection Type and SQP as a Percentage of Total EDUs**



### SECTION 3. FACILITIES, WASTEWATER TREATMENT PROCESS, WORKLOAD, AND PERFORMANCE INDICATORS

**NOTE: Fiscal year-to-date through May 2019 performance data highlighted in yellow in the tables and the accompanying charts will be updated with current data through June 30, 2019 for the FY20 & FY21 GFOA Budget submission.**

#### Facilities

The CMSA wastewater treatment plant, pictured below, is a vital component of the central Marin wastewater management system. This extensive system includes over 70 pump stations, more than 450 miles of sewer pipelines located throughout the service area, as well as two major interceptors to transport the wastewater to the treatment plant, and a two-mile long outfall through which the treated wastewater is discharged into the San Francisco Bay. In full compliance with federal, state, and regional water pollution control laws and regulations, CMSA processes and disposes an average of 7.8 million gallons of wastewater a day during dry weather flows and 13 million gallons of wastewater per day during wet weather flows, and has treated in excess of 120 million gallons per day during peak rainfall periods.



(Clockwise upper left to right): Effluent Storage Pond, Maintenance Annex (red roof behind the pond), Chlorination/Dechlorination Building, Chlorine Contact Tanks, Effluent Pump Station, Secondary Clarifiers, Organic Waste Receiving Facility, Solids Handling Building, Digesters and Digester Building, Aeration Tanks, Biotowers, Primary Clarifiers and Blending Channel, and Headworks. The two orange-roofed buildings in the lower left are the Maintenance Building (top) and the Administration Building (bottom).

#### Wastewater Treatment Process

The diagram on the following page depicts the wastewater treatment process.







### A Headworks

The wastewater influent flows through mechanical screens where large material is removed. The wastewater then enters the aerated grit chambers where grit, sand, gravel, and granular materials are removed, rinsed, and stored for future hauling to a landfill.



### B Primary Clarifiers

The flow of wastewater slows as it moves through the long narrow clarification tanks. At this stage, grease rises to the surface while heavier materials settle to the bottom of the tanks. Ferric chloride and polymer are sometimes added during high storm flows to increase removal of the solids. These solids are then scraped off the top and bottom of the tanks and pumped to the digesters for treatment.



### C Biotowers

The biotowers are the first stage of dual biological treatment. During this stage, water leaving the primary clarifiers is pumped to the top of tall biological towers where it trickles down through fixed media. When the water comes in contact with the air, the oxygen allows bacteria to grow on the media and consume some of the dissolved organic material.



### D Aeration Tanks

The activated sludge process is the second stage of biological treatment. Tiny air bubbles released from the bottom of the tank provide air for microorganisms to consume organic matter. The organisms form a floc which enables them to settle in the secondary clarifiers.



### E Secondary Clarifiers

The secondary clarifiers settle out the activated sludge from the aeration tanks. Some of this secondary sludge is reused in the dual biological process for continual reseedling, and the rest is sent to the digesters, where it is treated and used in the production of biogas.



### F Disinfectant Contact Tanks

A computer-controlled dose of sodium hypochlorite is mixed with the treated effluent to kill pathogens. To complete the disinfection treatment process, a sodium bisulfite solution is added to the treated final effluent to neutralize any residual chlorine to protect marine life prior to discharging it to the Bay.



### G Effluent Pump Station

The Effluent Pump Station will discharge treated effluent even when high plant flows and high tides coincide. It's fully automated and can start, stop and control pumps as needed during wet weather. There are five pumps – four primary pumps and one back-up pump. The high efficiency diesel pump engines passed a stringent Air Board review before they were permitted for use.



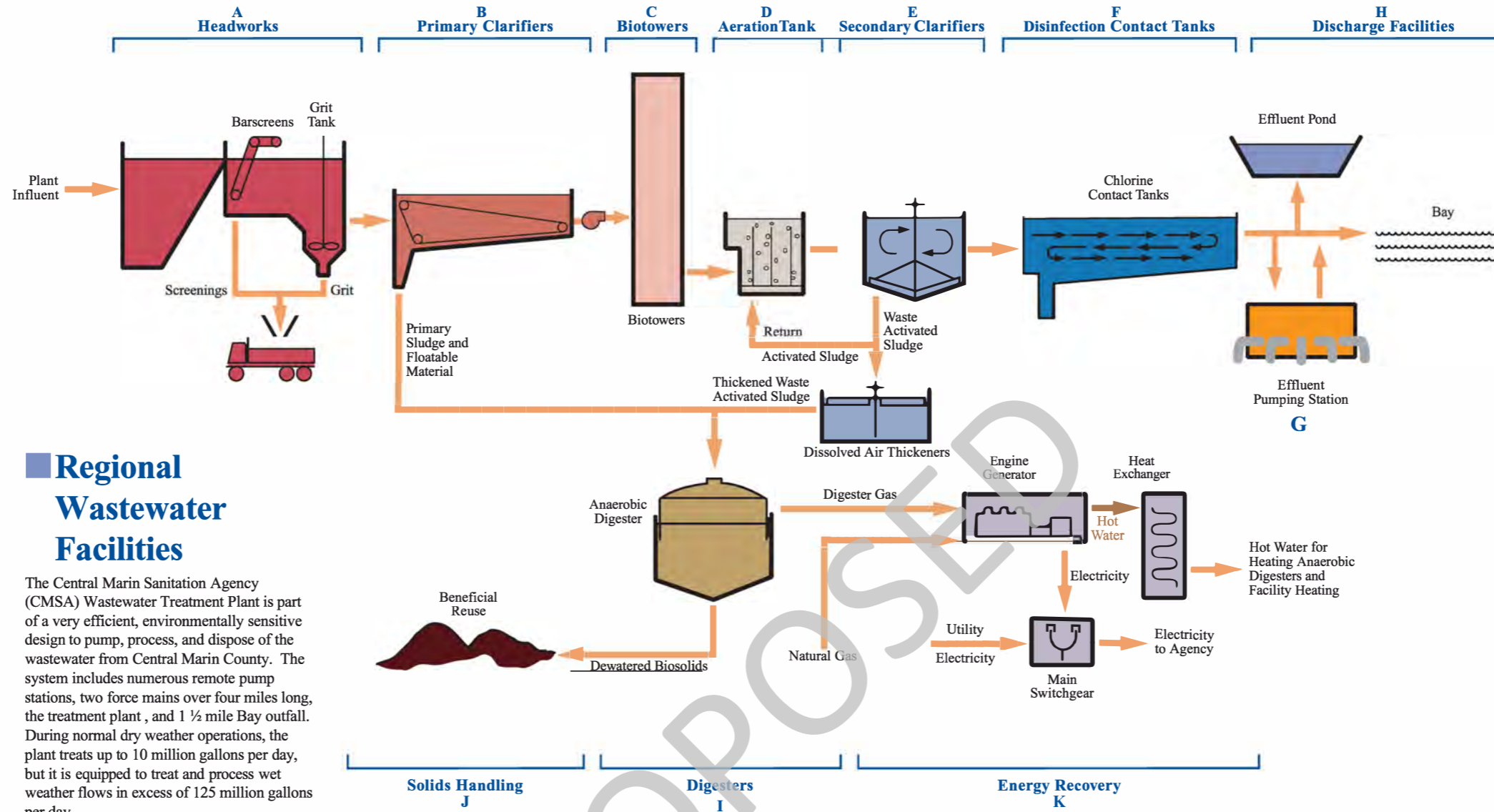
### H Discharge Facilities

Some of the treated wastewater is recycled and used for washdown and irrigation at the plant site. The remaining effluent is carried through an 84 inch pipeline more than a mile out into San Francisco Bay where it is discharged through 176 diffusers located 30 feet below the Bay surface.



### I Digesters

Solid materials (sludge and floatable material) removed in the primary and secondary clarifiers are heated so anaerobic bacteria can consume the organic matter. The digestion process reduces pathogens and odors and produces biogas. The treated product is called biosolids which are beneficially reused.



## Process Schematic

## Regional Wastewater Facilities

The Central Marin Sanitation Agency (CMSA) Wastewater Treatment Plant is part of a very efficient, environmentally sensitive design to pump, process, and dispose of the wastewater from Central Marin County. The system includes numerous remote pump stations, two force mains over four miles long, the treatment plant, and 1 ½ mile Bay outfall. During normal dry weather operations, the plant treats up to 10 million gallons per day, but it is equipped to treat and process wet weather flows in excess of 125 million gallons per day.

When wastewater arrives at the CMSA Treatment Plant, a complex treatment process begins:



### K Energy Recovery

The biogas is produced in the digesters is used to heat plant process water and to generate electricity which supplies up to 95% of the Agency's power needs. When digester biogas is not available, the engine generator switches to natural gas.



### J Solids Handling

The digested biosolids are pumped to centrifuges where excess water is removed. The dewatered biosolids are hauled to a sanitary landfill for use as alternate daily cover, or utilized in a reuse process such as compost or land applied for agricultural use.



## Key Workload and Performance Indicators for FY19 and FY20 & FY21 Projections

The following section summarizes the Agency's key workload and performance indicators for the July 1, 2018 - June 30, 2019 fiscal period. The data presented is compiled from the *Performance Metric Report and NPDES, Process, and Maintenance Report* prepared for the monthly Board meeting agendas. These reports are publicly available in the consent calendar of the Board meeting agenda packets published on the CMSA website (<http://www.cmsa.us/board/agendas-and-minutes>).

The wastewater treatment plant was designed and built to remove pollutants from influent flows which is accomplished through physical and biological processes. While some of the reported performance metrics can be directly correlated to specific parts of the budget, the majority of the metrics reported below are accomplished through the interconnection of responsibilities amongst the operations, technical services, and maintenance departments that each has a duty to contribute to the successful operations of the wastewater facilities. The end goal of the total operating budget is to produce effluent wastewater that is 100% compliant with the Agency's NPDES permit requirements. The Agency had met all its NPDES permit requirements and did not have any NPDES Permit exceedances in the past twelve consecutive years through 2016. In February 2017, CMSA experienced its first NPDES permit exceedance, which was due to extremely high influent flows related to major winter storms making it essentially impossible to remove 85% of biochemical oxygen demand particulates from the highly diluted flows. In February 2019 CMSA reported one sample monitoring NPDES permit violation during a blending event.

**A. Volume of Wastewater Treated (FY20 \$ 12.4M & FY21 \$13.0M Total Operating Expenditures):** The Agency received and treated approximately 4,510.2 million gallons of wastewater during FY19. The table below shows the monthly wastewater volume, in million gallons, received as influent flow from each satellite collection entity: SRSD, RVSD, SQSP, SD #2. The total treated flow volume was significantly lower in FY18 due to milder storm events that occurred during the months of October through February. Flows and volume of wastewater treated increased during FY19 with the return of more frequent wet weather events. Future weather patterns are difficult to predict, therefore this statistic is not projected for FY20 & FY21. The total operating budget represents the total cost to treat the total influent flow into the treatment plant and discharging effluent flow into the San Francisco Bay that is in compliance with the Agency's NPDES permit requirements.

	SRSD			RVSD			SQSP			SD #2			TOTAL		
	FY17	FY18	FY19	FY17	FY18	FY19	FY17	FY18	FY19	FY17	FY18	FY19	FY17	FY18	FY19
Jul	89.5	95.2	109.5	113.6	124.3	109.1	11.0	10.1	14.6	25.8	22.8	25.8	239.8	252.4	259.0
Aug	92.4	95.8	111.2	118.2	127.4	117.8	10.4	12.8	14.4	26.1	17.5	26.1	247.2	253.5	269.5
Sep	86.4	95.0	103.8	108.9	133.5	109.7	9.7	14.6	13.7	25.7	9.9	24.7	230.7	253.0	251.9
Oct	114.3	89.4	110.1	141.4	111.2	120.1	10.1	15.2	14.4	33.0	25.4	27.8	298.9	241.1	272.4
Nov	133.2	110.2	126.1	183.6	137.4	152.1	10.3	16.6	15.4	36.6	33.7	33.7	363.7	297.8	327.3
Dec	200.7	92.3	143.0	296.4	130.7	182.9	11.1	15.0	16.9	48.9	27.8	36.2	557.1	265.7	379.0
Jan	338.8	154.5	218.3	524.3	209.0	300.6	15.5	18.9	20.1	74.0	44.6	51.5	952.7	427.1	590.5
Feb	312.5	99.0	303.8	462.8	133.2	433.5	14.1	13.1	21.3	74.1	24.4	65.4	863.5	269.7	824.0
Mar	176.4	214.6	232.6	252.1	297.5	316.9	11.6	19.0	17.2	44.4	54.3	51.4	484.3	585.4	618.1
Apr	162.4	145.5	130.1	230.4	205.4	172.2	11.2	15.5	13.7	39.1	39.2	32.5	443.1	405.6	348.5
May	107.5	102.1	134.0	152.3	138.4	183.8	9.8	12.9	15.1	30.8	28.5	37.1	300.4	281.9	370.0
Jun	95.6	102.2	0.0	126.2	116.3	0.0	9.8	13.9	0.0	27.4	27.1	0.0	259.1	259.5	0.0
Total	1909.7	1395.8	1722.5	2710.2	1864.2	2198.7	134.6	177.6	176.8	485.9	355.2	412.2	5240.5	3792.7	4510.2
% Total Flow	36.4%	36.8%	38.2%	51.7%	49.2%	48.7%	2.6%	4.7%	3.9%	9.3%	9.4%	9.1%	100%	100%	100%

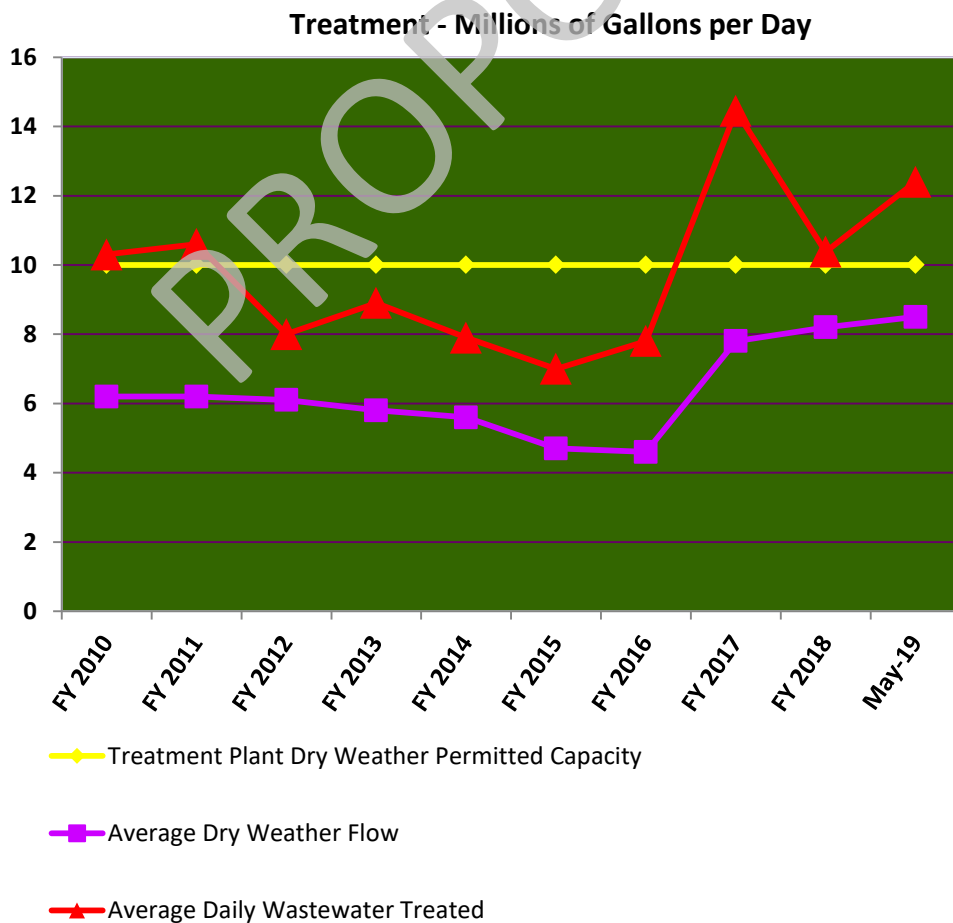
**Average Daily Effluent Flow.** The Agency’s permitted dry weather capacity is 10 million gallons per day. Below are the average daily dry weather flow, daily wastewater treated, and fiscal year flows for the past three years.

MILLIONS GALLONS PER DAY	FY17	FY18	FY19*	FY20	FY21
Dry Weather Flow (July-Sept)	7.8	8.2	8.5	8.5	8.5
Wastewater Treated	14.5	10.4	12.4	12.4	12.4
Total Fiscal Year Influent Flow Treated	5,240.5	3,792.7	4,510.2	4,510.2	4,510.2
TOTAL OPERATING BUDGET	\$11.6M	\$11.5M	\$11.8M	\$12.4M	\$13.0M

\*FY20 & FY21 have been projected to equal FY19 fiscal year flows

The graph below presents the average volume of wastewater treated and discharged into San Francisco Bay from FY10 through May FY19.

- The yellow line is the Agency’s permitted dry weather flow, which has remained constant through several five-year NPDES permit cycles.
- The purple line shows the average dry weather flow each year during the months of July, August, and September.
- The red line represents the average fiscal year daily wastewater treated and is higher than the purple line because it includes storm water that infiltrates into sewer pipelines during wet weather season rain events.



The increases in the average daily flow are due to higher than normal seasonal rainfalls during the wet weather months, and the sharp declines during FY12, FY14, and FY15 are indicative of dry winters. The decrease in average dry weather flow beginning in FY13 is associated with lower water usage by our customers due to their increased water conservation efforts during the drought that included installation of high-efficiency water fixtures.

The Agency reclaims anywhere from 10-15% of its treated water for irrigating landscaping, cogeneration engine cooling, hosing down and washing tanks and equipment, and diluting chemicals used in the treatment process. Reclaimed water is also used to maintain a wildlife sanctuary habitat for endangered turtles at Remillard Park in the City of Larkspur.

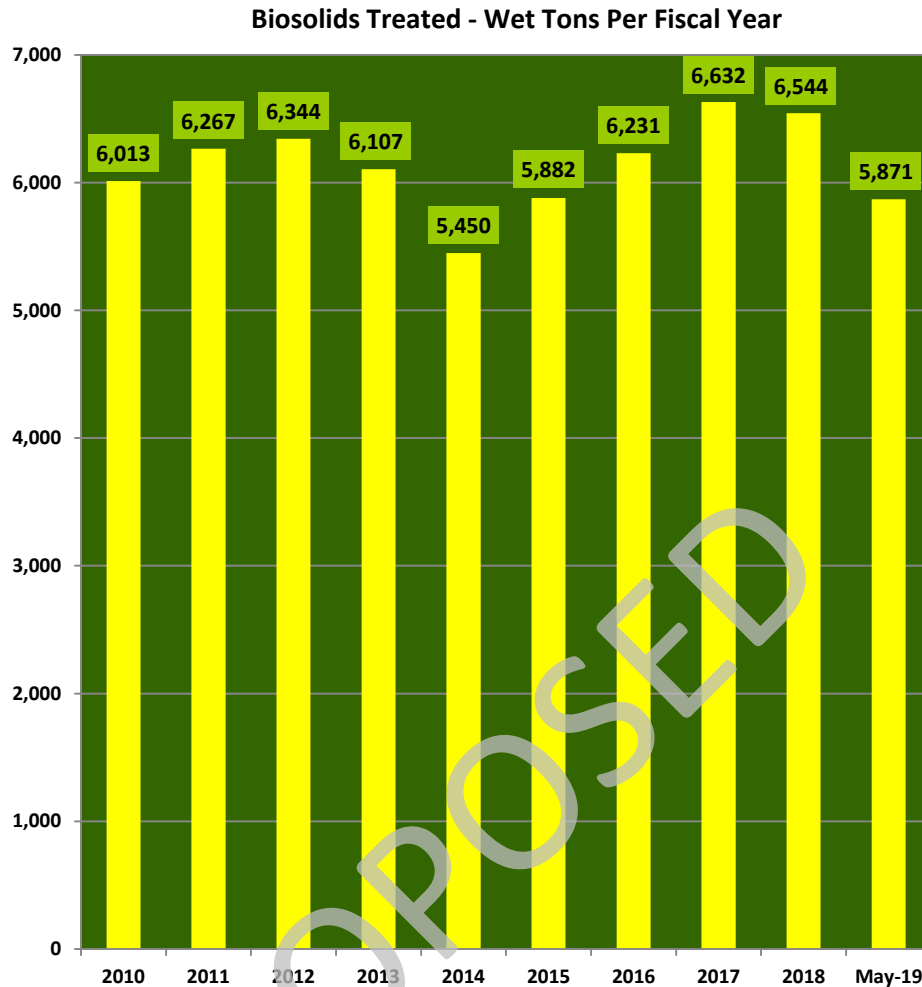
During FY16, the Agency built a recycled water truck filling station. Our member agencies occasionally use the recycled water for sewer flushing within our service area.

**B. Biosolids Management Production:** Biosolids are renewable by-products of the wastewater treatment process. CMSA beneficially reuses biosolids as alternative daily landfill cover during the wet weather season in Marin County, as fertilizer and soil amendments on agricultural land during the dry weather season in Solano County, and as a feedstock at the Lystek bio-fertilizer production facility. To further diversify biosolids management options, the Agency has partnered with 16 wastewater agencies within the San Francisco Bay Area region to evaluate the feasibility of using biosolids as an alternative energy source or to produce a marketable product. The quantity in wet tons of biosolids reused is the performance measure for this budget.

REPORTED WET TONS:	FY17	FY18	FY19	FY20	FY21
<b>Total Biosolids Management Budget*</b>	\$374K	\$388K	\$400K	\$419K	\$435K
<b>Total Biosolids Reuse</b>	6,645	6,544	5,871	5,871	5,871
<b>Landfill Alternative Daily Cover</b>	3,676	3,271	3,253	3,253	3,253
<b>Lystek Bio-fertilizer**</b>	1,306	1,366	945	945	945
<b>Fertilizer/Soil Amendment</b>	1,663	1,907	1,673	1,673	1,673

\*Reference: Technical Services Department Biosolids Management Budget

The FY20 & FY21 Total Biosolids Management budget increases are attributed to cost index adjustments in the biosolids hauling and disposal contracts.



The bar chart above shows the annual fiscal year volume of biosolids produced. High flows during wet weather can transport solids that had settled in the collection system to the treatment plant which increases biosolids production. Capital improvement projects at the treatment plant can also affect biosolids production. For example, the Digester Improvements Project in FY13 required CMSA to operate with only one digester instead of two for several months which decreased biosolids production. The FY14 reduction was due to drought conditions which resulted in more solid material settling in the sewer system pipes and therefore was not transported to the treatment plant.

- C. Odor Alerts and Complaints:** Odors are routinely generated in the wastewater collection system and in treatment processes. The Agency has implemented a multi-phased approach to manage odor generation that includes: (1) Introduction of a calcium nitrite solution into the collection system to control the production of hydrogen-sulfide by microorganisms; (2) the addition of 50% strength hydrogen peroxide into the wastewater prior to entry into the facility's headworks; and (3) the use of odor control masking agents when treatment processes are removed or placed into service. We routinely perform odor monitoring, and odor alerts are posted on the Agency website ([www.cmsa.us](http://www.cmsa.us)) to inform the public and other interested parties of the potential generation of odors due to process changes, warm weather, and other environmental or operational factors. The performance measure for the

Odor Control Budget is the number of alerts issued and the number of complaints received from people outside the treatment plant. The table below shows the number of posted alerts and public complaints received over the past three years. The Agency’s annual fiscal year goal is zero complaints.

	FY17	FY18	FY19	FY20	FY21
<b>Total Odor Control Budget*</b>	\$610K	\$534K	\$521K	\$505K	\$518K
<b>Number of Odor Alerts Issued</b>	64	50	38+/-	38+/-	38+/-
<b>Number of Odor Complaints Received</b>	2	3	0	0	0

\*Reference: Operations Dept. line item chemical budgets: Nitrate, Hydrogen Peroxide, Odor Control accounts.

**D. Conventional Pollutants Removed:** The Agency’s NPDES permit contains specific requirements for the removal of conventional pollutants, wastewater solids and organic material, before the treated water is discharged into the San Francisco Bay. The table below shows the annual fiscal year amount of conventional pollutants removed. This metric is an example where the operation, technical services, and maintenance department responsibilities and budgets interconnect to produce a desired outcome.

UNIT OF MEASURE: TONS	FY17	FY18	FY19	FY20	FY21
<b>Total Suspended Solids (TSS) Removed</b>	5,937	6,248	5,426	5,426	5,426
<b>Organics (Biological Oxygen Demand – BOD) Removed</b>	5,651	4,413	3,998	3,998	3,998

**E. Priority Pollutants Removal:** The Agency’s NPDES permit requires the removal of mercury and copper, as priority pollutants. The percentage of these pollutants removed from discharge into San Francisco Bay is shown in the table below. The Agency’s optimal goal is 100%, but a more realistic and achievable goal is between 90% and 95%. While the Technical Services Pretreatment Sampling budget monitors industrial waste, the Countywide Public Education Program budget supports programs that educate the public on ways they can contribute to the removal of mercury and copper.

MONTHLY AVERAGE	FY17	FY18	FY19	FY20	FY21
<b>Mercury</b>	96%	97%	88%	88%	88%
<b>Copper</b>	93%	84%	83%	83%	83%

**F. Biogas and Energy Production:** Biogas is produced in the treatment plant’s anaerobic digesters. This renewable resource is used as fuel in a cogeneration system that generates electricity to power Agency facilities. The volume of natural gas purchased from outside suppliers is reduced in proportion to the amount of biogas that is generated. The organic waste receiving program that was launched in January 2014 has resulted in increased biogas production, and significant savings are achieved when the system runs nearly 24 hours per day over a period of time. This is reflected in the additional budgeted savings in natural gas purchases in FY18 through FY21. The estimated quantity of biogas and electrical energy produced and the economic value of natural gas savings is shown in the table below.

	FY17	FY18	FY19	FY20	FY21
<b>Total Natural Gas Budget*</b>	\$80K	\$40K	\$37K	\$40K	\$40K
<b>Biogas – million cubic feet</b>	106	102	83	83	83
<b>Energy Produced - kilowatts</b>	4,781	5,324	3,743	3,743	3,743
<b>Value of Biogas Produced</b>	\$291,022	\$296,147	\$291,782	\$291,782	\$291,782

\*Reference: Operations Department line item budget.

**G. Work Orders Completed:** The Agency has over 4,000 assets that include the treatment facilities and systems, equipment, buildings, vehicles, computers, and other assets. These assets need to be proactively maintained and repaired (preventative work), rehabilitated, or replaced as needed (corrective work). The Maintenance and Operations Department’s maintenance activities are scheduled and tracked using a computer-based asset management system. The table below shows number of work order hours completed over the past three fiscal years. The number of work orders executed is a key performance measure of workplace productivity for the maintenance and operations departments.

BUDGET	FY17	FY18	FY19	FY20	FY21
<b>Maintenance Department</b>	\$1.88M	\$2.01M	\$1.91M	\$1.99M	\$2.09M
<b>Operations Department</b>	\$3.17M	\$3.15M	\$3.24M	\$3.38M	\$3.44M
<b>TOTAL</b>	<b>\$5.05M</b>	<b>\$5.16M</b>	<b>\$5.15M</b>	<b>\$5.37M</b>	<b>\$5.53M</b>

COMPLETED WORK ORDERS*	FY17	FY18	FY19	FY20	FY21
<b>Preventative Work Orders - # Hours</b>	5,434	5,575	4,767	4,767	4,767
<b>Corrective Work Orders - # Hours</b>	6,524	5,022	7,031	7,031	7,031
<b>Unplanned Corrective Maintenance – # Hours</b>	1,079	901	1,637	1,637	1,637
<b>TOTAL WORK ORDER HOURS</b>	<b>13,037</b>	<b>11,498</b>	<b>13,435</b>	<b>13,435</b>	<b>13,435</b>

\*Source: CMSA July-June 2019 Agendas NPDES Permit Compliance and Performance Metric reports  
<http://www.cmsa.us/board/agendas-and-minutes>

The Maintenance and Operations budget represents the total cost, including salaries, equipment, tools, chemicals, and utilities expended to execute the work orders.



**H. Employee Training:** CMSA supports employee development. We strongly believe continued training is important to our employees' professional development and job satisfaction, as well as for the effective functioning of the organization. Training includes mandatory topics such as safety and employment law (diversity, discrimination, harassment and ethics) and job specific educational courses. Methods of training include attendance at seminars and conferences, as well as computer-based webinars. The hours employees spend in training and development sessions is the key performance measure for referenced training accounts below the table.

	FY17	FY18	FY19	FY20	FY21
<b>Total Meetings/Training Budget</b>	\$85K	\$85K	\$82K	\$89K	\$85K
<b>Internal Hours</b>	1432	1638	1733	1733	1733
<b>External Hours</b>	1160	945	1063	1063	1063

Reference: Department budget accounts for Meetings/Training (6700-010), Conferences (6700-020), Outside Safety Training (6830-017-01)

**I. Water Sample Analyses:** The Agency has a certified environmental laboratory where wastewater that enters (influent) and leaves (effluent) the plant is routinely sampled and analyzed for various compounds as required by the Agency's NPDES permit. Samples from numerous treatment processes are also analyzed to ensure that the treatment systems are operating properly. The performance measure for the Permit Testing & Monitoring Budget is the number of tests that are performed to monitor water quality and permit compliance. The chart below shows the number of water sample analyses the laboratory performed, and the projection for FY20 & FY21.

	FY17	FY18	FY19	FY20	FY21
<b>Total Permit Testing &amp; Monitoring Budget*</b>	\$147K	\$150K	\$132K	\$126K	\$124K
<b>NPDES Compliance Analyses</b>	2,852	3,874	6,191	6,191	6,191
<b>Process Control Analyses</b>	7,639	8,302	8,326	8,326	8,326
<b>Contract Laboratory Analyses (New January 2018)</b>		183	1,020	1,020	1,020
<b>Quality Control Testing</b>	2,154	2,604	2,378	2,378	2,378

\*Reference: Technical Services line item budget accounts (6300-000, 6310-030, 6320-010.)

There is significant increase in the reported NPDES compliance and process control analyses from FY18 to FY19. This is related to a change in how analyses are counted. CMSA no longer counts automated readings from field instruments as laboratory samples allowing for a more accurate representation of the analyses that were conducted within the laboratory.

**J. Number of Inspections Performed and Permits Issued:** The U.S. Environmental Protection Agency and the State Regional Water Resources Control Board require wastewater agencies, such as CMSA, to regulate commercial and industrial businesses in their service areas to ensure specific pollutants and materials are not discharged into the sanitary sewer system

that can detrimentally affect the environment or wastewater treatment processes. Regulated businesses include restaurants, dental offices, car washes, dry cleaners, metal plating shops, auto repair facilities, manufacturing plants, and other business types that have the potential to produce environmentally harmful waste products. The Contract Service Revenues budget line items for FOG, Pollution Prevention, and the Mercury Source Control Programs recover costs to perform inspections and issue permits for other local agencies where CMSA has contracts to perform these services. The number of inspections completed and permits issued are shown in the table below and are the key performance measures for the referenced revenue line items. Fluctuations in the number of inspections are dependent upon customer compliance and by the number of new and existing businesses in the service area. Permits are issued for 1-, 2- or 3-year periods and the cyclical pattern is reflected in the number of permits renewed from FY17 through the FY19 budget.

	FY17	FY18	FY19	FY20	FY21
<b>Total FOG, Permit &amp; Inspections, and Mercury Source Revenue*</b>	\$99K	\$102K	\$59K	\$105K	\$108K
<b>Pretreatment and Pollution Prevention Inspections</b>	224	121	141	141	141
<b>FOG Program Food Service Establishment Inspections</b>	383	122	252	252	252
<b>Permits Issued and Renewed</b>	106	65	43	43	43

\*Reference: Schedule of Revenues and Other Financing Sources budget accounts 4030/4031/4033/4034/4035/4036/4037/4038-000-00.

- K. Public Outreach and Education:** CMSA is the lead agency for a county-wide public education program. Staff and program participants utilize exhibits to educate the public about important environmental issues related to water quality, stormwater, and wastewater at many community-based events. Some of these include the Marin County Fair, local festivals, farmers’ markets, and Earth Day events. The program also hires a juggler to deliver educational and entertaining environmental messages to elementary school children. Attendance at public outreach and education events is a key performance measure for the Countywide Public Education budget. The Agency tracks the number of people who visit the public education booth and who take our environmental quiz, and the number of children who attend the educational school events. A calendar of events where CMSA will be in attendance is available on the Agency’s website [www.cmsa.us/localevents](http://www.cmsa.us/localevents).

	FY17	FY18	FY19	FY20	FY21
<b>Total Public Education Program Budget*</b>	\$37K	\$33K	\$35K	\$21K	\$28K
<b>Public Education Event Visitors</b>	3,682	4,302	2,481	3,682	4,302
<b>School Education Events Student Attendance</b>	3,688	4,450	4,070	3,688	4,450

\*Reference: Technical Services Department budget account 6821-000-02.

## **SECTION 4. STRATEGIC BUSINESS PLAN**

The Strategic Business Plan (SBP) is a model to chart a strategic path to effectively maintain and improve the Agency's operations and services. CMSA's SBP has been constructed to prioritize projects, focus energy and resources, and guide fundamental decisions and actions that will successively build on each other into the future.

In September 2015, the Board of Commissioners approved development of the Agency's current SBP, conceptual format, and schedule for the five fiscal years from FY17 to FY21. Strategic planning workshops were held wherein Agency Commissioners participated in and collaborated with staff to review and revise the Agency's Mission, Vision, and Goals statements, and prepare new Value statements. High-level strategic statements and a SBP template were approved by the Board at its June 2016 meeting. Using these Board actions and guidance, the Agency Strategic Planning Committee (ASPC) developed the FY20 Business Plan consisting of Objectives and Actions to achieve the Board adopted Goals and to align with the SBP Mission, Vision, and Values statements.

The Agency's budget is closely aligned with the SBP, as the majority of the SBP strategic actions were considered in the budget development process. The focus of the Business Plan for FY20 will tentatively be on the activities listed below:

- Maintain the high performance of the treatment facility's operational processes
- Manage the Agency's assets
- Procure and implement a new financial software system
- Increase the Agency's energy efficiency through implementation of the power monitoring program
- Promote inter-agency coordination of projects and initiatives
- Promote a culture of leadership and professional growth to attract and develop qualified and skilled employees
- Maintain a safe and secure work environment
- Prepare for bond issuances in connection with the capital improvement program
- Improve methods of communication, e.g., Facebook presence, website upgrade

The Board reviews and accepts the Agency's Annual Business Plan for the following fiscal year, in this case FY20, in July of each year and it is available on the Agency website thereafter.

**SECTION 5. FINANCIAL REPORTING AND FINANCIAL POLICIES SUMMARY**

The Agency is a Joint Powers Authority and its activities are accounted for in a single enterprise fund. A comprehensive set of Board adopted financial policies provides direction to protect the Agency’s assets and investments through sound financial management. The Agency uses the accrual method of accounting in accordance with generally accepted accounting principles (GAAP) to produce its financial statements. The accrual method records revenue when earned and records expenses when incurred. The cash basis of accounting is used to produce the budget which records revenue when cash is received and records expenses when actually paid. The primary difference is that economic events are recognized at the time the transaction occurs regardless of when cash transactions occur. CMSA’s annual financial statements and the Agency’s compliance with policies and internal controls are audited by an independent outside auditor in accordance with generally accepted governmental auditing standards, and the statements meet the State Controller’s Minimum Audit Requirements for California Special Districts. The Agency’s audited financial statements are filed with the State Controller’s Office and the County of Marin Auditor-Controller, are provided to various bond rating agencies, and are available to the general public for review. CMSA’s Financial Policies Manual is available on the CMSA website at [www.cmsa.us/documents/administrative](http://www.cmsa.us/documents/administrative).

**CMSA Financial Policies Table of Contents**



CMSA’s values:

*“Sound financial practices to safeguard the Agency’s assets.”*  
*“Effective asset management through appropriate short and long-term planning and sustainable practices.”*

## Financial Policies Summary

The Board adopted a comprehensive set of financial policies which are periodically reviewed and updated to align with GFOA best practices, recommendations from the Agency's independent auditors, and the latest GASB pronouncements. Since then, the Agency has undertaken a schedule to review one of its three major sets of policy documents annually on a rotating basis. The set of policies includes Financial, Personnel, and Administrative. All three sets of policies were updated and adopted by the board during FY19: Financial in November 2018, Administrative in March 2019, and Personnel in April 2019.

Major financial policy areas are displayed in the graphic on the previous page and each specific policy is listed and summarized below. The framework of the financial policies governs the overall financial management and fiscal health of the Agency and promotes accountability to effectively direct the financial planning, management, and operations of the Agency. The General Manager and Administrative Services Manager are responsible for ensuring staff compliance with financial policies. A summary of each policy area is presented below:

- **Internal Controls:** Defines authorization levels, signatory requirements, segregation of duties, internal documentation requirements, monthly financial review, cash receipts, security, fiduciary responsibilities, and other internal control policies and procedures that Agency staff is required to follow.
- **Financial Reporting:** Defines the internal monthly Board reports and external financial reports required to be prepared by the Agency, including the annual financial report, Comprehensive Annual Financial Report (CAFR), financial and payroll reporting required by the IRS and the State of California, and debt reporting.
- **Revenue Management:** Provides direction on the funding requirements and management of Agency revenues, with respect to its organizational budgets, goals, and objectives. Defines the types of revenue sources, such as service charge allocations for the JPA member agencies, debt service charges, capacity charges, CMSA service contracts, and other forms of revenue.
- **Treasury:** Defines the roles and responsibilities of the General Manager and Treasurer, and includes comprehensive investment guidelines that cover how assets are to be invested to maintain safety, liquidity, and yield.
- **Expenditure Management:** Defines management of expenditures, including the required levels of approval and documentation, and accounting for transactions in the proper accounting period. Revenue Management and Expenditure Management policies form the cash basis of budgeting—where the money comes from (revenues) and where the money goes (expenditures).
- **Financial Planning:** Defines the balanced budget and specific planning documents required to be adopted by the Board of Commissioners, including the budget, the 10-year capital improvement program, and 10-year financial forecast, as well as monthly reporting requirements.
- **Procurement Management:** Defines the levels of authority for purchase orders, and signatory requirements for all types of procurement expenditures, such as professional service agreements, construction contracts, equipment purchases, and materials and supplies purchases. This policy also includes guidelines for petty cash and credit card purchases.
- **Asset Management:** Defines the type of assets and the capitalization dollar thresholds for assets to be capitalized, the proper accounting for assets, disposal guidelines, and requires on-going asset condition assessment programs to facilitate projected replacement(s) and budget planning.

**SECTION 6. BUDGET DEVELOPMENT: BALANCED BUDGET, BASIS OF BUDGETING, ACCOUNTING, DEVELOPMENT AND ADMINISTRATION**

The Board approves and adopts a balanced budget prior to the start of the fiscal year beginning July 1. The Board, General Manager, and Agency staff each have their respective Agency, departmental, and program responsibilities to develop a financially responsible budget each fiscal year. Budget development is guided by financial policies and procedures, the strategic business plan, long and short-term organizational goals and objectives, the economic climate, and other external factors.

**FY20 & FY21 Budget Calendar – Development, Adoption, and Administration**



**Balanced Budget:** The Budget is balanced when revenues and other financing sources (uses) equal expenditures. When revenues exceed expenditures, surplus funds are transferred into designated reserve accounts in accordance with the Agency's Financial Reserves Policy.

**Cash Basis of Budgeting:** The Agency's biennial budget and 10-year forecast are based on the cash method of accounting and exclude non-cash depreciation and amortization expenses. Revenues are budgeted according to what is expected to be collected during the budget year, and expenditures are budgeted according to what is expected to be spent during the fiscal year. The cash basis recognizes revenue when cash is received and recognizes expenses when cash is spent.

**Accrual Basis of Accounting:** The Agency is an enterprise fund and accounts for all its financial activity utilizing the accrual method of accounting in accordance with all applicable Government Accounting Standards Board (GASB) pronouncements for accounting, and recognizes revenues, expenses, assets, and liabilities in the proper fiscal year. The accrual method recognizes transactions and events when they occur, regardless of when cash is received or spent. One of the primary differences between the cash basis of budgeting and the accrual basis of accounting is the accrual method matches revenues to expenses which gives a more accurate picture of the Agency's financial condition.

#### **Development, Adoption, and Administration**

The biennial budget development cycle begins with an analysis of the current year budget compared to projected annual expenditures and long-term capital improvement program funding, and serves as the baseline for the upcoming budget. During the course of budget development, the General Manager and Administrative Services Manager meet with the Board Finance Committee to review options to balance the budget including possible refining of expenditure budgets and/or appropriate funds from various designated reserves. A proposed budget is presented to the Board in May during a publicly noticed meeting where customers and other stakeholders in the service area are encouraged to provide input on the budget for Board consideration. Any direction provided by the Board in May is incorporated into the final proposed budget, which is presented to the Board in June at a publicly noticed meeting for consideration of adoption. Once adopted, the budget serves as the revenue collection and spending plan for the July 1 to June 30 fiscal period.

During the course of the fiscal year, finance staff prepares, and management staff reviews, detailed monthly budget performance reports and corresponding revenue and expenditure analyses. Finance staff also prepares a quarterly budget status report for Board review which details the financial performance of the Agency, describes billings and revenue collections, and analyzes operations and capital expenditures. The quarterly budget performance reports are available for public review and are included in the Board meeting agenda packets which are available on the Agency website at [www.cmsa.us/board/agendas-and-minutes](http://www.cmsa.us/board/agendas-and-minutes).

## SECTION 7. FY20 & FY21 BUDGET - DISCUSSION AND ANALYSIS

Budget development for FY20 & FY21 began in January 2019. During the course of its development, the General Manager and Administrative Services Manager reviewed the work in progress and sought guidance from the Board Finance Committee on the major components of the FY20 & FY21 Budget that consist of: (1) operating revenues, expenses, and debt service; (2) capital improvement project (CIP) expenditures and the 10-year CIP projections (Section 8); and (3) the 10-Year Financial Forecast assumptions (Section 9).

The FY20 & FY21 Budget is a balanced budget (revenues less expenditures and any balance transferred to/from reserves) and includes any changes made from the preliminary budget. The FY20 & FY21 Budget incorporates changes in employee compensation that resulted from market survey and cost of living adjustments with the Agency's two employee groups effective for July 1, 2019. This section presents two components of the Budget for both revenues and expenditures. Section 8 presents the third component of the Budget for capital expenditures.

CMSA's primary source of revenue in the FY20 & FY21 Proposed Budget is sewer service charges received from JPA member agencies. Sewer service charges are based upon respective member's volume and strength of wastewater treated. This method is a fair determination because it recognizes that volume and strength vary per JPA member and it assigns costs based upon the actual burden placed on the treatment facility. The Agency has now completed seven years beginning in FY14 of calculating the wastewater strength from each JPA member's flow and has incorporated 36-months of wastewater strength along with 36-months of wastewater volume in determining each JPA member's FY20 & FY21 sewer service charges.

Table 1 shows the FY18 actual and FY19, FY20, and FY21 budgeted operating revenues and expenses, with surplus funds flowing into operating and unrestricted capital reserves. Major changes to FY20 & FY21 revenues and expenditures from FY19 & FY20 are discussed in the narrative following Table 1.

**Table 1: Overview of Operating Revenues and Expenditures for FY18, FY19, FY20 & FY21**

	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19	Proposed FY21	FY21 Change from FY20
<b>Total Operating Revenues</b> (Excludes Capital Fee, Capacity Charges, Debt Service, and Other Financing Sources)	\$12,072,388	\$12,334,425	\$13,128,126	6.4%	\$13,789,404	5.0%
<b>Total Operating Expenditures</b>	10,704,348	11,822,000	12,462,600	5.4%	13,025,100	4.5%
<b>Surplus/(Deficit)</b>	<b>\$ 1,368,040</b>	<b>\$ 512,425</b>	<b>\$ 665,526</b>	<b>29.9%</b>	<b>\$ 764,304</b>	<b>14.8%</b>

*Note: Budget surpluses are transferred to designated reserve funds per Financial Policy #532.*

FY20 operating revenues in total increase by 6.4% and operating expenditures in total increase by 5.4%, and for FY21 revenues increase 5% and expenses 4.5%. Budgeted surplus for FY20 and FY21 in the amounts of approximately \$665K and \$764K, respectively, will transfer in accordance with the transfer policy.

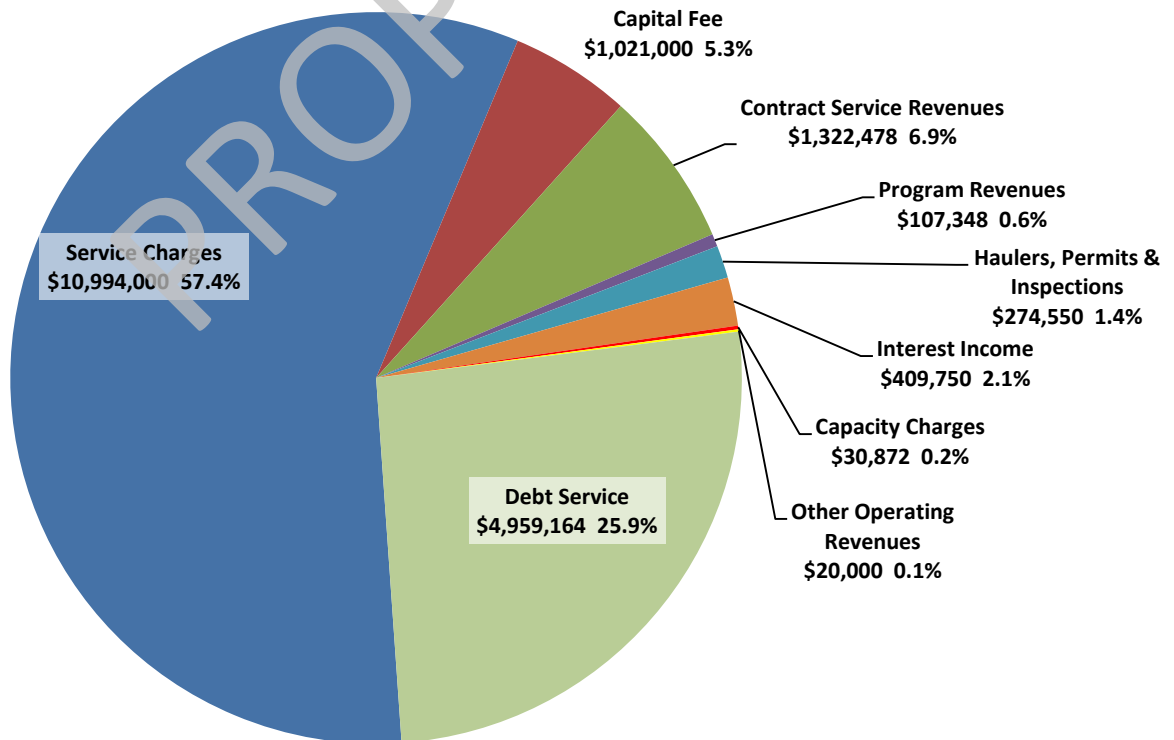
**Proposed FY20 & FY21 Revenues:** Table 2 summarizes revenues by source for FY18 actual, and adopted FY19, and proposed FY20 & FY21 budgets. A brief analysis that describes the difference between FY19 and FY20 & FY21 revenue categories follows the pie chart below.



**Table 2: Revenues by Source for FY18, FY19 Adopted, FY20 & FY21 Proposed Budgets**

Revenue Sources by Category	Actual FY18	Budget FY19	Proposed FY20	FY20 Change vs FY19	% Total Revenue	Proposed FY21	FY21 Change vs FY20	% Total Revenue
<b>Operating Revenues</b>								
Service Charges	\$10,263,165	\$10,622,376	\$10,994,000	3.5%	56.1%	\$11,379,001	3.5%	39.2%
Contract Service Revenues	1,152,800	1,108,808	1,322,478	19.3%	6.8%	1,550,934	17.3%	5.3%
Program Revenues	76,633	146,030	107,348	26.5%	0.5%	122,139	13.8%	0.4%
Haulers, Permits & Inspections	278,986	221,450	274,550	24.0%	1.4%	274,550	0.0%	0.9%
Interest Income	216,592	215,760	409,750	89.9%	2.1%	442,780	8.1%	1.5%
Other Operating Revenues	84,212	20,000	20,000	0.0%	0.1%	20,000	0.0%	0.1%
<b>Total Operating Revenues</b>	<b>\$12,072,388</b>	<b>\$12,334,424</b>	<b>\$13,128,126</b>	<b>6.4%</b>	<b>67.0%</b>	<b>\$13,789,404</b>	<b>5.0%</b>	<b>47.5%</b>
Capital Fee	630,000	811,258	1,021,000	25.9%	5.2%	1,252,000	22.6%	4.3%
Capacity Charges	197,753	30,091	30,872	2.6%	0.2%	31,675	2.6%	0.1%
Debt Service	4,952,382	4,966,508	4,959,164	-0.1%	25.3%	4,946,258	-0.3%	17.0%
Other Financing Sources	-	-	450,000	0.0%	2.3%	9,000,000	1900.0%	31.0%
<b>Total Non-Operating Revenues</b>	<b>\$5,780,135</b>	<b>\$5,807,857</b>	<b>\$6,461,036</b>	<b>11.2%</b>	<b>33.0%</b>	<b>\$15,229,933</b>	<b>135.7%</b>	<b>52.5%</b>
<b>TOTAL REVENUES</b>	<b>\$17,852,523</b>	<b>\$18,142,281</b>	<b>\$19,589,162</b>	<b>8.0%</b>	<b>100.0%</b>	<b>\$29,019,337</b>	<b>48.1%</b>	<b>100.0%</b>

**FY20 Budget Revenues by Source  
(Where the Money Comes From)**



(A list of acronyms and their definitions used in the revenues and expenditures analyses can be found in Section 11 - Key Terms and Financial Glossary with Acronym Listing)

Service Charges: A fee collected for providing wastewater treatment service that is allocated to each JPA member based on wastewater flow and strength into CMSA from April 1, 2016 to March 31, 2019. Flow is measured in millions of gallons and strength factors are measured in pounds for mass of biological oxygen demand and mass of total suspended solids. The sewer service charges are budgeted to increase by 3.5% to fund increased operating expenses with any surplus to transfer to the unrestricted capital reserve to fund future capital projects as planned in the 10-year financial forecast (Section 9).

Service Charge Capital Fee: A fee collected from JPA members to fund capital projects flows directly into unrestricted capital reserves for use currently or within the term of the 10-year CIP.

Contract Services: Revenues received for services provided by the Agency under contract to local agencies are expected to increase by 19.3% in FY20 and 17.3% in FY21.

- \$601,545 and \$810,003 for SQSP wastewater services for each of FY20 and FY21, respectively. The budget is based upon the % flow/strength contribution times the sum of the CMSA O&M budget plus the capital budget.
- \$115,921 and \$120,442 for FY20 and FY21, respectively, for SQSP pump station maintenance. This contract increases by Bay Area CPI in the amount of 3.9% for each year.
- \$71,686 and \$51,826 for SQ Village for each of FY20 and FY21, respectively. These budget amounts vary due to different amounts of approved maintenance projects.
- \$446,475 and \$478,337 for SD 2 Pump Station Maintenance for each of FY20 and FY21, respectively. Costs vary by different amounts of approved maintenance work.
- The Agency also has contracts with six neighboring sanitation districts for a FOG (Fats, Oil, Grease) inspection and pollution prevention program, and has a contract with one neighboring sanitation district to inspect dental amalgam collection and disposal procedures of dentists within that district's service area. Budgeted revenues for these agencies as a whole amounts to \$86,851 and \$90,325 for each of FY20 and FY21, respectively.

Program Revenues: Revenues received in accordance with agreements with program participants for the Health & Safety and Countywide Public Education programs. Revenues are expected to decrease 26.5% for FY20 for changes in specific program items and increase 13.8% for FY21. Both programs decreased for FY20, while the Public Education program increased for FY21 for programs for RxSafe Marin and additional promotional items.

Haulers, Permits, and Inspection: Revenues received from charges for septage disposal at the CMSA facility from private waste haulers, permit fees for industrial waste dischargers, administrative costs for pollution prevention program inspections, and other services. Revenues are increasing from septic haulers, from FOG deliveries, and from foodwaste disposal.

Interest income: The Agency maintains its investments in liquid investment pools with the State of California Local Agency Investment Fund (LAIF) and a smaller principal balance in the California Asset Management Program (CAMP). Interest rates for both LAIF and CAMP increased one full percentage point estimated for LAIF at 2.5% and 2.7% for each of FY20 and FY21, respectively, and for CAMP at

2.6% and 2.8% for FY20 and FY21, respectively, thereby increasing budgeted interest income approximately 90% for FY20. FY21 is budgeted at approximately 8% higher than FY20.

**Capacity Charges:** Revenue received from new construction or converting former septic system properties to public sewer to purchase capacity in the sanitary sewer system. Capacity charges when received may be used for capital purposes only. Due to generally few new connections, the Agency budgets for two new connections each for SRSD and RVSD and for one new connection for SD#2.

The capacity charge fee for a single-family dwelling unit will increase 2.6% from \$6,094.28 to \$6,252.73 for FY20 and an estimated 2.6% also for FY21 as adjusted by the Engineering News Record (ENR) Construction Cost Index for the San Francisco Bay Area for the twelve month period from April to April. The Agency’s capacity charge Fee Schedule Ordinance No. 2016-1 is available on the website at [www.cmsa.us/documents/ordinances](http://www.cmsa.us/documents/ordinances).

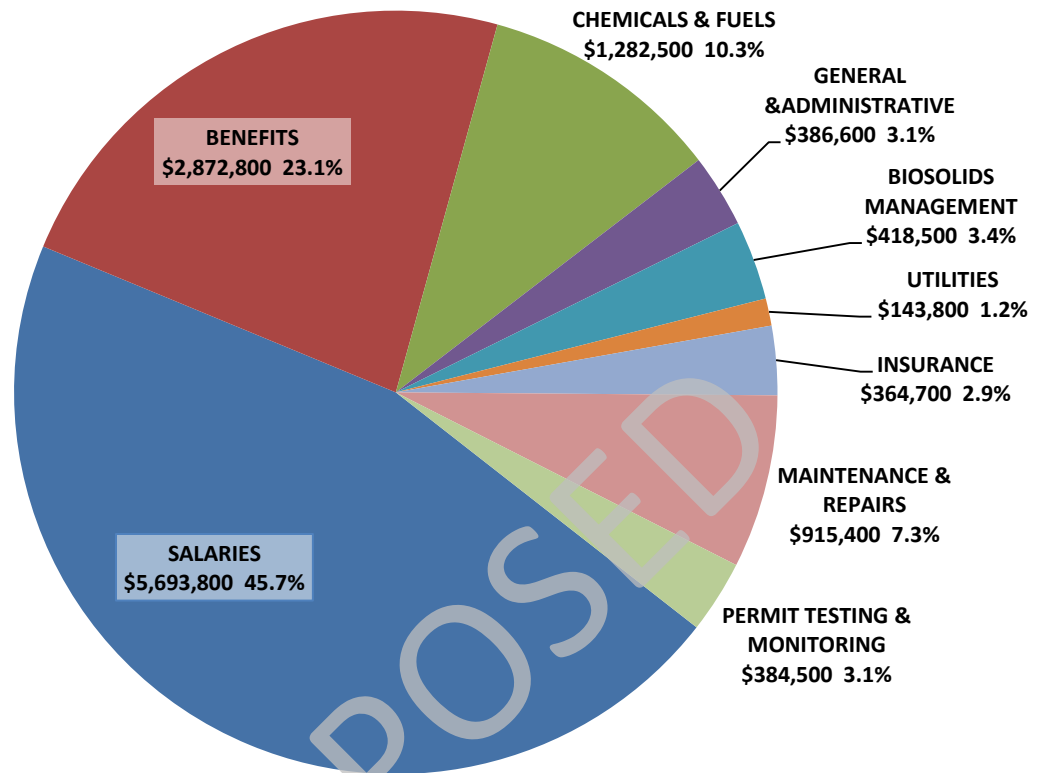
**Proposed FY20 & FY21 Operating Expenditures:** Approximately 90% of the operating budget is related to fixed costs over which the Agency has limited control once agreements are in place, and include salaries, benefits, chemicals, biosolids hauling and disposal, permit sampling requirements, biosolids monitoring compliance, insurance, utilities, and several operating permits required by regulatory agencies. The remaining 10% represents professional affiliations, memberships, professional development, and general and administrative expenses that include a varying degree of funds available for discretionary use.

The Agency’s FY20 & FY21 Proposed Budget is summarized in Table 3 below, Budget by Category of Expenditures. The pie chart shows this information in a graphical display. A descriptive analysis for each expenditure category can be found following the pie chart.

**Table 3: Budget by Category of Expenditures for FY18, FY19 Adopted and FY20 & FY21 Proposed Budgets**

Operating Expenditures by Category	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19	Proposed as % of Budget	Proposed FY21	FY21 Change from FY20	Proposed as % of Budget
SALARIES	\$ 5,255,003	\$ 5,555,200	\$ 5,693,800	2.5%	45.7%	\$ 5,999,600	5.4%	46.1%
BENEFITS	2,385,487	2,758,700	2,872,800	4.1%	23.1%	3,137,700	9.2%	24.1%
CHEMICALS & FUELS	981,193	1,126,900	1,282,500	13.8%	10.3%	1,256,800	-2.0%	9.6%
UTILITIES	284,900	317,800	386,600	21.6%	3.1%	390,400	1.0%	3.0%
BIOSOLIDS MANAGEMENT	381,057	400,300	418,500	4.5%	3.4%	435,300	4.0%	3.3%
PERMIT TESTING & MONITORING	149,815	148,800	143,800	-3.4%	1.2%	142,500	-0.9%	1.1%
MAINTENANCE & REPAIRS	362,422	363,500	364,700	0.3%	2.9%	377,200	3.4%	2.9%
GENERAL & ADMINISTRATIVE	675,361	900,000	915,400	1.7%	7.3%	879,700	-3.9%	6.8%
INSURANCE	229,110	250,800	384,500	53.3%	3.1%	405,900	5.6%	3.1%
<b>Total Expenditures</b>	<b>\$10,704,348</b>	<b>\$11,822,000</b>	<b>\$12,462,600</b>	<b>5.4%</b>	<b>100.00%</b>	<b>\$13,025,100</b>	<b>4.5%</b>	<b>100.00%</b>

**FY20 Budget by Category of Expenditure  
(Where the Money is Spent)**



**Salaries:** Salaries are budgeted to increase by a net 2.8% for FY20 due to a 3% COLA salary adjustment for Agency employees effective July 1, 2019 net of a vacant position replacement at a lower step, and other anticipated compensation adjustments for eligible staff. Salaries are budgeted to increase 4% for FY21.

**Benefits:** Total employee benefit costs increase 4.1% for FY20 and 9.2% for FY21. Employee benefits include costs for retirement pensions, medical, retiree medical, and other benefits. For retiree medical, Agency policy is to contribute the full amount of the GASB 75 actuarially determined contribution (ADC) in the amount of approximately \$250K for direct medical costs and to fund the OPEB Trust. Retiree medical costs include Agency paid minimum insurance premiums to CalPERS medical for eligible retired employees, plus reimbursement amounts paid to retirees for the employee portion withheld from pension checks, and prefunding amounts paid to the retiree medical trust known as CERBT (California Employers Retirement Benefit Trust). Transfers to the trust are irrevocable. The trust is a Section 115 trust that holds and accumulates amounts to be used for the exclusive benefit of eligible retirees and their beneficiaries. The Agency is funding the trust in the amount of \$43K established in accordance with the OPEB funding plan for full funding in approximately five years near or at which time benefits will be paid from the trust. The OPEB funding plan may be subject to change conditioned upon changes in the ADC and other OPEB funding assumptions. Earnings of the trust will be self-supporting to pay benefit obligations from the trust.

*Chemicals & Fuel:* This category is budgeted to increase by 13.8% for FY20 and to decrease 2% for FY21. The increase and subsequent decrease in chemical costs is due to the timing of deliveries and length of time to order the next delivery. Significant savings were achieved when the Agency joined the Bay Area Chemical Consortium (BACC) in FY14, a regional chemical purchasing cooperative. Chemical suppliers bid to supply chemicals to the members of the cooperative, by region, which results in lower unit costs than what the Agency would be able to obtain on its own. In FY20 & FY21, the Agency continues to benefit from reduced bid prices from the cooperative chemicals. While the Agency can develop projections for the quantity of chemicals used, the cooperative helps reduce the challenges and risks associated with estimating the future volatility of commodity unit prices.

*Utilities:* This category for electricity, natural gas, and other utilities is budgeted to increase 21.6% for FY20 and to remain flat for FY21. The substantial increase in utility costs is due to the need to purchase all electricity from PG&E with no cogeneration as the cogeneration engine suffered irreparable damage that will require a full rebuild and several months downtime. The Agency anticipates resuming power generation and electricity savings with completion of the engine.

*Biosolids Management:* This category is budgeted to increase 4.5% and 4% for FY20 and FY21, respectively, due to contractual rate increases.

*Permit Testing and Monitoring:* This category is budgeted to decrease 3.4% and .9% for FY20 and FY21, respectively. This is due to more testing in-house rather than contracting with outside labs.

*Maintenance & Repairs:* This category is very consistent between years at a budget increase of .3% for FY20 and a 3.4% increase for FY21, respectively. There is a general increase for FY21.

*General & Administrative:* This category is very consistent between years budgeted to increase 1.7% for FY20 and to decrease 3.9% for FY21 respectively.

*Insurance:* Insurance is budgeted to increase 53.3% for FY20 and 5.6% for FY21, respectively. Most insurance types increased usual and customary amounts, like 5% for each of the two fiscal years. However, due to two employees with long-term work-related injuries the Agency's experience modification (the X-Mod) increased 150% thereby substantially increasing the workers compensation premium.

## Operating & Capital Budget for FY20 & FY21 Overview

The budget overview provided below summarizes the Agency's primary sources and uses of funds, to give the reader an understanding of the budget and its organization. This overview also assists the reader in locating additional detail within the budget document.

### Revenues:

#### Where the Money Comes From

Below is a listing of the budget documents which describe the Agency's source of funds.

DOCUMENT TITLE	BUDGET PURPOSE	EXPLANATION
<b>Funding requirements and Sources Summary</b> Section 7	A snapshot summary.	Displays total expenditures and total revenues and summarizes anticipated reserve increases and uses, to estimate ending funding sources.
<b>Schedule of Revenues and Other Financing Sources</b> Section 7	Revenue budget requirements	A detailed revenue budget by category for all line items in each revenue category, including the use of reserves as a revenue source.

### Expenditures:

#### Where the Money Is Spent

The budget documents listed below describe the Agency use of funds in greater detail.

DOCUMENT TITLE	BUDGET PURPOSE	EXPLANATION
<b>Summary of Expenditures by Departments and Category</b> Section 7	Summarizes total operating budget expenditures by departments and by category.	The summary compares the Budgets for FY19, FY20 & FY21. FY18 audited actuals are presented next to the FY19 Budget.
<b>Departmental Operating Budgets</b> Section 7	The departmental budget documents show in greater detail how each department expects to spend their budgeted dollars during FY20 & FY21.  *Administration *Maintenance *Operations *Technical Services *Cooperative Agreement (a cost center that tracks reimbursable expenses related to services provided to other local agencies)	Descriptions of each department and its core functions and responsibilities, including a summary of Expenditures by Category, an Authorized Positions head count for three fiscal years, and FY20 & FY21 Department Initiatives.  Operating Budget detailed by line items account for three fiscal years for each department.  The Budget Explanation by line item account number includes an account description that explains what the budgeted dollars are spent on. Additional notes and information that affected the development of the budget are also included.

DOCUMENT TITLE	BUDGET PURPOSE	EXPLANATION
<b>Capital Improvement Program</b> (Section 8)	The FY20 & FY21 Capital Improvement Program provides a summary of changes, the CIP FY20 & FY21 Budget and 10-Year Forecast, detailed information by account number, and descriptions and elements involved for planned projects.	<p>The FY20 &amp; FY21 Capital Improvement Program - Summary of Changes compares the FY19 Adopted Budget to the proposed budget for FY20 &amp; FY21, and provides a narrative about significant changes in the budget.</p> <p>Capital Improvement Program FY20 &amp; FY21 Budget and 10-Year Forecast. This schedule shows the FY19 Adopted Budget, the FY20 &amp; FY21 Budget, and presents a projected 10-year forecast for planned activities by budget line item account.</p> <p>The Account/Project Descriptions and Full Page Project Descriptions are explanations of how the budget will be spent and provides additional detail about each project and future planned activities.</p>
<b>10-Year Financial Forecast</b> (Section 9)	Long-term strategic budgetary examination of future operations.	Projections for future planned operations provide decision-making guidance for the timing and needs for funding sources and requirements.
<b>Debt Obligation</b> (Section 10)	Debt Service payment to owners of the Agency's Refunding Revenue Bonds Series 2015.	This schedule shows total principal and interest due for debt service for each fiscal year through FY32.

PROPOSED

## FUNDING REQUIREMENTS AND SOURCES SUMMARY

Funding Requirements	Actual FY18	Budget FY19	Proposed FY20	FY20 Change vs FY19	Proposed FY21	FY21 Change vs FY20
<i>Operating:</i>						
Salaries and Wages	\$ 5,255,003	\$ 5,555,200	\$ 5,693,800	2.5%	\$ 5,999,600	5.4%
Employee Benefits	2,385,487	2,758,700	2,872,800	4.1%	3,137,700	9.2%
Chemicals & Fuels	981,193	1,126,900	1,282,500	13.8%	1,256,800	-2.0%
Biosolids Management	381,057	400,300	418,500	4.5%	435,300	4.0%
Permit Testing & Monitoring	149,815	148,800	143,800	-3.4%	142,500	-0.9%
Maintenance & Repairs	362,422	363,500	364,700	0.3%	377,200	3.4%
Utilities	284,900	317,800	386,600	21.6%	390,400	1.0%
Insurance	229,110	250,800	384,500	53.3%	405,900	5.6%
General & Administrative	675,361	900,000	915,400	1.7%	879,700	-3.9%
Operating before debt and capital	10,704,347	11,822,000	12,462,600	5.4%	13,025,100	4.5%
Debt Service	3,961,906	3,973,206	3,967,331	-0.1%	3,957,006	-0.3%
Operating before capital	14,666,253	15,795,206	16,429,931	4.0%	16,982,106	3.4%
Capital Improvements	\$ 2,194,253	\$ 2,862,500	\$ 3,900,626	36.3%	8,484,664	117.5%
<b>Total requirements</b>	<b>\$ 16,860,506</b>	<b>\$ 18,657,706</b>	<b>\$ 20,330,557</b>	<b>9.0%</b>	<b>\$ 25,466,770</b>	<b>25.3%</b>
Funding Sources	Actual FY18	Budget FY19	Proposed FY20	FY20 Change vs FY19	Proposed FY21	FY21 Change vs FY20
Service Charges	\$ 10,263,165	\$ 10,622,377	\$ 10,994,000	3.5%	\$ 11,379,001	3.5%
Capital Fee	630,000	811,258	1,021,000	25.9%	1,252,000	22.6%
Debt Service Charge	4,952,382	4,966,508	4,959,164	-0.1%	4,946,258	-0.3%
Capacity Charges	197,753	30,091	30,872	2.6%	31,675	2.6%
Contract Service Revenues	1,152,800	1,108,808	1,322,478	19.3%	1,550,934	17.3%
Program Revenues	76,633	146,030	107,348	-26.5%	122,139	13.8%
Haulers, Permits & Inspections	278,986	221,450	274,550	24.0%	274,550	0.0%
Other Revenues	84,212	20,000	20,000	0.0%	20,000	0.0%
Interest Income	216,592	215,760	409,750	89.9%	442,780	8.1%
Other Financing Sources (Notes 1, 2)	-	-	450,000		9,000,000	
Subtotal funding sources	17,852,523	18,142,282	19,589,162	8.0%	29,019,337	48.1%
Reserve (Increase) Usage	(992,017)	515,424	741,395	43.8%	(3,552,567)	-579.2%
<b>Total funding sources</b>	<b>\$ 16,860,506</b>	<b>\$ 18,657,706</b>	<b>\$ 20,330,557</b>	<b>9.0%</b>	<b>\$ 25,466,770</b>	<b>25.3%</b>

Note 1: FEMA reimbursement for Andersen Drive hillside as other financing source in FY20

Note 2: Assumed revenue bond issuance as other financing source in FY21



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PROPOSED

**SCHEDULE OF REVENUES AND OTHER FINANCING SOURCES**

Account #	Description	Actual FY18	Budget FY19	Proposed FY20	FY20 Change vs FY19	Proposed FY21	FY21 Change vs FY20
<u>Service Charges to Members<sup>1</sup></u>							
4010-000-00	SRSD	\$ 4,249,977	\$ 4,340,303	\$ 4,644,965	7.0%	\$ 4,807,628	3.5%
4010-000-00	RVSD	5,162,372	5,363,238	5,420,042	1.1%	5,609,847	3.5%
4010-000-00	SD #2	850,816	918,836	928,993	1.1%	961,526	3.5%
	Totals	<u>\$ 10,263,165</u>	<u>\$ 10,622,377</u>	<u>\$ 10,994,000</u>	3.5%	<u>\$ 11,379,001</u>	3.5%
<u>Capital Fee to Members<sup>1</sup></u>							
4010-000-00	SRSD	\$ 260,883	\$ 331,480	\$ 431,373	30.1%	\$ 528,970	22.6%
4010-000-00	RVSD	316,890	409,604	503,353	22.9%	617,236	22.6%
4010-000-00	SD #2	52,227	70,174	86,275	22.9%	105,794	22.6%
	Totals	<u>\$ 630,000</u>	<u>\$ 811,258</u>	<u>\$ 1,021,001</u>	25.9%	<u>\$ 1,252,000</u>	22.6%
<u>Debt Service Cost to Members<sup>2</sup></u>							
4011-000-00	SRSD	\$ 1,859,855	\$ 1,865,160	\$ 1,862,402	-0.1%	\$ 1,857,555	-0.3%
4011-000-00	RVSD	2,131,911	2,137,992	2,134,830	-0.1%	2,129,274	-0.3%
4011-000-00	SD #2	579,510	581,163	580,303	-0.1%	578,793	-0.3%
4011-000-00	SQSP	381,106	382,193	381,627	-0.1%	380,635	-0.3%
	Totals	<u>\$ 4,952,382</u>	<u>\$ 4,966,508</u>	<u>\$ 4,959,162</u>	-0.1%	<u>\$ 4,946,257</u>	-0.3%
	Total Billed Charges to Members	<u>\$ 15,845,547</u>	<u>\$ 16,400,143</u>	<u>\$ 16,974,163</u>	3.5%	<u>\$ 17,577,258</u>	3.5%
<u>Capacity Charges</u>							
4020-010-00	SRSD	\$ 144,357	\$ 12,036	\$ 12,349	2.6%	\$ 12,670	2.6%
4020-020-00	RVSD	47,463	12,036	12,349	2.6%	12,670	2.6%
4020-030-00	SD #2	5,933	6,018	6,174	2.6%	6,335	2.6%
	Totals	<u>\$ 197,753</u>	<u>\$ 30,091</u>	<u>\$ 30,872</u>	2.6%	<u>\$ 31,675</u>	2.6%

Note 1: See flow-strength tables in appendix A

Note 2: See EDU allocation table in appendix A

**SCHEDULE OF REVENUES AND OTHER FINANCING SOURCES**  
**(Continued)**

Account #	Description	Actual FY18	Budget FY19	Proposed FY20	FY20 Change vs FY19	Proposed FY21	FY21 Change vs FY20	Notes
<u>Contract Service Revenues</u>								
4601-000-00	SQ State Prison Wastewater Services	\$ 589,690	\$ 522,405	\$ 601,545	15.1%	\$ 810,003	34.7%	O&M plus capital * 3.79% (appendix)
4601-001-00	SQ State Prison Pump Station Maint	115,547	111,570	115,921	3.9%	120,442	3.9%	Bay Area CPI Jan-Jan at 3.9%
4602-000-00	SQ Village Wastewater Services	22,279	45,297	71,686	58.3%	51,826	-27.7%	FY18 budget to Marin County PW
4600-000-00	SD #2 Pump Station Maintenance	387,164	394,536	446,475	13.2%	478,337	7.1%	FY18 Corte Madera PS Budget
4031-000-00	LGVSD - FOG & pollution prevention	11,694	10,000	19,565	95.7%	20,348	4.0%	Source control service estimate
4033-000-00	RVSD - FOG	8,956	8,000	23,100	188.8%	24,024	4.0%	Source control service estimate
4034-000-00	SRSD - FOG	10,321	10,000	30,900	209.0%	32,136	4.0%	Source control service estimate
4035-000-00	TCSD - FOG	596	1,500	1,584	5.6%	1,648	4.0%	Source control service estimate
4036-000-00	SD #2 - FOG	2,790	2,500	7,640	205.6%	7,945	4.0%	Source control service estimate
4037-000-00	Novato SD - Dental Amalgam	2,849	1,500	3,432	128.8%	3,569	4.0%	Source control service estimate
4038-000-00	Almonte SD - FOG	915	1,500	630	-58.0%	655	4.0%	Source control service estimate
	Total contract service revenues	<u>\$ 1,152,800</u>	<u>\$ 1,108,808</u>	<u>\$ 1,322,478</u>	19.3%	<u>\$ 1,550,934</u>	17.3%	
<u>Program Revenues</u>								
4070-000-00	Health & Safety Program	\$ 51,432	\$ 86,600	\$ 72,100	-16.7%	\$ 74,800	3.7%	Shared program with Novato Sanitary
4080-001-00	County-wide Public Education Program	25,201	59,430	35,248	-40.7%	47,339	34.3%	Multi-agency program budget
4080-002-00	Outside Safety Training	-	-	-	-	-	-	
	Total program revenues	<u>\$ 76,633</u>	<u>\$ 146,030</u>	<u>\$ 107,348</u>	-26.5%	<u>\$ 122,139</u>	13.8%	
<u>Haulers, Permits &amp; Inspection</u>								
4030-000-00	Permit and Inspection Fees	\$ 8,925	\$ 24,000	\$ 18,000	-25.0%	\$ 18,000	0.0%	Permitting of regulated businesses
4050-010-00	Revenue from Haulers - Septic	116,704	75,000	110,000	46.7%	110,000	0.0%	\$83.30 per 1,000 gal plus sampling fee
4050-020-00	Revenue from Haulers - RV	531	250	1,050	320.0%	1,050	0.0%	\$10 per load
4050-030-00	Revenue from Haulers - FOG	93,242	75,000	90,000	20.0%	90,000	0.0%	Tiered pricing per fee ordinance
4050-035-00	Revenue from Haulers - Liquid Waste	4,949	4,200	500	-88.1%	500	0.0%	Price negotiated per truckload
4050-040-00	Revenue from Foodwaste Disposal	54,634	43,000	55,000	27.9%	55,000	0.0%	Tipping fee from Marin Sanitary Service
	Total haulers, permits & inspection	<u>\$ 278,986</u>	<u>\$ 221,450</u>	<u>\$ 274,550</u>	24.0%	<u>\$ 274,550</u>	0.0%	
<u>Interest Income</u>								
4910-002-00	Interest Income - LAIF	\$ 211,206	\$ 210,000	\$ 400,000	90.5%	\$ 432,000	8.0%	LAIF yield at 2.5% and 2.7%
4910-004-10	Interest Income - US Bank	118	-	-	-	-	-	Interest earnings reduce debt serv inv
4910-011-00	Investment Interest - CAMP	5,267	5,760	9,750	69.3%	10,780	10.6%	CAMP yield at 2.6% and 2.8%
	Total interest income	<u>\$ 216,592</u>	<u>\$ 215,760</u>	<u>\$ 409,750</u>	89.9%	<u>\$ 442,780</u>	8.1%	
<u>Other Revenues</u>								
4990-000-00	Other non-operating revenue	\$ 84,212	\$ 20,000	\$ 20,000	0.0%	\$ 20,000	0.0%	Miscellaneous infrequent items
	Total other revenues	<u>\$ 84,212</u>	<u>\$ 20,000</u>	<u>\$ 20,000</u>	0.0%	<u>\$ 20,000</u>	0.0%	

**Central Marin Sanitation Agency**  
**Proposed FY20 & FY21 Operating Budget**

Summary of Expenditures by Departments and Category

Operating Expenditures by Department	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19	Proposed FY21	FY21 Change from FY20	Proposed as % of Budget
ADMINISTRATION	4,325,052	4,734,400	5,098,400	7.7%	5,492,100	7.7%	42.2%
MAINTENANCE	1,917,452	1,918,900	1,998,300	4.1%	2,093,600	4.8%	16.1%
OPERATIONS	2,892,869	3,243,100	3,383,100	4.3%	3,445,200	1.8%	26.5%
TECHNICAL SERVICES	1,568,975	1,925,600	1,982,800	3.0%	1,994,200	0.6%	15.3%
<b>TOTAL</b>	<b>\$ 10,704,348</b>	<b>11,822,000</b>	<b>12,462,600</b>	<b>5.4%</b>	<b>13,025,100</b>	<b>4.5%</b>	<b>100.0%</b>

Operating Expenditures by Category	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19	Proposed FY21	FY21 Change from FY20	Proposed as % of Budget
SALARIES	5,255,003	5,555,200	5,693,800	2.5%	5,999,600	5.4%	46.1%
BENEFITS	2,385,487	2,758,700	2,872,800	4.1%	3,137,700	9.2%	24.1%
<b>SUB-TOTAL</b>	<b>7,640,491</b>	<b>8,313,900</b>	<b>8,566,600</b>	<b>3.0%</b>	<b>9,137,300</b>	<b>6.7%</b>	<b>70.15%</b>
CHEMICALS & FUELS	981,193	1,126,900	1,282,500	13.8%	1,256,800	-2.0%	9.6%
UTILITIES	284,900	317,800	386,600	21.6%	390,400	1.0%	3.0%
BIOSOLIDS MANAGEMENT	381,057	400,300	418,500	4.5%	435,300	4.0%	3.3%
PERMIT TESTING & MONITORING	149,815	148,800	143,800	-3.4%	142,500	-0.9%	1.1%
MAINTENANCE & REPAIRS	362,422	363,500	364,700	0.3%	377,200	3.4%	2.9%
GENERAL & ADMINISTRATIVE	675,361	900,000	915,400	1.7%	879,700	-3.9%	6.8%
INSURANCE	229,110	250,800	384,500	53.3%	405,900	5.6%	3.1%
<b>SUB-TOTAL</b>	<b>3,063,857</b>	<b>3,508,100</b>	<b>3,896,000</b>	<b>11.1%</b>	<b>3,887,800</b>	<b>-0.2%</b>	<b>29.85%</b>
<b>TOTAL</b>	<b>10,704,348</b>	<b>11,822,000</b>	<b>12,462,600</b>	<b>5.4%</b>	<b>13,025,100</b>	<b>4.5%</b>	<b>100.00%</b>

**Central Marin Sanitation Agency**  
**Proposed FY20 & FY21 Operating Budget**

Schedule of Benefits as a Percent of Operating Revenues (excluding Debt Service, Other Financing Sources, and Reserve Increase/Usage)

Benefit Expenditures	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19	Benefits as a Percent of Operating Revenue	Proposed FY21	FY21 Change from FY20	Benefits as a Percent of Operating Revenue
					<b>\$ 14,179,998</b>			<b>\$ 15,073,079</b>
RETIREMENT (CALPERS CLASSIC, PEPRA, UAL)	962,067	1,195,000	1,376,900	15.2%	9.7%	1,572,400	14.2%	10.43%
<i>CALPERS CLASSIC</i>	422,593	523,633	546,800	4.4%	3.86%	604,000	10.5%	4.01%
<i>CALPERS PEPRA</i>	57,772	73,618	105,700	43.6%	0.75%	118,100	11.7%	0.78%
<i>CALPERS UNFUNDED ACCRUED LIABILITY - CLASSIC</i>		597,267	723,300	21.1%	5.10%	849,000	17.4%	5.63%
<i>CALPERS UNFUNDED ACCRUED LIABILITY - PEPRA</i>	481,702	482	1,100	128.2%	0.01%	1,300	18.2%	0.01%
RETIREMENT - CALPERS SURVIVORS	2,683	2,700	3,600	33.3%	0.03%	3,800	5.6%	0.03%
RETIREMENT - SOCIAL SECURITY/MEDICARE	80,727	84,300	89,000	5.6%	0.63%	92,600	4.0%	0.61%
CALPERS MEDICAL - ACTIVE EMPLOYEES	856,098	983,600	968,300	-1.6%	6.83%	999,800	3.3%	6.63%
DENTAL - ACTIVE EMPLOYEES	104,582	123,100	40,500	-67.1%	0.29%	41,800	3.2%	0.28%
LIFE INSURANCE, AD&D, LTD - ACTIVE EMPLOYEES	24,861	28,700	29,400	2.4%	0.21%	30,600	4.1%	0.20%
VISION - ACTIVE EMPLOYEES	10,837	12,500	11,900	-4.8%	0.08%	12,700	6.7%	0.08%
PEHP/MARA - ACTIVE EMPLOYEES	34,575	46,300	47,500	2.6%	0.33%	49,400	4.0%	0.33%
CALPERS MEDICAL - RETIRED EMPLOYEES	179,082	204,500	216,200	5.7%	1.52%	244,700	13.2%	1.62%
ANNUAL OPEB CONTRIBUTION	111,441	43,100	43,000	-0.2%	0.30%	43,000	0.0%	0.29%
BENEFIT ADMINISTRATION FEES	5,243	7,900	18,100	129.1%	0.13%	18,500	2.2%	0.12%
<b>TOTAL *</b>	<b>2,372,197</b>	<b>2,731,700</b>	<b>2,844,400</b>	<b>4.1%</b>	<b>20.06%</b>	<b>3,109,300</b>	<b>9.3%</b>	<b>20.63%</b>

\* Benefit line items for uniforms and unemployment benefits are excluded from the Benefit Expenditures FY20 and FY21 table.

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PROPOSED

**Administration**

The Administration Department provides administrative, financial, human resources, and information technology related services for the Agency. The Board of Commissioners appoints the General Manager who is the chief administrative official responsible for the overall operations and management of the Agency.

The Department is responsible for the following functions:

- Provides administrative support to the Board of Commissioners
- Represents the Agency on legal, legislative, and regulatory matters
- Maintains intergovernmental relations with the JPA member agencies, local agencies in Marin County, and government agencies in the region
- Communicates Agency initiatives to stakeholders and the public
- Develops, implements, and manages the Agency’s biennial budget, revenue plans, and financial forecast
- Manages the Agency’s finances and investments
- Provides human resource services to departments and employees
- Ensures the safety of agency employees and assets through risk management programs provided by the California Sanitation Risk Management Authority
- Administers the Health & Safety Program
- Maintains the Agency’s communication and information technology systems

Administration Expenditures by Category	Actual FY18	Budget FY19	Proposed FY20	Proposed FY21
<b>SALARIES</b>	\$1,274,178	\$1,233,000	\$1,350,900	\$1,410,000
<b>BENEFITS</b>	2,385,487	2,758,700	2,872,800	3,137,700
<b>SUBTOTAL</b>	<b>3,659,665</b>	<b>\$3,991,700</b>	<b>4,223,700</b>	<b>4,547,700</b>
<b>INSURANCE</b>	229,110	250,800	384,500	405,900
<b>ADMINISTRATION</b>	436,276	491,900	490,200	538,500
<b>SUBTOTAL</b>	<b>\$ 665,386</b>	<b>\$ 742,700</b>	<b>\$ 874,700</b>	<b>\$ 944,400</b>
<b>TOTAL</b>	<b>\$4,325,051</b>	<b>\$4,734,400</b>	<b>\$5,098,400</b>	<b>\$5,492,100</b>

Authorized Positions	FY18	FY19	FY20	FY21
General Manager	1	1	1	1
Administrative Assistant	1	1	1	1
Treatment Plant Manager	1	1	1	1
Administrative Services Manager	1	1	1	1
Financial Analyst	1	1	1	1
Personnel and Accounting Technician	1	1	1	1
Information Systems Analyst	1	1	1	1
Safety Specialist/Manager	1	1	1	1
<b>TOTAL</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>

**Central Marin Sanitation Agency**  
**Proposed FY20 & FY21 Operating Budget**

Line Item Accounts

**ADMINISTRATION**

Account #	Account Name	*By	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19
<b>SALARIES &amp; BENEFITS</b>						
5010-010-01	Salaries, Wages & Compensation	ASM	1,267,615	1,224,400	1,300,500	6.22%
5010-011-01	Wages - Internships	ASM		-	45,000	0.00%
5010-020-01	Overtime	GM	6,563	8,600	5,400	-37.21%
<b>Subtotal Salaries &amp; Wages</b>			<b>1,274,178</b>	<b>1,233,000</b>	<b>1,350,900</b>	<b>9.56%</b>
5020-020-01	Retirement CalPERS - Classic	ASM	904,295	523,633	546,800	4.42%
5020-021-01	Retirement CalPERS-PEPRA	ASM	57,772	73,618	105,700	43.58%
5020-022-01	Retirement CalPERS-Survivors	ASM	2,683	2,700	3,600	33.33%
5020-023-01	Retirement-Unfunded Accrued Liability	ASM	-	597,267	723,300	21.10%
5020-024-01	Retirement-Unfunded Accrued Liability PEPRA	ASM	-	482	1,100	128.22%
5020-030-01	Retirement - SS / Medicare	ASM	80,727	84,300	89,000	5.58%
5030-010-01	Benefits-CalPERS Medical	ASM	856,098	983,600	968,300	-1.56%
5030-001-01	Benefits-Dental	ASM	104,582	123,100	40,500	-67.10%
5030-003-01	Benefits-Life Insurance, AD&D, LTD	ASM	24,861	28,700	29,400	2.44%
5030-004-01	Benefits-Vision	ASM	10,837	12,500	11,900	-4.80%
5030-015-01	Benefits-PEHP/MARA	ASM	34,575	46,300	47,500	2.59%
5030-020-01	Retired Employees Medical Benefits	ASM	179,082	204,500	216,200	5.72%
5030-025-01	Annual OPEB Contribution	ASM	111,441	43,100	43,000	-0.23%
5050-000-01	Unemployment Benefits Claimed	ASM	-	10,000	10,000	0.00%



**\*Position Code**

- GM General Manager
- ASM Administrative Services Manager
- OS Operations Supervisor
- ISA Information Systems Analyst
- AE Assistant Engineer
- AA Administrative Assistant

Proposed FY21	FY21 Change from FY20	Budget Account Description
1,359,300	4.52%	Salaries for seven full-time employees and CMSA's share of the Safety Specialist/Manager salary. FY20 and FY21 increases are for a 3% & 4% COLA salary increase, one step adjustment each fiscal year, and leave balance cash-outs.
45,000	0.00%	New account established for an Agency internship program employing the equivalent of 1.75 full time employees.
5,700	5.56%	Authorized overtime to complete special activities or assignments.
<b>1,410,000</b>	<b>4.37%</b>	
604,000	10.46%	Employer contributions for CalPERS 2.7% @ 55 for Classic employee retirement program. The FY20 employer contribution rate is 13.182% for Classic employees and CalPERS estimates 14% for FY21.
118,100	11.73%	Employer contributions for CalPERS 2% @ 62 retirement program for PEPRAs employees hired after January 1, 2013. The FY20 employer PEPRAs contribution rate is 6.985% and CalPERS estimates FY21 to be 7.5%.
3,800	5.56%	Annual Survivors Benefit premium.
849,000	17.38%	The Classic unfunded accrued liability is the total minimum required employer contribution established in the CalPERS Actuarial Valuation Report dated June 30, 2017. The Agency selects the annual lump sum prepayment option.
1,300	18.18%	The PEPRAs unfunded accrued liability is the total minimum required employer contribution. The Agency selects the annual lump sum prepayment option.
92,600	4.04%	Employer's 1.45% share of Medicare for all employees.
999,800	3.25%	Budget based upon current CalPERS Kaiser family rate effective January through December 2019, and an estimated 4% premium increase for January through June 2020 and 4% increase for FY21.
41,800	3.21%	Savings from eliminating traditional dental benefits and implementing an employer paid self-insured dental benefit plan in FY20.
30,600	4.08%	Employer paid life, accidental death & dismemberment, and long-term disability insurances.
12,700	6.72%	Employer paid vision benefits.
49,400	4.00%	PEHP: Post Employment Health Plan (also known as MARA: medical after retirement account). Employer contribution of 1.5% of base salary for 30 employees. Budget increases are a function of salary adjustments.
244,700	13.18%	Medical benefits for retired employees at the SF-Bay Area PERS Kaiser single rate. The spouses of four former SRSD employees who transferred to CMSA also receive medical benefits. In FY20, one anticipated retirement and FY21 two potential retirements.
43,000	0.00%	Prefunding of the Agency's post-employment health benefit obligations for current retirees and employees. The prefunding amount is the annual FY19 estimated OPEB expense in the Agency's January 1, 2018 GASB 75 actuarial report minus retiree medical premiums.
10,000	0.00%	An allowance for unemployment benefits paid to State Employment Development Department (EDD) for claims filed by separated employees.

**Central Marin Sanitation Agency**  
**Proposed FY20 & FY21 Operating Budget**

Line Item Accounts

**ADMINISTRATION**

Account #	Account Name	*By	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19
5050-001-01	Benefit Administration Fees	ASM	5,243	7,900	18,100	129.11%
5060-000-01	Uniforms	AE	13,291	17,000	18,400	8.24%
<b>Subtotal Benefits</b>			<b>2,385,487</b>	<b>2,758,700</b>	<b>2,872,800</b>	<b>4.14%</b>
<b>Total Salaries &amp; Benefits</b>			<b>3,659,666</b>	<b>3,991,700</b>	<b>4,223,700</b>	<b>5.81%</b>
<b>INSURANCE</b>						
6800-010-01	Property Insurance	ASM	49,921	55,000	67,800	23.27%
6800-020-01	General Liability & Auto Insurance	ASM	41,183	43,200	51,000	18.06%
6800-030-01	Pollution Liability Insurance	ASM	1,843	1,100	1,200	9.09%
6800-040-01	Employee/Commissioner's Bonds	ASM	1,944	2,200	3,700	68.17%
6800-050-01	Commercial Crime Insurance	ASM	625	800	800	0.00%
5040-000-01	Workers' Compensation Insurance	ASM	133,593	148,500	260,000	75.08%
<b>Subtotal Insurance</b>			<b>229,110</b>	<b>250,800</b>	<b>384,500</b>	<b>53.31%</b>
<b>GENERAL ADMINISTRATIVE</b>						
6700-010-01	Meetings/Training	GM	4,296	5,200	4,000	-23.08%
6700-020-01	Conferences	GM	13,676	25,000	25,000	0.00%
6710-010-01	Commissioners Meeting Fees & Conferences	GM	7,900	10,000	18,900	89.00%
6805-000-01	Professional Affiliation Memberships	ASM	5,705	4,400	6,000	36.36%
6805-001-01	BACWA Membership	GM	8,040	8,100	8,400	3.70%
6805-011-01	BACWWE Education Program	GM	8,000	8,000	8,000	0.00%
6805-002-01	NBWA Membership	GM	8,436	6,000	5,600	-6.67%
6805-003-01	CASA Membership	GM	16,068	16,100	16,600	3.11%
6805-004-01	NACWA Membership	GM	10,400	11,000	11,000	0.00%

**\*Position Code**

- GM General Manager
- ASM Administrative Services Manager
- OS Operations Supervisor
- ISA Information Systems Analyst
- AE Assistant Engineer
- AA Administrative Assistant

Proposed FY21	FY21 Change from FY20	Budget Account Description
18,500	2.21%	Administrative fees charged for EDIS dental, CalPERS medical, PEHP post employment health, and NAVIA Flex 125 plans.
18,400	0.00%	Contracted service to provide uniforms, jackets, and miscellaneous related work clothing for staff, and towel and floor mat cleaning services.
<b>3,137,700</b>	<b>9.22%</b>	
<b>4,547,700</b>	<b>7.67%</b>	
73,900	9.00%	Annual property insurance coverage from the CSRMA for all Agency buildings and structures.
53,000	3.92%	CSRMA pooled insurance coverage for general, automobile, and error and omission liability premiums.
1,300	8.33%	CSRMA pollution liability insurance for cleanup costs resulting from underground fuel storage tank system leaks and releases and other pollution caused losses.
3,900	5.41%	CSRMA public official bonds for four Agency employees and one commissioner who are authorized to sign Agency checks, and includes employees who handle agency funds such as
800	0.00%	Coverage for dishonest public employees, loss of money orders, depositor's forgery, or counterfeit currency. It is intended to cover all employees not covered under the employee/public official bonds.
273,000	5.00%	CSRMA workers' compensation (WC) insurance for Agency employees.
<b>405,900</b>	<b>5.57%</b>	
4,000	0.00%	Expenses associated with staff travel, training, and attendance at single-day professional meetings and seminars. Includes allowed expenses pursuant to the Agency's travel expense reimbursement policy.
25,000	0.00%	Expenses associated with staff attendance at multi-day professional conferences, seminars, and training events outlined in the Agency's travel expense reimbursement policy.
18,900	0.00%	Pursuant to Commission compensation policy, CMSA Commissioners receive \$225 per day of service.
6,000	0.00%	Professional memberships, license, and registration requirements for department staff.
8,600	2.38%	Annual membership dues to the Bay Area Clean Water Agencies (BACWA). BACWA is comprised of 5 members and over 25 associate members, such as CMSA.
8,000	0.00%	Agency sponsorship for the Bay Area Consortium for Water & Wastewater Education Program. The consortium is comprised of 20 partner agencies.
5,600	0.00%	Annual membership dues to the North Bay Watershed Association (NBWA), which is comprised of 23 governmental agencies from the North San Pablo Bay watershed.
16,600	0.00%	Annual membership dues to the California Association of Sanitation Agencies (CASA).
11,000	0.00%	Annual membership dues to the National Association of Clean Water Agencies (NACWA). NACWA represents the wastewater industry nationwide on regulatory and legislative issues.

**Central Marin Sanitation Agency**  
**Proposed FY20 & FY21 Operating Budget**

Line Item Accounts

**ADMINISTRATION**

Account #	Account Name	*By	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19
6805-005-01	Bay Area Biosolids Coalition	GM	3,250	11,000	7,000	-36.36%
6815-000-01	Office Expenses	AA	44,804	35,000	35,000	0.00%
6815-001-01	Safety Supplies	OS	27,372	27,800	27,800	0.00%
6815-002-01	Information Technology Equipment &	ISA	23,565	37,200	37,200	0.00%
6820-000-01	Printing & Publications	AA	2,214	2,000	4,000	100.00%
6830-001-01	General Professional Services	GM	47,974	71,000	71,000	0.00%
6830-002-01	Regulatory Services	GM	47,713	10,000	10,000	0.00%
6830-005-01	Finance & Audit Services	ASM	25,537	28,000	28,700	2.50%
6830-010-01	Labor Relations Consulting	GM	9,384	9,800	10,100	3.06%
6830-015-01	Legal Services	GM	33,530	30,000	30,000	0.00%
6830-016-01	Health & Safety Program, CMSA Share	ASM	35,400	38,000	38,500	1.32%
6830-017-01	Outside Safety Training Services	ASM	14,198	5,600	9,100	62.50%
6830-025-01	Employee Assistance Services	AA	2,625	4,500	4,700	4.44%
6830-060-01	Employee Health Maintenance Services	AA	2,165	3,000	3,500	16.67%
6840-010-01	Internet & Telephone Service	ISA	26,291	28,700	38,500	34.15%
6855-000-01	Postage/Shipping	AA	2,878	2,500	2,500	0.00%
6859-000-01	Bank Fees & Analysis Charges	ASM	1,391	1,500	1,500	0.00%
6859-000-10	Bank Fees - Revenue Bond	ASM	4,543	2,500	2,600	4.00%
6860-000-01	Trade Discounts	ASM	(1,079)	-	-	0.00%

**\*Position Code**

GM General Manager  
 ASM Administrative Services Manager  
 OS Operations Supervisor  
 ISA Information Systems Analyst  
 AE Assistant Engineer  
 AA Administrative Assistant

<b>Proposed FY21</b>	<b>FY21 Change from FY20</b>	<b>Budget Account Description</b>
7,000	0.00%	Agency membership for Bay Area Biosolids-to-Energy Coalition, which is comprised of 19 regional wastewater agencies.
36,600	4.57%	Costs associated with the Agency's administrative operations, including office supplies, copier leases, office furniture, office equipment service and repairs, and other related expenses.
27,800	0.00%	Annual expenses for safety training, first aid and emergency supplies, defibrillator and fire extinguisher testing, various one-time purchases, and safety assessment expenses to correct workplace hazards.
38,700	4.03%	Expenses related to Information Technology equipment and software licenses and upgrades.
2,500	-37.50%	Expenses associated with newspaper subscriptions, publication of notices, and copy services at local print shops.
71,000	0.00%	Expenses for general governmental and human resource services such as recruitments, background reference checks, and employment law staff training and development.
10,000	0.00%	Consultation and advice on regulatory compliance and permit issues.
51,700	80.14%	Expenses for professional services related to the financial operations of the Agency: annual audit of financial statements; annual maintenance fee for new financial software license renewal and financial software support; GFOA Award program fees; actuarial, financial and operational analyses.
10,500	3.96%	IDEA annual fee for labor relations and negotiations services.
30,000	0.00%	Expenses for general, employment law, and construction/contract legal services.
39,400	2.34%	This account represents the Agency's share (60.25%) of the Health & Safety Program non-salary costs. The remaining 39.75% of the Health & Safety Program budget is included in Cooperative Agreements Expenses. The budget also includes CMSA's equally shared cost of the NSD's .25 FTE equivalent Administrative/Risk Services & Safety Officer.
5,200	-42.86%	Training expenses for required safety programs that include hearing tests, CPR/first aid, fire extinguisher, incident command, traffic control, defensive driving, and many other Cal/OSHA programs that facilitate a safe work environment.
4,900	4.26%	Confidential professional counseling provided to employees. The fee is increased annually.
3,500	0.00%	Expense for workplace safety related physicals, pre-employment exams, and urgent care at Kaiser Hospital and Medical Center of Marin.
39,300	2.08%	Expenses associated with telephone, internet and email services, cell phones, portable radios, and data plan expenses.
2,500	0.00%	Postage, delivery, and overnight shipping expense.
1,500	0.00%	Bank fees and investment expenses for California Asset Management Program and Westamerica Bank accounts, and includes finance charges and late payment fees.
2,700	3.85%	Bank fees for the Refunding Revenue Bonds Series 2015.
-	0.00%	Account used to record vendor payment discounts received and taken for paying bills within payment terms.

**Central Marin Sanitation Agency**  
**Proposed FY20 & FY21 Operating Budget**  
 Line Item Accounts

**ADMINISTRATION**

<b>Account #</b>	<b>Account Name</b>	<b>*By</b>	<b>Actual FY18</b>	<b>Budget FY19</b>	<b>Proposed FY20</b>	<b>FY20 Change from FY19</b>
6890-010-01	Contingency	GM	-	50,000	25,000	-50.00%
6990-000-01	Other Non-Operating Expenses	ASM	-	-	-	0.00%
<b>Subtotal General &amp; Administrative</b>			<b>436,276</b>	<b>491,900</b>	<b>490,200</b>	<b>-0.35%</b>
<b>Subtotal (excluding Salary and Benefits)</b>			<b>665,386</b>	<b>742,700</b>	<b>874,700</b>	<b>17.77%</b>
<b>Total Administration</b>			<b>4,325,052</b>	<b>4,734,400</b>	<b>5,098,400</b>	<b>7.69%</b>

PROPOSED

**\*Position Code**

- GM General Manager
- ASM Administrative Services Manager
- OS Operations Supervisor
- ISA Information Systems Analyst
- AE Assistant Engineer
- AA Administrative Assistant

Proposed FY21	FY21 Change from FY20	Budget Account Description
50,000	100.00%	Funds available for transfer to other operating budget accounts for unplanned and unanticipated activities. Transfers from this account require GM approval.
-	0.00%	No budget. Account used for accounting adjustments such as general ledger account reconciliations, prior year audit adjustments, and expenditures associated with prior year activities such as unexpected bills received for prior fiscal year goods and services as well as service charge refunds.
<b>538,500</b>	<b>9.85%</b>	
<b>944,400</b>	<b>7.97%</b>	
<b>5,492,100</b>	<b>7.72%</b>	

PROPOSED

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PROPOSED



**Maintenance**

The Maintenance Department is responsible for maintaining Agency assets which include buildings, grounds, vehicles, and treatment plant specific facilities and associated equipment. Certified mechanical technicians and utility workers perform a wide variety of preventative and corrective maintenance and repair work on all Agency assets. The Electrical and Instrumentation group is responsible for maintaining the Agency’s process control systems, electrical and instrumentation equipment, and various electro-mechanical systems, and supports maintenance with communication systems and information technology infrastructure. The department utilizes an enterprise asset management system for scheduling corrective and preventive maintenance, to manage its fixed assets, and to track repairs and maintenance activities and their associated costs.

Under contractual service agreements with the California Department of Corrections (San Quentin), County of Marin, and Sanitary District #2 of Marin, the department maintains collection system assets such as pump stations, force mains, and gravity sewers.

<b>Maintenance Expenditures by Category</b>	<b>Actual FY18</b>	<b>Budget FY19</b>	<b>Proposed FY20</b>	<b>Proposed FY21</b>
<b>SALARIES*</b>	\$1,535,100	\$1,534,300	\$1,611,400	\$1,693,700
<b>SUBTOTAL</b>	<b>\$1,535,100</b>	<b>\$1,534,300</b>	<b>\$1,611,400</b>	<b>\$1,693,700</b>
<b>LUBRICANTS, PROPANE, OTHER MAINTENANCE &amp; REPAIRS</b>	5,191	6,000	6,000	6,000
<b>ADMINISTRATION</b>	19,930	21,100	22,200	22,700
<b>SUBTOTAL</b>	<b>\$ 382,352</b>	<b>\$ 384,600</b>	<b>\$ 386,900</b>	<b>\$ 399,900</b>
<b>TOTAL</b>	<b>\$1,917,452</b>	<b>\$1,918,900</b>	<b>\$1,998,300</b>	<b>\$2,093,600</b>

\*Benefits are included in the Administration Department budget

<b>Authorized Positions</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>
Maintenance Supervisor	1	1	1	1
Assistant Maintenance Supervisor	1	1	1	1
Maintenance Lead	1	1	2	2
Maintenance Repair*	1	-	-	-
Mechanical Technician	4	5	4	4
Utility Worker	3	3	3	3
Assistant Maintenance Supervisor-(E/I)**	1	-	-	-
Electrical/Instrumentation Tech	2	3	3	3
<b>TOTAL</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>

\* The Maintenance Repair position was replaced with an additional Mechanical Technician position

\*\* The Assistant Maintenance Supervisor-(E/I) retired in FY18 and the position was replaced with an additional Electrical/Instrumentation Tech

**Central Marin Sanitation Agency**  
**Proposed FY20 & FY21 Operating Budget**

Line Item Accounts

**MAINTENANCE**

Account #	Account Name	*By	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19
<b><u>SALARIES &amp; WAGES</u></b>						
5010-010-03	Salaries, Wages & Compensation	ASM	1,472,907	1,476,300	1,556,000	5.40%
5010-103-10	Transfer to CIP	ASM	(18,679)	(33,300)	(34,300)	3.00%
5010-020-03	Overtime	TPM	27,512	34,400	36,400	5.81%
5010-021-03	Stand-by Duty	TPM	53,361	56,900	53,300	-6.33%
<b>Subtotal Salaries &amp; Wages</b>			<b>1,535,100</b>	<b>1,534,300</b>	<b>1,611,400</b>	<b>5.03%</b>
<b><u>MAINTENANCE &amp; REPAIRS (M&amp;R)</u></b>						
6400-030-03	Lubricants, Propane, Other	MS	5,191	6,000	6,000	0.00%
6500-000-03	Utility Supplies	MS	7,286	7,000	7,500	7.14%
6510-001-03	Outside Services & Parts	TPM	29,100	30,000	30,000	0.00%
6510-004-03	Fleet Maintenance	MS	18,698	15,000	15,000	0.00%
6510-007-03	Hazardous Waste Disposal Service	MS	26,782	25,000	30,000	20.00%
6510-008-03	Facilities Maintenance	MS	19,683	22,000	24,000	9.09%
6510-009-03	Electrical Equipment	EIT	23,426	23,000	28,000	21.74%
6510-010-03	Plant Pumps	MS	18,512	25,000	25,000	0.00%
6510-011-03	Process Tank Maintenance	MS	12,301	20,000	20,000	0.00%
6510-012-03	Centrifuge Maintenance	MS	14,697	10,000	10,000	0.00%

**\*Position Code**

ASM Administrative Services Manager

TPM Treatment Plant Manager

MS Maintenance Supervisor

EIT Electrical Instrumentation Technician

<b>Proposed FY21</b>	<b>FY21 Change from FY20</b>	<b>Budget Account Description</b>
1,636,100	5.15%	Salaries for 14 full-time employees. The increase in wages in FY20 includes a 3% COLA salary increase for represented and unrepresented employees, a 2.5% salary adjustment for 6 represented employees, eight step or in-class promotion adjustments and leave balance cash-outs. FY21 includes a 4% COLA increase and six step or in-class adjustments.
(35,700)	4.08%	Transfer of salary expenses for staff assigned to CIP funded projects.
37,900	4.12%	Authorized overtime to complete unexpected maintenance activities or assignments that require work after an employee's regularly scheduled shift. Budget increase due to COLA salary adjustments.
55,400	3.94%	24/7 Stand-by duty for qualified maintenance staff to respond to emergency repair work and equipment failures. Employees are paid to remain fit for duty and to respond within one hour. Sanitary District #2 funds one half of this expense. FY20 & FY21 increase is function of salary and step increases.
<b>1,693,700</b>	<b>5.11%</b>	
6,000	0.00%	Lubricants used for facility assets and equipment (cogeneration and stand-by power systems excluded), propane for the forklift, and welding and calibration gases.
7,900	5.33%	Janitorial and general facility maintenance cleaning supplies.
31,400	4.67%	Service repair costs performed by outside providers for machining, fabrication, vacuum services, specialty repair work, and related parts, equipment, and supplies.
15,700	4.67%	This account is for preventative, predictive, and corrective maintenance on the Agency's fleet vehicles, and includes purchases of batteries, oil, tires, and other consumables. The Agency's fleet consists of 10 vehicles, two forklifts, a skid steer loader, 15 electric carts, and 7 bicycles.
31,400	4.67%	Safe disposal of wastes such as oils, greases, oil and air filters, coolants, paints, solvents, light bulbs, batteries, air purification medias (siloxane, hydrogen sulfide, and activated carbon), and for the disposal of laboratory generated hazardous wastes.
25,100	4.58%	Planned preventive and corrective repairs to maintain non-process specific facility structures such as roof and gutter systems, doors and door hardware, flooring, and painted surfaces. This account also includes funds for facility pest control services.
29,300	4.64%	Allowance for procurement of routine electrical equipment such as conduit, wiring, electrical connectors, fittings, consumable electrical supplies, and facility lighting (light bulbs, tubes, LED lights).
26,200	4.80%	Allowance for routine consumable parts and equipment such as impellers, gasket material, and volutes.
20,900	4.50%	Allowance for routine consumable parts and equipment for facility process tanks and the primary heat exchanger (excludes heat exchangers utilized by the cogeneration system).
10,500	5.00%	Consumable items for annual preventive and corrective maintenance for three centrifuges and their system components.

**Central Marin Sanitation Agency**  
**Proposed FY20 & FY21 Operating Budget**

Line Item Accounts

**MAINTENANCE**

<b>Account #</b>	<b>Account Name</b>	<b>*By</b>	<b>Actual FY18</b>	<b>Budget FY19</b>	<b>Proposed FY20</b>	<b>FY20 Change from FY19</b>
6510-013-03	Process (Filter) Media Replacement	MS	19,365	25,000	26,200	4.80%
6510-014-03	Organic Waste Receiving Facility (OWRF)	MS	58,104	40,000	40,000	0.00%
6510-015-03	Boilers and Hot-water Systems	MS	8,165	8,000	8,000	0.00%
6510-016-03	Effluent Pump Station	MS	5,852	5,000	5,000	0.00%
6510-020-03	Cogen/Emergency Generator Maintenance	MS	49,884	50,000	45,000	-10.00%
6520-000-03	Groundskeeping	MS	34,222	40,000	32,000	-20.00%
6530-000-03	Small Tools & Equipment	MS	11,152	12,500	13,000	4.00%
<b>Subtotal Maintenance &amp; Repairs</b>			<b>362,422</b>	<b>363,500</b>	<b>364,700</b>	<b>0.33%</b>
<b>GENERAL &amp; ADMINISTRATIVE</b>						
6700-010-03	Meetings/Training	TPM	5,596	4,000	4,500	12.50%
6700-020-03	Conferences	TPM	10,692	12,500	12,500	0.00%
6805-000-03	Professional Affiliation Memberships	TPM	3,642	4,400	5,000	13.64%
6830-030-03	Underground Service Alert (USA)	MS	-	200	200	0.00%
<b>Subtotal General &amp; Administrative</b>			<b>19,930</b>	<b>21,100</b>	<b>22,200</b>	<b>5.21%</b>
<b>Subtotal (excluding Salary and Benefits)</b>			<b>382,352</b>	<b>384,600</b>	<b>386,900</b>	<b>0.60%</b>
<b>Total Maintenance</b>			<b>1,917,452</b>	<b>1,918,900</b>	<b>1,998,300</b>	<b>4.14%</b>

**\*Position Code**

ASM Administrative Services Manager

TPM Treatment Plant Manager

MS Maintenance Supervisor

EIT Electrical Instrumentation Technician

<b>Proposed FY21</b>	<b>FY21 Change from FY20</b>	<b>Budget Account Description</b>
27,300	4.20%	Biogas and air purification media for facility equipment. Budget is for the purchase of media for one sulfatreat vessel, one siloxane filter, and one activated carbon odor scrubber (OWRF or RDT's) replacement per year.
41,800	4.50%	Allowance for consumable items required for maintaining the OWRF. This budget assumes performing two complete mixing pump impellor/cutter bar changeouts, purchasing one set of paddle finisher screens, six spare hoses, glycerin, rock trap grinder parts, and other critical spare inventory items.
8,400	5.00%	Consumable items required for maintaining two dual fueled hot water boilers and the hot water recirculation systems. Budget includes annual specialized boiler system inspection work to examine the brick and burner assemblies, the fuel regulating systems, and associated pumps and piping.
5,300	6.00%	Allowance for parts and consumable items within the Effluent Pump Station and its above ground diesel tank. Includes pump and engine parts, driveshafts, fuel conveyance, diesel storage tanks, motor controls, and fire protection systems.
45,000	0.00%	Routine parts and equipment for scheduled cogeneration system and standby diesel generator maintenance. The budget assumes four 2,000 hour maintenance procedures on the cogeneration system and one annual maintenance procedure on the emergency standby diesel generator.
32,000	0.00%	Facility landscaping services and supplies to maintain the Agency's property. Services include fire defensible space maintenance, weed abatement, and clean-up project work.
13,000	0.00%	Purchase and repair of hand, power, and pneumatic tools utilized in the day-to-day maintenance of assets and equipment.
<b>377,200</b>	<b>3.43%</b>	
4,500	0.00%	Expenses associated with attendance at single-day meetings, seminars, technical certification courses, and professional development. Includes allowed expenses pursuant to the Agency's expense reimbursement policy.
13,000	4.00%	Expenses associated with multi-day professional conferences, seminars, and training events outlined in the Agency's travel and expense reimbursement policy.
5,000	0.00%	Professional memberships and annual certification renewal fees for 14 department employees.
200	0.00%	Annual Underground Service Alerts fee to identify utility locations prior to any type of digging or excavation work.
<b>22,700</b>	<b>2.25%</b>	
<b>399,900</b>	<b>3.36%</b>	
<b>2,093,600</b>	<b>4.77%</b>	

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PROPOSED

**Operations**

The Operations Department performs various activities essential to the day-to-day operation and process control of the Agency’s National Clean Water Agency (NACWA) recognized Class V regional wastewater treatment facility. The treatment, reuse, and disposal of wastewater and biosolids is in full compliance with state and federal National Pollutant Discharge Elimination System (NPDES) permit requirements.

The department is responsible for the following functions:

- Monitor and adjust treatment processes
- Ensure facilities are operated to achieve and exceed permit compliance
- Monitor local agency collection system assets
- Order treatment chemicals and maintain inventories
- Conduct pilot testing and studies to improve and/or optimize treatment processes
- Monitor and operate systems to control the generation of wastewater odors
- Track the performance of all treatment and energy generation systems
- Operate an organic waste receiving facility
- Operate a power generation system
- Oversee and operate the Agency’s recycled water truck fill station

<b>Operations Expenditures by Category</b>	<b>Actual FY18</b>	<b>Budget FY19</b>	<b>Proposed FY20</b>	<b>Proposed FY21</b>
<b>SALARIES*</b>	\$1,579,190	\$1,734,400	\$1,645,200	\$1,727,700
<b>SUBTOTAL</b>	<b>\$1,579,190</b>	<b>\$1,734,400</b>	<b>\$1,645,200</b>	<b>\$1,727,700</b>
<b>CHEMICALS &amp; FUELS</b>	981,193	1,126,900	1,282,500	1,256,800
<b>UTILITIES</b>	284,900	317,800	386,600	390,400
<b>ADMINISTRATION</b>	47,586	64,000	68,800	70,300
<b>SUBTOTAL</b>	<b>\$1,313,679</b>	<b>\$1,508,700</b>	<b>\$1,737,900</b>	<b>\$1,717,500</b>
<b>TOTAL</b>	<b>\$2,892,869</b>	<b>\$3,243,100</b>	<b>\$3,383,100</b>	<b>\$3,445,200</b>

\*Benefits are included in the Administration Department budget

<b>Authorized Positions</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>
Operations Supervisors	2	2	1	1
Assistant Operations Supervisor*	-	1	1	1
Lead Operators	2	1	1	1
Operators (Trainee, I-III)	9	9	10	10
<b>TOTAL</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>

\* The Board approved the Assistant Operations Supervisor (AOS) position in FY18 to allow implementation of the Operations Department’s succession plan.

**Central Marin Sanitation Agency**  
**Proposed FY20 & FY21 Operating Budget**

Line Item Accounts

**OPERATIONS**

Account #	Account Name	*By	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19
<b><u>SALARIES &amp; WAGES</u></b>						
5010-010-04	Salaries, Wages & Compensation	ASM	1,486,310	1,613,600	1,531,200	-5.11%
5010-104-10	Transfer to CIP	ASM	-	(16,700)	(17,300)	3.59%
5010-020-04	Overtime	OS	92,881	126,000	129,200	2.54%
5010-022-04	OPS Wet Weather Stand-by Duty	TPM	-	11,500	2,100	-81.74%
<b>Subtotal Salaries &amp; Wages</b>			<b>1,579,190</b>	<b>1,734,400</b>	<b>1,645,200</b>	<b>-5.14%</b>
<b><u>CHEMICALS &amp; FUEL</u></b>						
6100-010-04	Ferric Chloride	OS	89,488	81,500	131,600	61.47%
6100-020-04	Polymer-Cationic	OS	116,344	110,000	160,400	45.82%
6100-030-04	Odor Control	OS	12,156	15,000	18,000	20.00%
6100-040-04	Calcium Nitrate	OS	190,585	200,000	220,500	10.25%
6100-050-04	Hydrogen Peroxide	OS	240,415	306,000	266,000	-13.07%
6100-060-04	Sodium Hypochlorite	OS	150,083	204,400	229,000	12.04%
6100-070-04	Sodium Bisulfite	OS	172,314	195,000	242,000	24.10%
6400-020-04	Gasoline, Diesel, Oil, & Fuel	OS	9,808	15,000	15,000	0.00%
<b>Subtotal Chemicals &amp; Fuel</b>			<b>981,193</b>	<b>1,126,900</b>	<b>1,282,500</b>	<b>13.81%</b>



**\*Position Code**

ASM Administrative Services Manager  
 AOS Assistant Operations Supervisor  
 OS Operations Supervisor  
 TPM

<b>Proposed FY21</b>	<b>FY21 Change from FY20</b>	<b>Budget Account Description</b>
1,605,800	4.87%	Salaries for 13 full-time employees. Includes a FY20 COLA increase of 3% for represented and unrepresented employees, a 2.5% compensation adjustment for represented staff, four step adjustments, and leave balance cash-outs. FY21 increase for 4% COLA and four step adjustments.
(18,000)	4.05%	Transfer of salary expenses for staff assigned to CIP funded projects
137,700	6.58%	Authorized overtime to ensure facilities are properly staffed 24 hours/day and to complete specified activities or assignments.
2,200	4.76%	24/7 stand-by duty provided by qualified operations staff during the wet weather season (November-April). Employees are paid to remain fit for duty and must respond within one hour after being called in for emergency situations.
<b>1,727,700</b>	<b>5.01%</b>	
131,600	0.00%	Ferric chloride is used to improve settling in the primary clarifiers during storm related flow events, inhibits hydrogen sulfide production in the digesters, reduces struvite formations in pipelines, and is used as a coagulant in the biosolids dewatering process.
110,000	-31.42%	Polymer is added to centrifuge feed sludge to enhance the efficiency of solids removal, and is also injected into the flow stream for sludge thickening units to increase solids capture which reduces hydraulic loading in the digesters. CMSA has used approximately 2.5 loads of polymer per year for sludge thickening dewatering operations. The increase in this line in FY20 is due to the procurement of three loads of polymer, and decrease in FY21 when the Agency will purchase two loads.
18,000	0.00%	A chemical agent used to mask odorous compounds produced by some wastewater processes. Odorants are delivered in 55 gallon barrels.
220,500	0.00%	Calcium nitrate solution is the first of a two-phase odor control system used in the collection system upstream of the wastewater treatment plant. Nitrate injection in strategic locations inhibits hydrogen sulfide formation.
279,300	5.00%	Hydrogen peroxide is the second phase of the odor control system. It is injected into the Ross Valley and San Rafael interceptors upstream of the headworks.
240,400	4.98%	Sodium hypochlorite is used for effluent and recycled water disinfection, and in three treatment plant odor control scrubbers.
242,000	0.00%	Sodium bisulfite is used to neutralize the chlorine residual in the effluent prior to its discharge into the San Francisco Bay.
15,000	0.00%	Gasoline for vehicles and landscaping equipment, and diesel for emergency generator and the effluent pump station pumps.
<b>1,256,800</b>	<b>-2.00%</b>	

**Central Marin Sanitation Agency**  
**Proposed FY20 & FY21 Operating Budget**

Line Item Accounts

**OPERATIONS**

Account #	Account Name	*By	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19
<b>UTILITIES</b>						
6835-010-04	Natural Gas	OS	33,828	37,300	40,400	8.31%
6835-020-04	Electricity	OS	179,863	201,000	229,300	14.08%
6835-030-04	Water	AOS	9,758	9,500	40,300	324.21%
6835-040-04	Garbage	AOS	61,450	70,000	76,600	9.43%
<b>Subtotal Utilities</b>			<b>284,900</b>	<b>317,800</b>	<b>386,600</b>	<b>21.65%</b>
<b>GENERAL &amp; ADMINISTRATIVE</b>						
6210-000-04	Operations - General	TPM	4,622	6,000	6,000	0.00%
6215-000-04	Process Control Consumable Supplies	AOS	-	10,000	10,000	0.00%
6700-010-04	Meetings/Training	TPM	1,378	5,000	4,500	-10.00%
6700-020-04	Conferences	TPM	5,329	4,500	5,000	11.11%
6805-000-04	Professional Affiliation Memberships	TPM	2,799	5,000	4,800	-4.00%
6810-010-04	BAAQMD Permit	TPM	16,505	18,500	18,500	0.00%
6830-001-04	Professional Services: Process Control	TPM	16,953	15,000	20,000	33.33%
<b>Subtotal General &amp; Administrative</b>			<b>47,586</b>	<b>64,000</b>	<b>68,800</b>	<b>7.50%</b>
<b>Subtotal (excluding Salary and Benefits)</b>			<b>1,313,678</b>	<b>1,508,700</b>	<b>1,737,900</b>	<b>15.19%</b>
<b>Total Operations</b>			<b>2,892,869</b>	<b>3,243,100</b>	<b>3,383,100</b>	<b>4.32%</b>

**\*Position Code**

ASM Administrative Services Manager  
 AOS Assistant Operations Supervisor  
 OS Operations Supervisor  
 TPM

<b>Proposed FY21</b>	<b>FY21 Change from FY20</b>	<b>Budget Account Description</b>
40,400	0.00%	Supplemental fuel for the cogeneration system, and fuel for the boilers when the cogen system is offline.
229,300	0.00%	Electricity to supplement the cogeneration system output and to supply power when the cogenerator is offline for maintenance.
40,700	0.99%	Potable water for CMSA and the San Quentin junction box odor control facility. The Marin Municipal Water District has announced a series of 4% rate increases over the next several years and beginning FY20 is expected to approve an annual \$30.3K capital maintenance fee.
80,000	4.44%	Solid waste disposal for garbage, green waste, recycling, and debris box disposal of headworks screenings, grit, and non-recyclable wastes.
<b>390,400</b>	<b>0.98%</b>	
6,000	0.00%	Small tools, equipment, parts, and other miscellaneous supplies.
10,500	5.00%	Chemical reagents to verify and/or determine the concentration of chlorine in treated wastewater, assist in field instrument calibration, determine peroxide concentrations in wastewater, measure pH, and measure sulfide levels in biogas.
4,500	0.00%	Expenses associated with attendance at single-day professional meetings, seminars, and certification trainings. Includes allowed expenses pursuant to the Agency's expense reimbursement policy.
5,000	0.00%	Expenses associated with multi-day professional conferences, seminars, and training events outlined in the Agency's travel and expense reimbursement policy.
4,800	0.00%	Professional memberships and certification renewal requirements for licensed operators. The budget includes 13 annual CWEA membership renewals and 17 operator certification renewals (13 Operators and 3 additional licensed staff members).
18,500	0.00%	Bay Area Air Quality Management District (BAAQMD) permit fees for the cogeneration engine, emergency engine, five effluent pump station engines, and fuel dispensers.
21,000	5.00%	Professional wastewater consulting services for evaluation of process control options, advice on process control issues, training staff on process analysis, and conducting special studies.
<b>70,300</b>	<b>2.18%</b>	
<b>1,717,500</b>	<b>-1.17%</b>	
<b>3,445,200</b>	<b>1.84%</b>	

**Technical Services**

The Technical Services Department provides full engineering support for the Agency and is responsible for all regulatory compliance activities required by the Agency’s National Pollutant Discharge Elimination System (NPDES) permit. Technical Services is responsible for the following functions:

- Design small maintenance and capital projects, and oversee the design of larger projects outsourced to engineering consulting firms.
- Manage construction contracts and associated engineering construction records.
- Assist with operational studies, and energy efficiency and greenhouse gas emission evaluations.
- Negotiate and administer the Agency’s service and commodity contracts for employee uniforms, biosolids hauling and reuse, natural gas supply, and procurement of chemicals used in the wastewater and biosolids treatment processes.
- Chair the Agency’s Capital Improvement Planning Committee which develops, implements, and manages the Agency’s 10-year Capital Improvement Program (CIP) and prepares the biennial CIP budget with the 10-year forecast.
- Assist with Underground Service Alert (U.S.A) utility locating services.
- Regulate commercial and industrial disposal of wastewater into the collection and treatment systems.
- Operate an accredited environmental laboratory that performs the majority of routine testing required in the Agency’s NPDES permit and oversees specialized outside analytical testing services. In the next fiscal year, the laboratory will achieve compliance with a new comprehensive national laboratory accreditation program.
- Provide source control program administration services under contract with wastewater and other local agencies in Marin County.
- Lead the Wastewater Treatment Agencies of Marin County Public Education Program.
- Leading the planning and execution for a detailed digester organic loading pilot study at CMSA’s facility.

<b>Technical Services Expenditures by Category</b>	<b>Actual FY18</b>	<b>Budget FY19</b>	<b>Proposed FY20</b>	<b>Proposed FY21</b>
<b>SALARIES*</b>	\$ 866,534	\$1,053,500	\$1,086,300	\$1,168,200
<b>SUBTOTAL</b>	<b>\$ 866,534</b>	<b>\$1,053,500</b>	<b>\$1,086,300</b>	<b>\$1,168,200</b>
<b>BIOSOLIDS DISPOSAL</b>	381,057	400,300	418,500	435,300
<b>PERMIT TESTING &amp; MONITORING</b>	149,815	148,800	143,800	142,500
<b>ADMINISTRATION</b>	171,570	323,000	334,200	248,200
<b>SUBTOTAL</b>	<b>\$ 702,442</b>	<b>\$ 872,100</b>	<b>\$ 896,500</b>	<b>\$ 826,000</b>
<b>TOTAL</b>	<b>\$1,568,976</b>	<b>\$1,925,600</b>	<b>\$1,982,800</b>	<b>\$1,994,200</b>

\*Benefits are included in the Administration Department budget

<b>Authorized Positions</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>
Technical Services Manager	1	1	1	1
Associate Engineer	-	1	1	1
Assistant Engineer	2	1	1	1
Regulatory Compliance Manager*	-	-	1	1
Laboratory Director**	1	1	-	-
Environmental Laboratory Administrator	1	1	1	1
Laboratory Analyst***	-	1	1	1
Environmental Services Analyst (I-II)	3	3	3	3
<b>TOTAL</b>	<b>8</b>	<b>9</b>	<b>9</b>	<b>9</b>

\* The Regulatory Compliance Manager classification was created in December 2018. The position, which has additional responsibilities of managing the Agency's various source control programs, was created to replace the Laboratory Director position.

\*\* The Laboratory Director classification was discontinued in December 2018.

\*\*\* To support the administration of environmental laboratory accreditation standards, the Board authorized a new Laboratory Analyst position during FY18.

PROPOSED

**Central Marin Sanitation Agency**  
**Proposed FY20 & FY21 Operating Budget**

Line Item Accounts

**TECHNICAL SERVICES**

Account #	Account Name	*By	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19
<b>SALARY &amp; WAGES</b>						
5010-010-05	Salaries, Wages & Compensation	ASM	901,723	1,178,700	1,209,600	2.62%
5010-105-10	Transfer to CIP	GM	(36,199)	(135,200)	(138,000)	2.07%
5010-020-05	Overtime	TSM	-	7,500	8,200	9.33%
5010-022-02	Wet Weather Stand-by Duty	TSM	1,010	2,500	6,500	160.00%
<b>Subtotal Salary &amp; Wages</b>			<b>866,534</b>	<b>1,053,500</b>	<b>1,086,300</b>	<b>3.11%</b>
<b>BIOSOLIDS MANAGEMENT</b>						
6200-010-02	Biosolid Reuse Fees	TSM	274,667	283,900	296,000	4.26%
6200-050-02	Biosolids Hauling	TSM	106,389	116,400	122,500	5.24%
<b>Subtotal Biosolids Management</b>			<b>381,057</b>	<b>400,300</b>	<b>418,500</b>	<b>4.55%</b>
<b>PERMIT TESTING &amp; MONITORING</b>						
6300-000-02	Lab Supplies	LD	85,084	57,000	69,400	21.75%
6310-030-02	Biosolids Monitoring: Contract Lab Services	LD	9,009	9,500	11,000	15.79%
6320-010-02	NPDES Permit Sampling & Testing	LD	40,494	65,200	45,800	-29.75%
6320-020-02	Pretreatment Sampling	TSM	11,894	14,300	14,300	0.00%
6330-010-02	Underground Tank Testing: Overfill Containment	TSM	2,333	2,800	3,300	17.86%
6330-020-02	Underground Tank Testing: Secondary Containment	TSM	1,001	-	-	100.00%
<b>Subtotal Permit Testing &amp; Monitoring</b>			<b>149,815</b>	<b>148,800</b>	<b>143,800</b>	<b>-3.36%</b>

**\*Position Code**

GM General Manager  
 ASM Administrative Services Manager  
 TSM Technical Services Manager  
 RCM Regulatory Compliance Manager  
 AE Assistant Engineer

<b>Proposed FY21</b>	<b>FY21 Change from FY20</b>	<b>Budget Account Description</b>
1,293,800	6.96%	Salaries for nine full-time employees and includes a 3% COLA salary increase of for employees, 5-step adjustments, and leave balance cash-outs. FY21 4% COLA and 5 step adjustments.
(141,000)	2.17%	Transfer of salary expenses for staff assigned to CIP funded projects (.61 FTE).
8,600	4.88%	Authorized overtime to complete special activities or assignments including activities supporting the public education program.
6,800	4.62%	Stand-by duty is assigned to a laboratory analyst during the wet weather event season November through April 30th when there is a reasonable potential that a blending event may occur during the weekend.
<b>1,168,200</b>	<b>7.54%</b>	
307,900	4.02%	Biosolids tipping fees for beneficial reuse at Redwood Landfill for alternative daily cover, land application sites in Solano county for soil augmentation, and at the Lystek facility for further processing into a fertilizer.
127,400	4.00%	Approximately one load per day of biosolids is hauled from CMSA to one of the biosolids reuse sites.
<b>435,300</b>	<b>4.01%</b>	
65,100	-6.20%	Laboratory and source control program supplies including all chemicals, glassware, reagents, consumables, disposable containers, filters, bioassay, and other supplies.
11,400	3.64%	Laboratory analysis cost associated with biosolids monthly and semiannual regulatory monitoring requirements.
47,200	3.06%	Outsourced laboratory analysis cost associated with NPDES permit compliance orders. Includes monthly, quarterly, semiannual, annual, and permit period monitoring requirements, including new nutrient monitoring requirements in the 2019 Nutrient Watershed permit.
14,800	3.50%	Cost of outsourced laboratory analysis of source control samples and monitoring industrial waste.
2,800	-15.15%	Annual contractor testing and monitoring of underground gasoline and diesel tank over-fill and secondary containment.
1,200	0.00%	Testing of underground tank secondary containment every three years as required by state regulation. Testing will be scheduled during FY21, the last testing occurred in FY18.
<b>142,500</b>	<b>-0.90%</b>	

**Central Marin Sanitation Agency**  
**Proposed FY20 & FY21 Operating Budget**

Line Item Accounts

**TECHNICAL SERVICES**

Account #	Account Name	*By	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19
<b>GENERAL &amp; ADMINISTRATIVE</b>						
6510-008-05	Lab Facilities Maintenance	LD	-	-	5,500	0.00%
6700-010-05	Meetings/Training	TSM	3,875	4,500	3,000	-33.33%
6700-020-05	Conferences	TSM	7,301	15,800	21,000	32.91%
6805-000-05	Professional Affiliation Memberships	TSM	3,138	3,700	3,700	0.00%
6810-000-02	Annual NPDES Permit	TSM	48,522	55,000	55,000	0.00%
6810-040-02	ELAP Certification	TSM	6,996	11,000	13,000	18.18%
6810-050-02	Regional Monitoring Program SFEI	TSM	27,996	30,000	46,000	53.33%
6810-051-02	Clean Bay Collaborative Fees	TSM	24,555	25,500	25,500	0.00%
6810-060-02	CUPA Fees	TSM	4,697	4,900	5,400	10.21%
6810-070-02	Stormwater Annual Permit	TSM	1,400	1,800	1,500	-16.67%
6810-080-02	BAPPG Membership	TSM	838	1,800	-	-100.00%
6815-002-02	Source Control	TSM	21,082	40,000	40,000	0.00%
6821-000-02	Public Education Program: CMSA portion	GM	14,978	35,000	21,000	-40.00%
6815-000-05	Office Expenses	TSM	210	500	500	0.00%
6815-002-05	Information Systems	TSM	-	2,000	2,000	0.00%
6815-003-05	Software License & Support	TSM	-	-	-	100.00%



**\*Position Code**

- GM General Manager
- ASM Administrative Services Manager
- TSM Technical Services Manager
- RCM Regulatory Compliance Manager
- AE Assistant Engineer

Proposed FY21	FY21 Change from FY20	Budget Account Description
4,300	-21.82%	Expenses for service contracts to maintain laboratory equipment including the deionized water system and certification of analytical balance and pipette/titrator equipment.
3,000	0.00%	Expenses associated with single-day professional meetings and training seminars. Includes allowed expenses pursuant to the Agency's expense reimbursement policy.
21,000	0.00%	Expenses associated with multi-day professional conferences, seminars, and training events per the Agency's expense reimbursement policy.
3,700	0.00%	Professional memberships and registration fees for the Water Environment Association (WEF) and California Water Environment Association (CWEA).
55,000	0.00%	Annual renewal fee for SWRCB administration of the NPDES permit and pre-treatment program fee.
13,000	0.00%	Fees for annual renewal of the laboratory certification, inspections, required testing, certificates, ELAP operating costs, and annual DMRQA/WP testing.
39,000	-15.22%	CMSA's NPDES permit requires participation in the Regional Monitoring Program (RMP) for the San Francisco Bay, which is administered by the San Francisco Estuary Institute. Cost based upon Cu, Ni, Cr, and Se facility loading to SF bay, which increased substantially in FY19 and for FY20 and FY21 were estimated based running three year cost averages.
25,500	0.00%	SF Bay NPDES dischargers are required to perform regional monitoring tests and perform studies to determine impacts to the bay. Organization participants conduct studies and tests related to TMDL development, nutrients, mercury, and PCB permit work that focus on Bay Area Clean Water Agencies (BACWA) priorities to protect the SF Bay.
5,400	0.00%	Certified Unified Program Agency fees are paid to the County of Marin for the Agency's underground storage tanks and hazardous materials storage.
1,500	0.00%	SWRCB permit for the Agency's industrial site stormwater permit.
-	0.00%	Discontinued account for membership in the Bay Area Pollution Prevention Group.
-	-100.00%	The existing software database used to manage the Agency's Pretreatment and Pollution Prevention Programs was replaced in FY 19 with an improved software program (LINKO).
28,200	34.29%	CMSA's share of the Countywide Public Education Program for expenses associated with participating in public outreach events, hosting school programs, and educational materials for the program.
500	0.00%	Office supplies: sample labels, ink cartridges, paper for large-format printer/plotter, and other miscellaneous office expenses.
2,000	0.00%	Allowance for engineering productivity and project management software. One-time allowance to purchase a program to replace the software used for bioassay results.
-	0.00%	Licensing fees for Nexgen (CMMS), Ignition( SCADA), AutoCAD (drafting), and virtual server maintenance software have been moved to Administration account 6815-002-01.

**Central Marin Sanitation Agency**  
**Proposed FY20 & FY21 Operating Budget**

Line Item Accounts

**TECHNICAL SERVICES**

<b>Account #</b>	<b>Account Name</b>	<b>*By</b>	<b>Actual FY18</b>	<b>Budget FY19</b>	<b>Proposed FY20</b>	<b>FY20 Change from FY19</b>
6820-000-05	Printing & Publications	TSM	115	1,000	600	-40.00%
6830-001-05	Professional Svcs - Special Studies	GM	1,476	45,000	45,000	0.00%
6830-002-05	Cathodic Protection	TSM	4,340	5,500	5,500	0.00%
6830-019-05	Professional Svcs - Engineering Support	GM	-	40,000	40,000	0.00%
<b>Subtotal General &amp; Administrative</b>			<b>171,570</b>	<b>323,000</b>	<b>334,200</b>	<b>3.47%</b>
<b>Subtotal (excluding Salary and Benefits)</b>			<b>702,441</b>	<b>872,100</b>	<b>896,500</b>	<b>2.80%</b>
<b>Total Engineering</b>			<b>1,568,975</b>	<b>1,925,600</b>	<b>1,982,800</b>	<b>2.97%</b>

PROPOSED

**\*Position Code**

GM General Manager  
 ASM Administrative Services Manager  
 TSM Technical Services Manager  
 RCM Regulatory Compliance Manager  
 AE Assistant Engineer

<b>Proposed FY21</b>	<b>FY21 Change from FY20</b>	<b>Budget Account Description</b>
600	0.00%	Allowance for printing/shipping/advertising expenses for documents not assigned to specific CIP project contracts and for mailing expenses related to maintaining CMSA's list of prequalified contractors.
-	-100.00%	Funding to implement tasks from the FY19 Asset Management Assessment Project.
5,500	0.00%	Periodic cathodic protection monitoring of the land portion of the marine outfall, sections of the Ross Valley interceptor, the San Rafael interceptor, various buried pipelines on Agency property, San Rafael Sanitation District Simms Force Main, and the South Francisco casing.
40,000	0.00%	This account is used to fund engineering consultant services as needed.
<b>248,200</b>	<b>-25.73%</b>	
<b>826,000</b>	<b>-7.86%</b>	
<b>1,994,200</b>	<b>0.57%</b>	

PROPOSED



**Cooperative Agreement Expenses - CMSA Services Provided Under Contract to Other Local Agencies**

The Agency provides contract services to other local agencies for wastewater treatment services, pump station and collection system maintenance, and administration of Source Control Programs. The Agency also serves as the lead agency to administer the cooperative Health & Safety Program and the County-wide Public Education Program.

With the exception of the Health & Safety Program, the budget in this cost center tracks the non-employee compensation portion of the contract expenses incurred on behalf of the contracting agencies. Each contracting agency has agreed to reimburse CMSA the costs of services rendered by CMSA in accordance with the terms of their respective contracts.

The tables below illustrate the relationship between the amount of projected revenues from each contracting agency in FY20 & FY21 and estimated expenses incurred by CMSA for its services.

Cooperative Agreement Services	Actual FY18	Budget FY19	Proposed FY20	Proposed FY21
<b>CONTRACT SERVICE REVENUES</b>				
San Quentin State Prison Wastewater Services	\$ 589,690	\$ 522,405	\$ 601,545	\$ 810,003
San Quentin State Prison Pump Station Maintenance	115,547	111,570	115,921	120,442
San Quentin Village Wastewater Services	22,279	45,297	71,686	51,826
SD#2 Pump Stations	387,164	394,536	446,475	478,337
LGVSD - FOG & Pollution Prevention	11,694	10,000	19,565	20,348
SD #1 – FOG	8,956	8,000	23,100	24,024
SRSD – FOG	10,321	10,000	30,900	32,136
TCSD – FOG	596	1,500	1,584	1,648
SD #2 – FOG	2,790	2,500	7,640	7,945
Almonte SD – FOG	914	1,500	3,432	3,569
Novato SD - Dental Amalgam	2,849	1,500	630	655
<b>SUBTOTAL CONTRACT SERVICE REVENUES</b>	<b>\$1,152,799</b>	<b>\$1,108,808</b>	<b>\$1,322,478</b>	<b>\$1,550,934</b>
Health & Safety Program	51,432	86,600	72,100	74,800
County-wide Education Program	25,201	59,430	35,248	47,339
<b>SUBTOTAL PROGRAM REVENUES</b>	<b>\$ 76,633</b>	<b>\$ 146,030</b>	<b>\$ 107,348</b>	<b>\$ 122,139</b>
<b>TOTAL CONTRACT SERVICE REVENUES</b>	<b>\$1,229,432</b>	<b>\$1,254,838</b>	<b>\$1,429,826</b>	<b>\$1,673,072</b>
<b>COOPERATIVE AGREEMENT SERVICES EXPENDITURES (EXCLUDING ADMINISTRATIVE OVERHEAD CHARGES)</b>				
San Quentin State Prison Wastewater Services	\$ 589,690	\$ 522,405	\$ 601,545	\$ 810,003
San Quentin State Prison Pump Station Maintenance	103,098	98,747	102,599	106,721
San Quentin Village Wastewater Services	20,040	40,820	67,012	47,008
SD#2 Pump Stations	339,670	348,082	395,453	425,783
LGVSD - FOG & Pollution Prevention	9,585	8,197	16,037	16,679
SD #1 - FOG	8,142	7,273	21,000	21,840
SRSD - FOG	9,382	9,091	28,091	29,215
TCSD - FOG	489	1,230	1,299	1,351
SD #2 - FOG	2,536	2,273	6,945	7,223
Almonte SD – FOG	831	1,364	3,120	3,244
Novato SD - Dental Amalgam	2,335	1,230	516	537
<b>SUBTOTAL COOPERATIVE AGREEMENT EXPENDITURES</b>	<b>\$1,085,798</b>	<b>\$1,040,710</b>	<b>\$1,243,617</b>	<b>\$1,469,603</b>
Health & Safety Program	49,807	84,200	69,700	72,300
County-wide Education Program	21,914	51,678	30,650	41,164
<b>SUBTOTAL PROGRAM EXPENDITURES</b>	<b>\$ 71,721</b>	<b>\$ 135,878</b>	<b>\$ 100,350</b>	<b>\$ 113,464</b>
<b>TOTAL COOPERATIVE AGREEMENT EXPENDITURES</b>	<b>\$1,157,519</b>	<b>\$1,176,588</b>	<b>\$1,343,967</b>	<b>\$1,583,067</b>

**Central Marin Sanitation Agency  
Proposed FY20 & FY21 Operating Budget**

Line Item Accounts

**COOPERATIVE AGREEMENT EXPENSES**

**CMSA Services Provided Under Contract to Other Local Agencies**

Account #	Account Name	*By	Actual FY18	Budget FY19	Proposed FY20	FY20 Change from FY19
<b>ADMINISTRATION - HEALTH &amp; SAFETY PROGRAM</b>						
5010-010-06	Salaries, Wages & Compensation	ASM	36,370	48,900	49,500	1.23%
5020-020-06	CalPERS Retirement	ASM	2,909	11,700	3,300	-71.80%
5020-030-06	SS / Medicare	ASM	361	800	700	-12.50%
5030-010-06	Employee Health Benefits	ASM	2,552	11,700	4,400	-62.39%
5030-015-06	Employee Benefits-PEHP	ASM	399	700	700	0.00%
5030-020-06	Retiree Health Benefits	ASM	1,510	2,600	2,600	0.00%
6830-016-06	Health & Safety Manager Program Expenses	SS/M	2,075	8,200	8,500	3.66%
6830-017-06	Prof'l Service: Outside Safety	SS/M	962	4,600	4,800	4.35%
<b>Subtotal Administration</b>			<b>47,138</b>	<b>89,200</b>	<b>74,500</b>	<b>-16.48%</b>
<b>TECHNICAL SERVICES</b>						
6821-000-06	Countywide Public Education Program	GM	22,414	52,000	30,700	-40.96%
<b>Subtotal Technical Services</b>			<b>22,414</b>	<b>52,000</b>	<b>30,700</b>	<b>-40.96%</b>
<b>MAINTENANCE</b>						
6600-000-06	SD-2 Pump Stations	MS	113,195	120,900	164,600	36.15%
6600-001-06	SQP Pump Station Maintenance	TPM	46,444	110,000	115,900	5.36%
6600-002-06	SQ Village WW System Maintenance	TPM	9,117	20,300	45,900	126.11%
<b>Subtotal Maintenance</b>			<b>168,755</b>	<b>251,200</b>	<b>326,400</b>	<b>29.94%</b>
<b>Total Cooperative Agreement Expenses</b>			<b>238,307</b>	<b>392,400</b>	<b>431,600</b>	<b>9.99%</b>

**\*Position Code**

ASM Administrative Services Manager  
 GM  
 General  
 Manager  
 SS/M Safety Specialist/Manager  
 MS Maintenance Supervisor  
 TPM Treatment Plant Manager

<b>Proposed FY21</b>	<b>FY21 Change from FY20</b>	<b>Budget Account Description</b>
51,400	3.84%	Novato Sanitary District's (NSD) share of the Safety Specialist/Manager position salary is 39.75% and includes car allowance and leave cash-outs. The Agency's share is 60.25% and is allocated to the Administration Budget.
3,500	6.06%	Employer and employer-paid employee contributions for CalPERS PEPRA 2% @ age 62 retirement program.
800	14.29%	Employer's 1.45% share of Medicare.
4,600	4.55%	Employer-paid contributions for employee benefits includes insurance coverage for health, dental, vision, life, accident and disability.
800	14.29%	PEHP is a post employment health plan employer-paid contribution totaling 1.5% of base salary and \$180 per year administration fee.
2,700	3.85%	Medical benefits for one retired employee and one surviving spouse.
8,500	0.00%	Professional services, materials, supplies, and memberships to administer the Safety Program for two participating agencies. NSD's program share is 39.75% of program costs. CMSA's 60.25% share is budgeted to 6830-016-01.
5,200	8.33%	Training expenses for required safety programs that include hearing tests, first-aid/CPR, incident command training, traffic control, defensive driving, and many other Cal/OSHA programs that facilitate a safe work environment.
<b>77,500</b>	<b>4.03%</b>	
41,200	34.20%	Program expenditures to administer the County Wide Education Program for promotional materials, booth registration fees, public outreach program costs, sponsorships, supplies, and memberships. CMSA's 40.6% share of the program cost is budgeted to Technical Services account 6821-000-02.
<b>41,200</b>	<b>34.20%</b>	
188,000	14.22%	SD#2 pump station maintenance costs for repair services, parts, supplies, equipment and recommended maintenance and capital expenditures.
120,400	3.88%	SQP pump station maintenance costs include labor, mileage, repair services, parts, supplies, equipment, and recommended maintenance and capital expenditures.
25,300	-44.88%	SQV wastewater maintenance costs include labor, mileage, repair services, parts, supplies, equipment, and recommended maintenance and capital expenditures.
<b>333,700</b>	<b>2.24%</b>	
<b>452,400</b>	<b>4.82%</b>	

**SECTION 8. CAPITAL IMPROVEMENT PROGRAM**

The treatment and disposal of wastewater and its beneficial reuse of by-products is a highly regulated enterprise that requires significant capital infrastructure. CMSA operates an around-the-clock wastewater facility, and the various assets and equipment necessary for the treatment processes are subjected to heavy use in a sometimes harsh operating environment. These assets are subjected to constant contact with wastewater and chemicals used in the treatment process. Agency staff monitors the development of new technologies and considers processes that may improve treatment methods, save energy, reduce chemical usage, and assist with meeting changing regulatory requirements. The maintenance, replacement, and addition of capital assets are an essential part of the Agency’s Capital Improvement Program (CIP) budget.

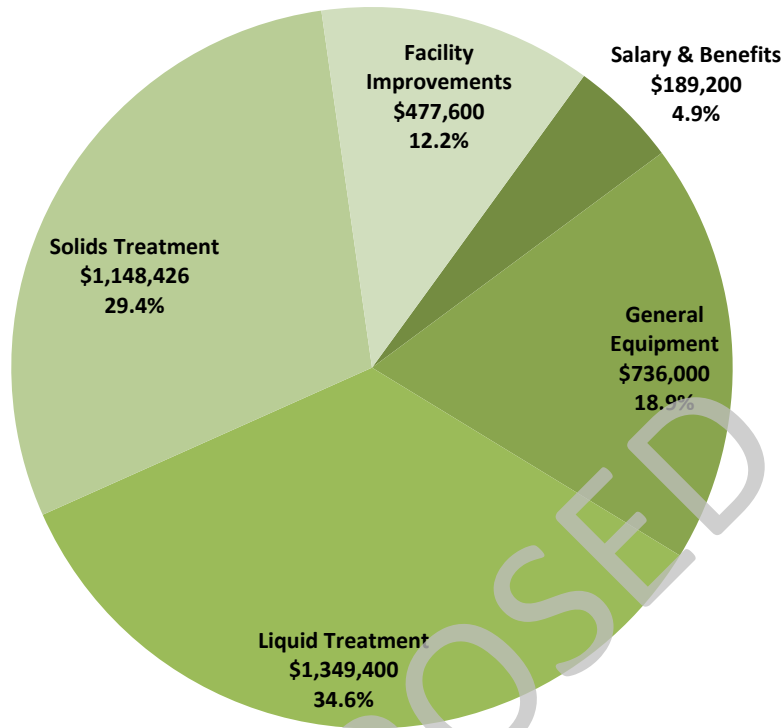
The CIP identifies capital expenditures over the next ten years so that the Agency may develop appropriate funding plans to implement future capital activities. The 10-Year CIP includes the replacement and rehabilitation of existing capital assets, as well as the acquisition or construction of new capital assets. Included within the 10-Year CIP are the FY20 & FY21 budgets for capital projects and asset repair and replacement activities shown in the table below. These initiatives are organized into five categories: 1) Salary and Benefits for CIP Management, 2) Facility Improvements, 3) General Equipment, 4) Liquid Treatment Equipment and Systems, and 5) Solids Treatment and Energy Generation Equipment and Systems.

Capital expenditures are cash transactions made by the Agency that result in the acquisition or construction of a capital asset. A capital asset is any asset valued over \$5,000 with a useful life of over five years. Examples include land, buildings, machinery, vehicles, and equipment. All capital assets that the Agency plans to acquire or construct are included in the FY20 & FY21 CIP.

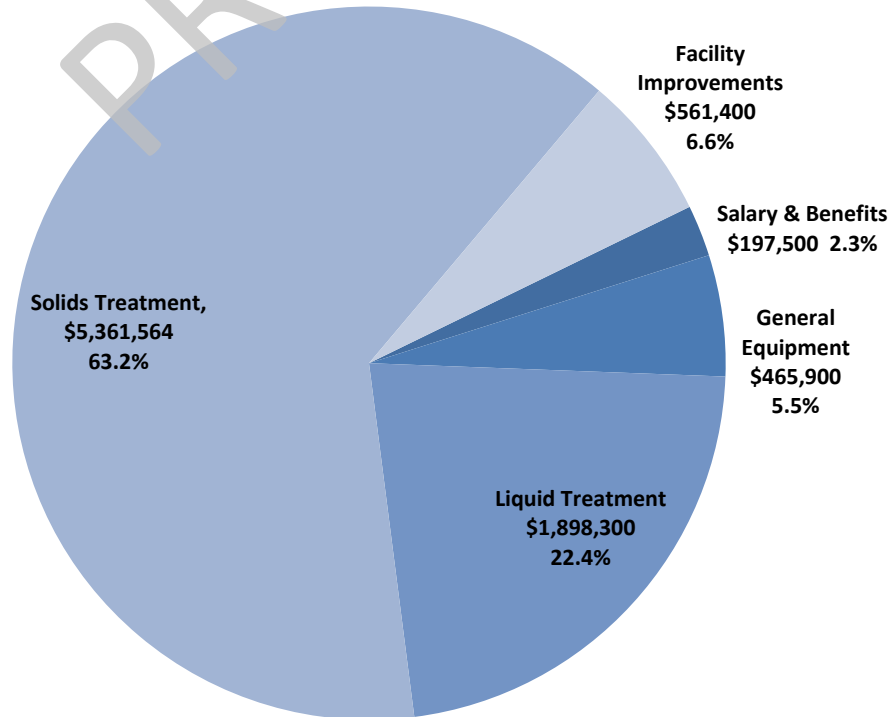
	Budget FY18	Budget FY19	Budget FY20	FY20 # Projects	Budget FY21	FY21 # Projects
<b>CIP Categories:</b>						
1. Salary & Benefits for CIP Management	\$ 185,200	\$ 185,200	\$ 189,200		\$ 197,500	
2. Facility Improvements	1,740,600	557,500	477,600	7	561,400	5
3. General Equipment	584,300	454,600	736,000	9	465,900	9
4. Liquid Treatment Equipment and Systems	635,700	1,220,200	1,349,400	13	1,898,300	10
5. Solids Treatment and Energy Generation Equipment and Systems	671,800	445,000	1,148,426	8	5,361,564	7
<b>TOTAL CIP PROJECTS</b>	<b>\$3,817,600</b>	<b>\$2,862,500</b>	<b>\$3,900,626</b>	<b>37</b>	<b>\$8,484,664</b>	<b>31</b>



### FY20 Capital Improvement Program



### FY21 Capital Improvement Program



## Major Capital Projects

The 10-Year CIP includes many important projects to maintain or improve the operation of the Agency's facilities. Within the CIP, several projects have additional Detailed Project Descriptions that further explain the scope, schedule, and budget for the project. The major projects in FY20 & FY21 are:

- Primary Clarifier Gates Actuator System: The five original primary clarifiers have several large gates that control flow into the tanks from the headworks. Plant operations staff uses hydraulic system to open and close primary clarifier gates. The hydraulic system was installed when the plant was constructed in 1985 and can only be operated with levers located at each gate. This project will replace the hydraulic gate operators with an electronic actuator system that can be operated through CMSA's Supervisory control and data acquisition (SCADA) system. This will increase reliability and will allow plant operations staff to remotely open and close the gates. This project was started in FY19 and construction will be completed in FY20.
- Secondary Clarifiers Rehabilitation: There are four secondary clarifiers in the treatment plant. The 2018 Facilities Master Plan recommends a project for each clarifier to repair corrosion on mechanical equipment, metal structural components, and pipes inside the clarifier, resurfacing the effluent trough concrete, retrofitting the catwalk with FRP grating, and repairing corrosion on piping in the sumps in the pump room (Master Plan Project 08-1). While each clarifier is out of service, the large drive turntables in Clarifiers 1, 3, and 4 will be replaced. The turntable drive for Clarifier No. 2 was replaced in 2011. This is a multi-year project that includes the design of the improvements in FY20 with construction of the improvements occurring in the FY21, FY22 and FY23 summers.
- New Cogeneration System: This project includes the design and construction of a new cogeneration engine as recommended in the 2017 Master Plan and 2018 Cogeneration Predesign. The design of the new cogeneration system is planned to begin in FY20 and construction would occur in FY21 and FY22. This schedule coincides with the expansion of the OWRP program and the Agency's ability to sell excess power through a new PG&E Interconnection Agreement and power sale agreement with Marin Clean Energy.
- Cogeneration Maintenance: CMSA's existing cogeneration engine experienced a catastrophic failure event in late May 2019. The engine is proposed to be repaired and re-built offsite in early FY20. Until the new cogeneration engine is operational, the existing cogeneration engine is critical to supply CMSA with on-site generated power, offsetting the purchase of significant amounts of electricity from PG&E.
- RAS/WAS Pump Replacement: The 2018 Facilities Master Plan recommends a project to replace the Return Activated Sludge (RAS) and Waste Activated Sludge (WAS) pump systems. These pumping systems are an integral part of the activated sludge treatment process and are mostly original equipment. The design for this project will be in FY21 and the FY22 & FY23 construction will include replacing the pump systems and installing valving as needed to provide increased ability to isolate pumps for maintenance in the future.
- Electrical Distribution System Rehabilitation: The 2018 Facility Master Plan recommends replacing the main electrical switchgear components that distribute power throughout the

facility as the existing switchgear electrical components are mostly comprised of equipment from 1985. While most of the equipment is operational, it is increasingly difficult to locate replacements because manufacturers no longer provide full technical support. A detailed assessment of the equipment is proposed in FY20 to evaluate the cost, siting impacts, and construction sequencing and timing considerations for full equipment replacement, while also factoring in potential future load increases for the facility. In parallel, an inspection and in-place refurbishment of existing equipment will be completed in FY20, and minor improvements will be constructed in FY21 including HVAC improvements and provisions for the connection of a temporary emergency generator.

- **Facilities Structures Seismic Study.** The 2018 Facility Master Plan recommends conducting a study to evaluate seismic impacts due to soil settlement. Subsidence of the ground has been observed in multiple locations throughout the facility, including in the immediate areas around process tanks. Because structures were constructed on pile foundations, the settlement has produced gaps under the bottom of the structures. It is possible that the original seismic design was dependent on the tops of the piles being at grade and fully supported. With the tops of the piles currently above grade and exposed, the unsupported pile length may be overstressed during an earthquake resulting in structural damage. Ground settlement may have also affected the stresses on buried piping between process areas. A study will be conducted in FY 21 to quantify the risk of structural damage due to soil settlement and identify future structural improvement projects, if necessary.

### **10-Year Capital Improvement Program Planning and Funding**

The Agency annually updates its 10-Year CIP as part of the budget development process. The FY20 & FY21 CIP Budget and 10-year CIP schedule were prepared by an interdisciplinary CIP team comprising managers and supervisors from the Technical Services and Operations and Maintenance departments. The CIP team is responsible for developing and managing the annual CIP Budget, determining the appropriate delivery method for each project and activity, and monitoring and reporting of CIP activities. The General Manager and Administrative Services Manager are responsible for working with the Board Finance Committee to develop long-term funding options for the 10-Year CIP.

The plan undergoes several levels of review. Each project or activity included in the CIP is individually evaluated to 1) determine its operational necessity, 2) ascertain if there is a less expensive alternative, 3) identify opportunities to reduce energy consumption and/or greenhouse gas emissions, and 4) create a project development schedule. Depending on the scale of the project, large, multi-year construction projects will typically have evaluation, study, and/or pre-design elements incorporated into the CIP. Costs for large projects are estimated by engaging consulting engineers to prepare cost estimates, while cost estimates for smaller scale projects are determined by either surveying other public agencies or by utilizing costs from similar projects conducted by CMSA. Once the budget has been adopted, the Agency is required to comply with the California Uniform Public Construction Cost Accounting Act to acquire the assets and deliver the project. All construction and professional service contracts and purchases that are over the dollar threshold set by the aforementioned Act and CMSA policies require Board approval at an open public meeting.

The total cost of the CIP over the next ten years is approximately \$55 million. This 10-year CIP scope focuses primarily on replacing priority infrastructure and assets, and is funded by capacity charges, debt proceeds, debt service coverage revenues, a capital fee, and unrestricted capital reserves. The Agency's current revenue program began in FY19 and ends in FY23 and includes new debt issue \$9M proceeds to finance capital improvements. The balance of the ten-year program will be financed from capacity charges received, new debt issue proceeds in FY24 in the amount of \$10M, debt service coverage revenues, a capital fee, and unrestricted capital reserves estimated at \$4.1M as a financing source for additional priority projects.

### **Other Sources of Capital Funding**

When there is a new connection to the sanitary sewer system from a home or business in the CMSA service area, the Agency receives a capacity charge. The intent of the charge is to ensure that all new users pay their fair share of the capital costs of capacity of the wastewater treatment and disposal system. Each JPA Member agency charges a separate collection system connection fee. For a new connection, the JPA member agency collects the combined connection fee and capacity charge from the property owner/developer, and the capacity charge portion of the fee is remitted to CMSA. Central Marin County is a well-developed region with very little large scale residential or commercial expansions generally occurring in the combined CMSA service area. Capacity charges received during the fiscal year are accounted for per requirements of the California Government Code that CMSA disclose the amount of capacity charges collected within 180 days after the fiscal year and identify the public improvements or projects that were funded by the capacity charges. The amount of capacity charges that the Agency has received each fiscal year and the capital improvements funded by these charges can be found in the Agency's Comprehensive Annual Financial Report which is available on the Agency's website: <http://www.cmsa.us/finance/budget>.

### **Refining Capital Infrastructure Planning and Budgetary Impacts**

Over the last several years, the Agency invested in the development and use of a computerized asset management system. An important aspect of an asset management system is the ability to schedule maintenance and monitor operating performance of capital assets. The system database accumulates information on each asset, and the data is used to determine when it is no longer economically feasible to maintain an asset and when a replacement should be considered.

In the last five GFOA Budget presentations, the Agency had attempted to address the impact of CIP investments on future operating budgets. Most capital projects are approved to replace existing assets. Once a decision has been made to replace an existing asset, the Agency incorporates elements of operational savings such as energy efficiency, reduced chemical usage, or improved operational reliability, into the selection of the new asset. When capital assets are placed in service, the savings or increased operating costs are quantified and incorporated into the planning of the biennial budget to the extent possible.

## **FY20 & FY21 and 10-Year CIP Budget Documents**

Refer to the following documents for detailed information on the 10-Year CIP:

- 10 Year Capital Improvement Program Schedule. The schedule shows the Agency's planned capital activities for the next ten fiscal years
- Capital Improvement Program – Account/Project Descriptions. Each project, initiative, and activity in the 10-Year CIP expenditure plan is described by budget account number and serves to guide Agency staff in the execution of budgeted activities. The document identifies replacement schedules for equipment and assets and is a reference when assigning account numbers for purchase orders and payment of goods and services.
- Detailed Project Descriptions. Each large or multi-year initiative has a dedicated planning level document which describes the major capital project by its scope, justification, costs by fiscal year and activity, and includes photograph(s) of the project being described.

PROPOSED

**Proposed FY20 & FY21 Capital Improvement Program – Summary of Changes**

<b>Category</b>	<b>FY19 Adopted Budget</b>	<b>FY20 Proposed Budget</b>	<b>FY 21 Proposed Budget</b>
Facility Improvements	\$ 557,500	\$477,600	\$561,400
General Equipment	\$454,600	\$736,000	\$465,900
Liquid Treatment Equipment and Systems	\$1,220,200	\$1,349,400	\$1,898,300
Solids Treatment and Energy Generation	\$445,000	\$1,148,400	\$5,361,500
Staff Costs	\$185,200	\$189,200	\$197,500
<b>Total</b>	<b>\$2,862,500</b>	<b>\$3,900,600</b>	<b>\$8,484,600</b>

**FY20 & FY21 Priority Projects**

- 1) Industrial Coatings (\$483K): Apply coating above the water line in CCTs 1-4 and repair concrete cold joints and spalled concrete per the 2018 Master Plan Condition Assessment findings. Repair wear coating on the headworks deck and install wear coating on the CCTs 1-4.
- 2) Outfall Inspection & Repairs (\$114K): Routine inspection and riser extension or replacement of units found to be buried or damaged.
- 3) Facility Paving/Site Work (\$56K): Bid, award, and construction of a roadway repairs for failing portions of the roadway near the main gate, adjacent to the effluent storage pond and at the turn area near the CCT effluent gate.
- 4) Facility Roofs Rehabilitation (\$69K): Design and bid repair work for the aging portions of the Administration Building standing seam roof per the findings of the Fall 2018 roofing expert survey.
- 5) Facility Structures Seismic Study (\$207K): Conduct a study to quantify the risk of structural damage due to soil settlement and identify future structural improvement projects, if necessary.
- 6) IT Hardware and Communication Equipment (\$241K): One-time purchase of new Agency financial software in FY20 (\$135K) and allowance for routine replacement of Agency IT equipment, 15 SCADA workstations and upgrade/replacement of plant fiber runs.
- 7) Electrical Distribution System Rehabilitation (\$215K): Detailed consultant assessment of the main switchgear replacement options and associated cost and timing and manufacturer’s inspection and possible in-place refurbishment of existing equipment to extend its life span. Design and construction of HVAC improvements to the switchgear building per Master Plan recommendations and installation of new connection for temporary emergency generator to increase reliability/flexibility.

8) Process Tank Maintenance (\$535K): Replace original blowers and associated diffusers in the aerated grit tanks.

9) Secondary Clarifiers Rehabilitation (\$492K): Repair corrosion on mechanical equipment, metal structural components and pipes inside two clarifiers, and replace the turntable drive. This is the first and second year of a four year program to rehabilitate all four secondary clarifiers.

10) RAS/WAS Pump Replacement (\$389K): Prepare design documents for RAS/WAS pump replacement.

11) Process Piping Inspection/Repairs/Replacement (\$220K): Perform an interior inspection of large diameter buried pipelines in the treatment plant. The project potentially includes internal sealing of some or all of the elastomeric joints and other external pipe repairs, based on inspection results.

12) Influent Flow Meter Improvements (\$232K): Conduct a flow meter technology study to improve large diameter pipeline flow measurement accuracy and allowance for installing new flow meter technology pending the results of the flow meter technology survey.

13) Cogeneration Maintenance (\$460K): The existing cogeneration engine experienced a catastrophic failure event in May 2019 and is proposed to be repaired and re-built offsite in early FY20.

14) New Cogeneration System (\$5,579K): Final design of the new cogeneration system following the completion of the pre-design in FY19. The final design is expected to be completed in the spring of 2020 and construction is expected to begin shortly afterwards with the majority of the construction expected to be completed by the end of FY21.





Central Marin Sanitation Agency  
Capital Improvement Program  
FY20 & FY21 Proposed Budget and 10-Year Forecast

GL Account Number	PM*	Delivery Method	Adopted Budget For FY19	10-year CIP										Project Totals			
				1 Proposed FY20	2 Proposed FY21	3 FY22	4 FY23	5 FY24	6 FY25	7 FY26	8 FY27	9 FY28	10 FY29		Total FY20 - FY29		
<b>Facility Improvements</b>																	
7300-103-10	TSM	Effluent Storage Pond Rehabilitation	FB	-	-	-	-	-	41,300	1,306,500	-	-	-	-	-	1,347,800	1,347,800
7300-700-10	TSM	Agency Facilities Master Plan	PSA	30,000	-	-	-	-	-	-	-	-	-	-	-	-	-
7300-956-00	TSM	Industrial Coatings & Concrete Rehabilitation	IB/MC	215,000	209,100	274,200	21,000	147,100	22,000	22,400	22,900	140,300	23,900	24,400	907,300		
7300-987-00	TSM	Outfall Inspection & Repairs	IB/MC	33,000	80,000	34,000	423,200	35,500	36,300	37,100	37,900	38,700	39,500	40,400	802,600		
7400-945-00	TSM	Facility Improvements	IB	44,000	35,000	35,000	-	-	35,000	-	-	-	40,300	-	145,300		
7400-956-00	TSM	Facility Paving/Site Work	IB/MC	200,000	45,000	11,200	102,400	145,100	12,000	12,200	167,800	12,800	13,000	13,300	534,800		
7400-600-00	TSM	Hillside Slope Stabilization	FB	35,500	25,000	-	-	-	-	-	-	-	-	-	25,000		
7400-960-00	TSM	Facility Roofs Rehabilitation (3)	MC/IB/FB	-	68,500	-	228,600	25,000	25,600	26,100	20,000	150,000	27,900	28,500	600,200	600,200	
7400-967-00	TSM	SHB Elevator Control Replacement	IB	-	15,000	-	-	103,500	-	-	-	-	-	-	118,500	118,500	
7400-963-00	TSM	Facility Structures Seismic Study	PSA	-	-	207,000	-	-	-	-	-	-	-	-	207,000	207,000	
<b>Subtotal - Facility Improvements</b>				<b>557,500</b>	<b>477,600</b>	<b>561,400</b>	<b>775,200</b>	<b>456,200</b>	<b>130,900</b>	<b>139,100</b>	<b>1,555,100</b>	<b>341,800</b>	<b>144,600</b>	<b>106,600</b>	<b>4,688,500</b>		
<b>General Equipment</b>																	
7300-672-00	ISA	Process Control	M/MC	30,000	44,600	47,800	34,000	34,800	35,500	51,000	37,100	37,900	38,700	39,500	400,900		
7300-672-10	TSM/ISA	Security / Fire Systems	MC	25,000	10,500	15,000	11,000	11,400	11,500	16,300	12,000	17,000	12,500	17,700	134,900		
7300-683-00	MS/TSM	Fuel Storage Tanks	IB/MC	-	-	-	-	121,400	-	-	129,400	-	-	-	250,800		
7410-851-00	ISA	IT Hardware and Communication Equip	M	66,200	209,900	31,000	52,200	32,000	65,400	16,700	34,100	58,100	35,600	72,700	607,700		
7420-701-00	MS	Agency Vehicle Replacement	IB/PO	95,400	40,000	70,000	22,500	41,400	73,100	54,400	181,500	82,100	83,900	87,600	736,500		
7430-958-00	LD	Laboratory Equipment	PO	85,000	108,000	51,100	156,600	77,300	-	9,500	136,400	11,700	29,700	60,600	640,900		
7450-002-00	MS	Electrical Equipment	M/IB	100,000	120,000	100,000	109,000	98,000	94,000	85,000	86,900	88,700	90,700	92,600	964,900		
7450-002-10	MS	Plant Lighting	IB	22,000	14,000	15,000	16,000	10,000	10,000	-	-	-	-	-	65,000		
7450-102-00	MS	Process Instrumentation	M	31,000	79,000	31,000	25,000	25,600	26,100	26,700	27,300	27,900	28,500	29,100	326,200		
7450-105-00	MS	Electrical Distribution System Rehabilitation (3)	PSA/FB	-	110,000	105,000	-	474,784	2,335,700	203,000	-	211,800	-	-	3,440,284	3,440,284	
<b>Subtotal - General Equipment</b>				<b>454,600</b>	<b>736,000</b>	<b>465,900</b>	<b>426,300</b>	<b>926,684</b>	<b>2,651,300</b>	<b>462,600</b>	<b>644,700</b>	<b>535,200</b>	<b>319,600</b>	<b>399,800</b>	<b>7,568,084</b>		
<b>Liquids Treatment Equipment and Systems</b>																	
7300-685-00	TSM	Biotower Rotary Distributor Replacement	IB	-	-	-	-	-	-	1,009,300	-	-	-	-	1,009,300	1,009,300	
7300-700-00	MS	Plant Pumps	MC/M	63,300	80,000	66,100	67,600	69,000	70,500	72,000	73,600	75,100	76,800	78,400	729,100		
7300-719-00	MS	Chemical Pumps	M	80,600	77,600	155,200	181,000	67,000	56,400	57,700	58,900	60,200	61,500	62,800	838,300		
7300-720-00	MS	Gates Rehabilitation (3)	M/IB	436,400	474,500	79,400	81,200	82,900	437,700	86,500	88,400	90,300	92,200	94,200	1,607,300	1,632,300	
7300-727-00	MS	Headworks Equipment	M	27,400	28,900	29,600	30,200	361,100	31,500	255,600	1,056,200	33,600	34,300	35,000	1,896,000	1,923,614	
7300-981-00	TSM	Odor Control System Improvements	PSA/FB	-	20,000	-	-	-	2,003,600	-	2,276,800	1,546,800	-	-	5,847,200	5,847,200	
7300-983-00	MS	Process Tank Maintenance (3)	M/IB	70,000	60,000	535,800	62,700	85,000	86,900	88,700	90,700	92,600	94,600	72,700	1,269,700		
7400-965-00	TSM/MS	Primary Clarifiers Rehabilitation	M/FB	40,000	35,000	-	369,800	400,300	408,900	835,300	-	161,200	164,700	-	2,375,200	2,415,154	
7300-990-00	MS	Secondary Clarifiers Rehabilitation (3)	PSA/FB	150,000	185,000	306,500	313,100	287,800	156,700	-	-	-	-	-	1,249,100	1,269,100	
7300-991-00	TSM	RAS/WAS Pump Replacement (3)	FB	-	-	389,700	779,500	779,500	-	-	-	-	-	-	1,948,700	1,948,700	
7300-995-00	TPM	Aeration System Rehabilitation	M/IB	20,000	20,000	-	-	-	40,000	-	-	-	-	-	60,000		
7400-966-00	TSM	Process Piping Inspection/Repairs/Replacement	PSA	190,000	220,000	-	-	-	-	50,000	113,800	163,400	-	-	547,200	547,200	
7430-855-00	MS	Chemical Tanks	M/IB	45,000	65,100	69,400	100,000	37,200	44,400	10,000	46,600	56,100	57,400	58,600	544,800		
7430-857-00	MS	Piping, Valves & Operators	M	72,500	58,300	59,600	60,900	62,200	63,500	64,900	66,300	67,700	69,200	70,700	643,300		
7430-859-00	TSM	CCT Valve Rehabilitation	TSM	-	-	-	-	-	-	-	-	335,300	-	-	335,300		
7450-104-10	TSM	Influent Flow Meter Improvement	PSA	25,000	25,000	207,000	-	-	-	-	-	-	-	-	232,000		
7300-992-00	TSM	Nutrient Removal	TSM	-	-	-	-	-	-	-	-	-	-	-	-		
<b>Subtotal - Liquids Treatment Equipment and Systems</b>				<b>1,220,200</b>	<b>1,349,400</b>	<b>1,898,300</b>	<b>2,046,000</b>	<b>2,232,000</b>	<b>3,400,100</b>	<b>2,530,000</b>	<b>3,871,300</b>	<b>2,682,300</b>	<b>650,700</b>	<b>472,400</b>	<b>21,132,500</b>		

**Central Marin Sanitation Agency  
Capital Improvement Program  
FY20 and FY21 Proposed Budget and 10-Year Forecast**

GL Account Number	PM*	Delivery Method	Adopted Budget For FY19	10-year CIP										Project Totals	
				1 Proposed FY20	2 Proposed FY21	3 FY22	4 FY23	5 FY24	6 FY25	7 FY26	8 FY27	9 FY28	10 FY29		Total FY20 - FY29
<b>Solids Treatment and Energy Generation Equipment and Systems</b>															
7300-678-00	TSM	Emergency Generator Assessment & Improvement	-	-	-	95,000	-	-	80,300	<b>499,700</b>	<b>1,499,200</b>	-	-	2,174,200	
7300-691-00	TSM	Digester Inspection, Cleaning & Cover Replacement	-	-	-	-	-	-	<b>945,000</b>	<b>966,000</b>	-	-	-	1,911,000	
<b>7300-715-00</b>	<b>TSM/MS</b>	<b>Centrifuge Maintenance (3)</b>	<b>40,000</b>	-	50,000	-	<b>521,800</b>	<b>2,820,500</b>	-	-	-	-	-	<b>3,392,300</b>	<b>3,442,305</b>
<b>7300-722-00</b>	<b>MS</b>	<b>Cogeneration Maintenance</b>	<b>145,000</b>	<b>400,000</b>	<b>60,000</b>	62,700	<b>150,000</b>	65,400	66,800	68,200	69,700	71,200	72,700	<b>1,086,700</b>	<b>1,239,341</b>
<b>7300-729-00</b>	<b>TSM</b>	<b>New Cogeneration System (3)</b>	-	<b>598,226</b>	<b>5,063,164</b>	<b>1,687,721</b>	<b>114,000</b>	<b>1,559,700</b>	-	-	-	-	-	<b>9,022,811</b>	<b>9,022,811</b>
7300-724-00	MS	Hot Water Systems	14,900	29,000	37,800	26,100	31,000	31,600	32,300	37,500	5,900	6,000	6,100	243,300	
7300-728-00	TSM	Digester Mixing Pump Study	-	-	-	<b>100,000</b>	-	-	-	-	-	-	-	100,000	
7300-725-00	MS	Boilers and Gas Processing Equipment	74,500	13,000	-	-	-	-	<b>556,200</b>	-	-	-	-	569,200	
7300-977-00	MS	Sludge Recirculating Pump Grinders	18,900	19,400	19,900	20,300	20,700	21,200	21,600	22,100	22,600	23,000	23,500	214,300	
7300-978-00	MS	Biosolids Hoppers Maintenance	-	9,300	-	9,800	-	10,200	-	10,600	-	11,100	-	51,000	
7300-980-00	MS	Organic Waste Receiving Facility	51,700	54,500	55,700	56,900	<b>358,100</b>	59,400	60,700	62,000	63,300	64,700	66,000	901,300	
7300-660-00	TSM	PG&E Interconnection Agreement Modification	100,000	25,000	75,000	-	-	-	-	-	-	-	-	100,000	
<b>Subtotal - Solids Treatment and Energy Generation Equipment and Systems</b>			<b>445,000</b>	<b>1,148,426</b>	<b>5,361,564</b>	<b>2,058,521</b>	<b>1,195,600</b>	<b>4,568,000</b>	<b>1,762,900</b>	<b>1,666,100</b>	<b>1,660,700</b>	<b>176,000</b>	<b>168,300</b>	<b>19,766,111</b>	
<b>CMSA Staff Costs for CIP (2)</b>			185,200	189,200	197,500	197,500	201,700	206,000	210,500	215,000	219,600	224,300	229,100	2,090,400	
<b>Annual CIP Totals</b>			<b>2,862,500</b>	<b>3,900,626</b>	<b>8,484,664</b>	<b>5,503,521</b>	<b>5,012,184</b>	<b>10,956,300</b>	<b>5,105,100</b>	<b>7,952,200</b>	<b>5,439,600</b>	<b>1,515,200</b>	<b>1,376,200</b>	<b>55,245,595</b>	

\* PM indicates the project manager for the account.

(1) **BOLD items are individual Capital Improvement Projects, or larger, nonrecurring maintenance projects.**

(2) CMSA Staffing costs (compensation and benefits) for identified CIP projects.

(3) CIP Projects in FY20 & FY21 that will have staff time charged to the CIP.

<b>Projected Annual Escalation Rate:</b>	<b>2.15%</b>	(rolling 5-year average of ENR San Francisco Construction Cost Index (CCI) annual changes)									
<b>Escalation Factors:</b>	1.0215	1.0435	1.0659	1.0888	1.1122	1.1361	1.1606	1.1855	1.2110	1.2370	

Delivery Methods	
M	Maintenance project, self performed
MC	Maintenance Contract
PO	Purchase Order, equipment only
PSA	Professional Services Agreement
IB	Informally Bid
FB	Formally Bid

Facility Improvements		
ACCOUNT NUMBER	ACCOUNT / PROJECT TITLE	ACCOUNT / PROJECT DESCRIPTION
7300-103-10	Effluent Storage Pond Rehabilitation	See Full Page Description.
7300-700-10	Agency Facilities Master Plan	See Full Page Description.
7300-956-00	Industrial Coatings & Concrete Rehabilitation	<p>Scheduled industrial coating rehabilitation program for process structures, metal equipment, and treatment plant deck traffic coatings. Coating rehabilitation will be included as part of a larger project when appropriate. The condition of concrete structures will be periodically assessed and projects will be added as needed.</p> <p>FY20 – Replace headworks structural metal (skylights, pipe supports, etc.) and apply new epoxy coating on the new metal and the grit tank handrails. Apply new epoxy paint on the CCTs 5 &amp; 6 piping and repair the CCTs 1-4 concrete cold joints and inspect spalled concrete below the water line in CCTs 1-4.</p> <p>FY21 – Repair wear coating on the headworks deck and install wear coating on CCTs 1-4. Apply coating above water lines in CCTs 1-4, including repair of exposed rebar below the water lines.</p> <p>FY22 – Allowance for industrial coatings as needed.</p> <p>FY23 – Repair the saw cut floor area in the digester basement (Master Plan Project 13-2).</p> <p>FY24-26 – Allowance for industrial coating as needed.</p> <p>FY27 – Repair cracked concrete in the ferric storage room and recoat the floor (Master Plan Project 04-5).</p> <p>FY28-29 – Allowance for industrial coating as needed.</p>
7300-987-00	Outfall Inspection & Repairs	<p>On-going underwater inspection and maintenance of the marine outfall diffuser section. Activities include diver inspections of diffusers and risers, survey of diffuser check valve levels above shifting bay floor sediments, extending or replacing risers and diffuser check valves as needed, and periodic monitoring and removal of solids deposition inside outfall pipe.</p> <p>FY20 – Routine inspection and riser extension or replacement of units found to be buried/damaged (assumed 20 total for budgeting), as needed.</p> <p>FY21 – Routine inspection and riser extension or replacement (assumed 5 per year), as needed.</p> <p>FY22 – Allowance for outfall diffuser section interior cleaning. If the previous year’s interior solids monitoring indicates the solids accumulation is minor, it will be deferred until a future year based on the solids accumulation rate from FY14 to FY20.</p> <p>FY23-29 – Routine inspection and riser extension or replacement (assumed 5 per year), as needed.</p>

Facility Improvements		
ACCOUNT NUMBER	ACCOUNT / PROJECT TITLE	ACCOUNT / PROJECT DESCRIPTION
7400-945-00	Facility Improvements	<p>This account is for various building improvements that are not incorporated into other capital projects.</p> <p>FY20 – Siding replacements for the final effluent sample vault.</p> <p>FY21 – Allowance for replacement of six personnel access doors throughout the facility (four at headworks and two at solids load bay). Also replace two roll-up doors at maintenance annex.</p> <p>FY24 – Allowance for building improvements.</p> <p>FY28 – Allowance for building improvements.</p>
7400-956-00	Facility Paving/ Site Work	<p>This account is for minor paving repairs and associated site work on internal facility roads, walkways, parking lots, and other pavement, and for re-grading, cleaning, and replacing gravel in drainage ditches.</p> <p>FY20 – Allowance for spot repairs of failed/cracking roadway surface near main gate, adjacent to effluent storage point and at curved roadway turn near the CCT effluent area.</p> <p>FY21 – Allowance for miscellaneous paving improvements.</p> <p>FY22 – Allowance for a major plant slurry seal and striping project (plant road from gate to OWRF).</p> <p>FY23 – Allowance for a major plant paving project (employee parking area).</p> <p>FY24-25 – Allowance for miscellaneous paving improvements.</p> <p>FY26 – Allowance for a major plant paving project (plant road from primary clarifiers to SHB).</p>
7400-600-00	Hillside Slope Stabilization	<p>Several significant landslides occurred on the hillside adjacent to Andersen Drive during the 2017 winter storms. CMSA submitted a request for FEMA funding to repair the slope failures and received approval of our Request for Public Assistance. FEMA and Cal OES funds cover the majority of the project costs. As of April 2019, the CMSA share is expected to be approximately \$25,000 in FY20.</p>
7400-960-00	Facility Roofs Rehabilitation	See Full Page Description.
7400-967-00	SHB Elevator Control Replacement	See Full Page Description.
7400-963-00	Facility Structures Seismic Study	See Full Page Description.

General Equipment		
ACCOUNT NUMBER	ACCOUNT / PROJECT TITLE	ACCOUNT / PROJECT DESCRIPTION
7300-672-00	Process Control	<p>Allowances for on-going replacement, upgrades, and improvements to the Agency's process control system including new instruments, servers, and computers; and Programmable Logic Controllers (PLCs) and Human Machine Interface (HMI) hardware and software. Annual allowance is based on escalated costs from previous years. Actual cost estimates are used for specifically identified equipment.</p> <p>FY20 – Routine PLC and HMI hardware replacement. Identify and purchase critical spares. Upgrade two PLCs and associated analog IO modules. Hilltop repeater wind generator/battery replacements. Add UHF radio receiver to hilltop to extend portable radio reception to majority of service area.</p> <p>FY21-24 – Routine PLC and HMI hardware replacement. Identify and purchase critical spares.</p> <p>FY25 – SCADA system software review and potential upgrades.</p> <p>FY26-29 – Routine PLC and HMI hardware replacement.</p>
7300-672-10	Security/ Fire Systems	<p>Allowance for projects related to the Agency's physical security and fire protections systems, including a biannual allowance to purchase replacement equipment as needed.</p> <p>FY20-29 – Allowance for annual and quarterly inspections of alarms and sprinklers.</p> <p>FY23 – Complete 5-year inspection for sprinkler system. The annual sprinkler inspection would not be required during this Fiscal Year.</p> <p>Note: allowance for alarm and sprinkler related spare parts is included every other year.</p>
7300-683-00	Fuel Storage Tanks	<p>Allowance to replace the existing underground fuel storage tanks with above ground storage tanks. This replacement would be triggered by one of the underground tanks failing or by a change in regulatory requirements. It is expected that any regulatory change would provide sufficient time for the replacement to occur in the fiscal year following the change. During the design and construction of the new cogeneration system, synergies will be evaluated regarding moving the diesel storage tank in the area to an above ground location.</p>

General Equipment		
ACCOUNT NUMBER	ACCOUNT / PROJECT TITLE	ACCOUNT / PROJECT DESCRIPTION
7410-851-00	IT Hardware and Communication Equip	<p>Routine repair and regular replacement of IT hardware and software, such as office computers, printers, scanners, digital telephone equipment and its supporting servers, and voice radio equipment used by Agency staff.</p> <p>FY20 – Allowance for equipment listed above and upgrade/replacement of plant fiber runs. One-time allowance for purchase of new Agency financial software package.</p> <p>FY21 – Allowance for equipment listed above and replacement of 15 SCADA workstations.</p> <p>FY22 – Allowance for equipment listed above and replacement of the data servers on which all Agency business and SCADA virtual servers run.</p> <p>FY23 – Allowance for equipment listed above and replacement of backup repository.</p> <p>FY24 – Allowance for equipment listed above and upgrade of 45 business computers and 5 laptops.</p> <p>FY25 – Allowance for equipment listed above.</p> <p>FY26 – Allowance for equipment listed above and replacement of 15 SCADA workstations.</p> <p>FY27 – Allowance for equipment listed above and replacement of the CMSA data servers on which all agency business and SCADA virtual servers run.</p> <p>FY28 – Allowance for equipment listed above and replacement of backup repository.</p> <p>FY29 – Allowance for equipment listed above and upgrade of 45 business computers and 5 laptops.</p>
7420-701-00	Agency Vehicle Replacement	<p>Purchase new vehicles or equipment for passenger vehicles, trucks, forklift, bicycles, and electric carts as they reach or exceed their expected useful lives.</p> <p>FY20 – Replace one carpool vehicle and one electric cart.</p> <p>FY21 – Replace one carpool vehicle, one forklift, and one electric cart.</p> <p>FY22 – Replace tires on all-terrain forklift electric cart and five bicycles.</p> <p>FY23 – Replace F150 environmental services truck.</p> <p>FY24 – Replace skid steer loader and replace batteries for administration Prius.</p> <p>FY25 – Replace Ford E250 van.</p> <p>FY26 – Replace F450 flatbed with a mechanic’s truck, and one electric cart.</p> <p>FY27 – Replace F150 Utility truck vehicle and one electric cart.</p> <p>FY28 – Replace pump station rounds truck, GM vehicle, and two electric carts.</p> <p>FY29 – Replace Technical Services Transit.</p>

General Equipment		
ACCOUNT NUMBER	ACCOUNT / PROJECT TITLE	ACCOUNT / PROJECT DESCRIPTION
7430-958-00	Laboratory Equipment	<p>This account includes allowances for scheduled replacement of laboratory equipment such as autoclaves, spectrophotometers, collection/sampler systems, washers, incubators, bioassay system, etc.</p> <p>FY20 – Replace and relocate the bioassay system to the end analyzer room and complete minor room modifications (walls, lighting, electrical etc) to accommodate the system at the new location. Replace ammonia distillation system and chlorine titrator. Purchase and install a TKN digestion system and online temperature monitoring.</p> <p>FY21 – Purchase and install an Ion Chromatography (IC) System for cations and anions.</p> <p>FY22 – Purchase and install an ICP-OES for metals analysis.</p> <p>FY23 – Purchase a microscope, microbiological incubator replacement, and a reagent refrigerator.</p> <p>FY25 – Replace San Quentin composite sampler.</p> <p>FY26 – Purchase FIA system (ammonia, total P, cyanide).</p> <p>FY27 – Replace chlorine titrators.</p> <p>FY28 – Replace Ovens and muffle furnace.</p> <p>FY29 – Purchase/replace influent and effluent samplers, analytical balance, and UV spectrophotometer.</p>
7450-002-00	Electrical Equipment	<p>This account includes allowances for planned maintenance, upgrading, and replacement of Agency electrical components: individual motor controls and equipment panels, electric sluice gate operators, variable frequency drives, and electrical equipment to support process equipment.</p> <p>FY20 – Replace five valve actuators on the hypochlorite tank piping system and replace maintenance shop high voltage transformer.</p> <p>FY21 – Purchase a spare actuator for the 66-inch effluent valve.</p> <p>FY22 – Replace Control Room uninterruptible power source and purchase a spare actuator for the 72-inch gate.</p> <p>FY23 – Purchase a spare actuator for the 84-inch gate.</p> <p>FY24 – Purchase spare actuators for 4-inch to 8-inch valves.</p> <p>FY25-29 – Annual Allowance for replacement of equipment as determined by condition assessment as needed, including actuators, MCC buckets, conduit replacement, etc.</p>

General Equipment		
ACCOUNT NUMBER	ACCOUNT / PROJECT TITLE	ACCOUNT / PROJECT DESCRIPTION
7450-002-10	Plant Lighting	<p>This account includes allowances to replace low efficiency lights with LED lighting that consumes less power and reduces light pollution. Each project is grouped by lighting fixture type and will be completed by staff or an electrical contractor.</p> <p>FY20 – Replace HPS lighting in the grit loading bay, solids loading bay, and the secondary clarifier and effluent pump station wall packs.</p> <p>FY21 – Replace HPS lighting in the bollards around the Administration Building and on light poles by the above ground diesel storage tank, 66-inch valve vault, OWRF, and sulfatreat vessels.</p> <p>FY22 – Replace HPS lighting on Primary Clarifiers No. 6 &amp; 7, CCTs 5 &amp; 6, and polymer station.</p> <p>FY23 – Allowance to replace any remaining HPS lighting.</p> <p>FY24 – Allowance for replacement of fixtures as needed.</p>
7450-102-00	Process Instrumentation	<p>This account includes allowances for on-going repair, replacement, or upgrading of obsolete meters, sensors, and transmitters per year, and to provide local process status information and transmit it to the treatment plant's SCADA system. Annual allowance is based on equipment costs from previous years and has been escalated to current and future dollars.</p> <p>FY20 – Allowance for above equipment, plus replace final effluent strip chart recorder and portable gas monitors as needed. Purchase high/low pressure switch instrumentation calibration equipment. Purchase secondary system flow meter.</p> <p>FY21 – Install flow meters for centrifuge ferric chloride addition, two DO probes, two CL2 probes, two SBS probes, and two aeration basin analyzer controllers.</p> <p>FY22 – Level sensor for site sump, replace headworks atmospheric monitoring equipment and control panel.</p> <p>FY23 – Procure two analyzers controllers (CL2/SBS) and digester lazer level indicator.</p> <p>FY24 – Flow meters, WAS and primary sludge meters in solids handling area.</p> <p>FY25 – Differential PSI (biogas and digester membranes) transmitters, and two analyzer controllers.</p> <p>FY26 – Replace Rosemount digester PSI/liquid level transmitters if not completed with digester inspection, cleaning, and rehabilitation project work.</p> <p>FY27 – Replace RAS flow meter and two analyzer controllers.</p> <p>FY28 – Allowance for above equipment, plus replace the OWRF atmospheric monitoring equipment.</p> <p>FY29 – Allowance for above equipment.</p>



General Equipment		
ACCOUNT NUMBER	ACCOUNT / PROJECT TITLE	ACCOUNT / PROJECT DESCRIPTION
7450-105-00	Electrical Distribution System Rehabilitation	See Full Page Description.

PROPOSED

**Liquid Treatment Processes and Equipment**

ACCOUNT NUMBER	ACCOUNT / PROJECT TITLE	ACCOUNT / PROJECT DESCRIPTION
7300-685-00	Biotower Rotary Distributor Replacement	See Full Page Description.
7300-700-00	Plant Pumps	<p>Scheduled replacement of centrifugal, positive displacement, and chopper pumps. These pumps transport primary sludge, WAS, contact tank scum, and other liquids throughout the facility. This account also includes digester mixing pumps.</p> <p>FY20 – Replace three carrier water pumps.</p> <p>FY21 – Refurbish one biotower pump. Replace two primary scum pumps, two plant sump pumps, and one bioassay staged pump.</p> <p>FY22 – Refurbish three recycled water pumps and one scum pump. Replace two headworks sample pump, two sump pumps, and two bioassay staged pumps.</p> <p>FY23 – Replace two sump pumps and two secondary scum pumps. Allowance to replace additional pumps identified by condition assessments.</p> <p>FY24 – Refurbish two digester mixing pumps. Allowance to replace additional pumps identified by condition assessments.</p> <p>FY25 – Replace CCT scum pumps with centrifugal style pump.</p> <p>FY26 – Centrifuge feed pumps, if not included in Centrifuge Replacement Project.</p> <p>FY27 – Replace two TWAS pumps at RDTs.</p> <p>FY28-29 – Allowance to replace pumps identified by condition assessments.</p>
7300-719-00	Chemical Pumps	<p>This account includes an allowance for regular refurbishment or replacement, based on a condition assessment, of pumps and related equipment for the delivery of specific chemicals at various treatment unit processes. Chemical pumps include those for ferric chloride, hydrogen peroxide, calcium nitrate, sodium hypochlorite, emulsion polymer, and sodium bisulfite.</p> <p>FY20 – Replace eight nitrate solution metering pumps and replace one chemical induction mixer.</p> <p>FY21 – Replace five disinfection (chlorine solution) metering pumps and one chemical induction mixer.</p> <p>FY22 – Replace five sodium bisulfite metering pumps, two chemical transfer pumps, and one chemical induction mixer.</p> <p>FY23 – Refurbish one polymer feed pump and one chemical induction mixer. Replace two headworks ferric chloride metering pumps.</p> <p>FY24 – Replace two polymer activation units in SHB.</p> <p>FY25 – Replace polymer blend unit (skid) at RDTs.</p> <p>FY26 -29 – Above allowances to replace chemical pumps based on condition assessment (same budget each year).</p>

**Liquid Treatment Processes and Equipment**

<b>ACCOUNT NUMBER</b>	<b>ACCOUNT / PROJECT TITLE</b>	<b>ACCOUNT / PROJECT DESCRIPTION</b>
7300-720-00	Gates Rehabilitation	See Full Page Description.
7300-727-00	Headworks Equipment	See Full Page Description.
7300-981-00	Odor Control System Improvements	See Full Page Description.
7300-983-00	Process Tank Maintenance	<p>Refurbishment and replacement of mechanical equipment such as drive mechanisms, media vessels, and blowers in all process tanks and systems throughout the treatment facility.</p> <p>FY20 – Allowance for above equipment, plus refurbish or repair reclaimed water piping which supports tank wash down equipment. Replacement of secondary clarifier and CCT toe kick materials.</p> <p>FY21 – Replace original blowers and associated diffusers in the aerated grit tanks (Master Plan Project 04-3).</p> <p>FY22 – Allowance for above equipment, plus perform a condition assessment of siloxane media vessels, hydrogen sulfide media vessels, and appurtenances.</p> <p>FY23-28 – Allowance for flights/chain/sprockets/wear strips for one primary clarifer each year.</p> <p>FY29 – General tank related replacement of equipment as determined by condition assessment.</p>
7400-965-00	Primary Clarifiers Rehabilitation	See Full Page Description.
7300-990-00	Secondary Clarifiers Rehabilitation	See Full Page Description.
7300-991-00	RAS/WAS Pump Replacement	See Full Page Description.
7300-995-00	Aeration System Rehabilitation	<p>This new account includes replacement and rehabilitation of aeration system equipment.</p> <p>FY20 – Blower 2 core refurbishment due to findings on Blower 4.</p> <p>FY24 – Replace aeration diffuser membranes in all four tanks.</p>
7400-966-00	Process Piping Inspection/Repairs/Replacement	See Full Page Description.

**Liquid Treatment Processes and Equipment**

ACCOUNT NUMBER	ACCOUNT / PROJECT TITLE	ACCOUNT / PROJECT DESCRIPTION
7430-855-00	Chemical Tanks	<p>Replacement of chemical storage tanks used throughout the treatment plant and in the collection system as they approach the end of their service lives. There are five sodium hypochlorite, two sodium bisulfite, two hydrogen peroxide, two polymer, four calcium nitrate, and three ferric chloride tanks. The replacement schedule is subject to change based on annual condition assessment inspection results.</p> <p>FY20 – Replace one sodium hypochlorite tank and the Paradise nitrate tank (due to construction at Greenbrae).</p> <p>FY21 – Replace one sodium hypochlorite tank and the Greenbrae nitrate tank.</p> <p>FY22 – Replace the North Francisco nitrate tank and assess the headworks bulk ferric chloride storage tanks.</p> <p>FY23 – Consultant to assess the SHB polymer bulk storage tank.</p> <p>FY24 – Allowance for an unspecified tank replacement.</p> <p>FY25 – Replace a sodium bisulfite tank. Perform an assessment on the effluent pump station’s convault diesel storage tank.</p> <p>FY26-29 – Allowance for an unspecified tank replacement.</p>
7430-857-00	Piping, Valves & Operators	<p>There are over 750 plug valves in the treatment plant’s process systems, ranging in size up to 12” in diameter. This account includes annual allowances for routine maintenance and periodic replacement of these valves, their operators, and associated piping. This allowance may change as on-going condition assessments are completed.</p> <p>FY20 – Replace six 4” Gallery A and nine 6” in Gallery C expansion joints.</p> <p>FY21 – Replace fire protection pipeline and valve system in selected location in the galleries.</p> <p>FY22 – Replace valves associated with Digester No. 1. Include 18” MOVs and actuators based on assesment.</p> <p>FY23 – Replace valves associated with Digester No. 2. Include 18” MOVs and actuators based on assessment.</p> <p>FY24 – Replace the hot water pipe system into the Administration Building.</p> <p>FY25-29 – Allowance for repairs as determined by future condition assessments.</p>
7430-859-00	CCT Valve Rehabilitation	<p>The telescoping valves in the CCTs 1 through 4 are used to remove debris floating on the water surface. There is also a motor operated bar screen that removes debris from effluent that is diverted for recycled water usage.</p> <p>FY27 – The 2018 Facilities Master Plan recommends replacing the telescoping valves in CCTs 1 through 4 (Master Plan Project 09-2). An option that will be explored is to replace the telescoping valves with rotating pipe skimmers with motorized actuators. This project also includes replacing the recycled water screen.</p>

**Liquid Treatment Processes and Equipment**

<b>ACCOUNT NUMBER</b>	<b>ACCOUNT / PROJECT TITLE</b>	<b>ACCOUNT / PROJECT DESCRIPTION</b>
7450-104-10	Influent Flow Meter Improvement	Both the 45” San Rafael Interceptor and the 54” Ross Valley Interceptor were fitted with insertion magnetic-type meters in FY 11. Having both the original ultrasonic meters plus the magnetic meters can improve their accuracy in measuring large flow variations. FY20 – Conduct a flow meter technology study to improve large diameter pipeline flow measurement accuracy. FY21 – Allowance to install new flow meter technology pending the results of the flow meter technology survey.

PROPOSED

**Solids Treatment and Energy Generation Equipment and Systems**

ACCOUNT NUMBER	ACCOUNT / PROJECT TITLE	ACCOUNT / PROJECT DESCRIPTION
7300-678-00	Emergency Generator Assessment & Improvement	<p>The emergency generator provides power to Agency facilities when utility power is not available and the cogeneration system is offline. The emergency generator system was installed in 1985 and consists of an electrical generator connected to a diesel-fueled reciprocating engine. While the equipment is relatively old, it has had minimal usage and is maintained per manufacturer's recommendations.</p> <p>FY22 – Complete an inspection and major preventive maintenance of the emergency generator and heat exchanger (only complete after temporary emergency generator connection is in place)</p> <p>FY25 – A consultant will conduct an assessment of the generator for condition, air emissions, and reliability. The budget includes an allowance for a preliminary design report that will include an estimate of the cost to rehabilitate or replace the equipment.</p> <p>FY26-27 – Allowance to fund design and installation of a replacement emergency generator based on findings of the assessment and preliminary design report.</p>
7300-691-00	Digester Inspection, Cleaning and Cover Replacement	<p>This account includes allowance for periodic cleaning and inspection of each anaerobic digester every 10 years based on conservative estimates of their membrane covers' service lives. Agency staff will drain the tanks to allow a contractor to remove material that has accumulated inside the tanks. A specialty contractor will replace the membrane covers after the cleaning is complete and then staff will return each digester to service. Project timing may also be adjusted based on actual digester process performance.</p> <p>FY25 – Allowance to clean and inspect the interior of Digester No. 1 and replace its dual membrane cover.</p> <p>FY26 – Allowance to clean and inspect the interior of Digester No. 2 and replace its dual membrane cover.</p>
7300-715-00	Centrifuge Maintenance	See Full Page Description.
7300-722-00	Cogeneration Maintenance	See Full Page Description.
7300-729-00	New Cogeneration System	See Full Page Description.

**Solids Treatment and Energy Generation Equipment and Systems**

ACCOUNT NUMBER	ACCOUNT / PROJECT TITLE	ACCOUNT / PROJECT DESCRIPTION
7300-724-00	Hot Water Systems	<p>Repair and replacement of hot water system pumps, valves, flex fittings, insulation, and piping as needed to maintain the system that supplies hot water to the digesters, other Agency facilities, and the Administration Building.</p> <p>FY20-26 – Replace aging insulation and/or install PVC jacketing on hot water pipes in Galleries A, B, C, and F and the Carport Area according to insulation replacement schedule.</p> <p>FY20-29 – Annual allowance for system repairs as needed, failing valves, piping leaks, booster pumps, and seals.</p>
7300-728-00	Digester Mixing Pump Study	<p>The 2018 Facilities Master Plan noted that the digester mixing pumps have significant vibration and there are cracks in the pump room walls. In FY19 staff installed VFDs on the pumps and began evaluation of potential pump speed changes to alleviate vibration which, if found feasible, would be implemented and monitored through FY20.</p> <p>FY22 – Depending on staff findings of pump speed change evaluation in FY20, conduct a consultant-led study to investigate the cause of the digester mixing pump vibration, any potential relationship to cracks in the pump room walls, and the need for an additional support system for the suction and discharge pipes. Depending on the results of the organic loading rate pilot study and future direction of the organic waste program, the digester mixing pump study would also explore options for additional mixing system improvements to enable an expanded co-digestion program (i.e. higher digester solids content).</p>
7300-725-00	Boilers and Gas Processing	<p>Scheduled inspection, repair, and/or replacement of boiler tubes that are used to heat water for the Agency’s hot water systems when the cogeneration engine is offline.</p> <p>FY20 – Allowance for canister and de-mister filters and psi regulating fuel valves.</p> <p>FY25 – Replacement of two existing boilers, upgraded to meet future Bay Area Air Quality Management District requirements.</p>
7300-977-00	Sludge Recirculating Pump Grinders	<p>An annual allowance for replacement of one to two sludge grinders’ high-wear cutter cassettes.</p>
7300-978-00	Biosolids Hoppers Maintenance	<p>An allowance for monitoring and minor repairs to biosolids hoppers, gates, and hydraulic actuators. When centrifuges are scheduled for replacement, improvements to the hoppers will be coordinated with that project.</p> <p>FY20-29 – Allowance for minor maintenance of mechanical equipment every other year.</p>

**Solids Treatment and Energy Generation Equipment and Systems**

ACCOUNT NUMBER	ACCOUNT / PROJECT TITLE	ACCOUNT / PROJECT DESCRIPTION
7300-980-00	Organic Waste Receiving Facility	<p>New account for repairs and replacement of pumps, valves, monitors, and other equipment in the Organic Waste Receiving Facility (OWRF). Due to the high solids content and low pH of the organic slurry, equipment in the OWRF requires frequent repairs and/or replacement. The annual allowance is based on the cost of equipment typically consumed in a year.</p> <p>FY20 – Allowance for one piston style pump to replace one hose pump and two mixing pumps.</p> <p>FY21 – Allowance for two mixing pumps or technology transition to propeller or other mixers.</p> <p>FY22 – Replace mixing pump check valves, two mixing pumps, and paddle finisher paddles and screen.</p> <p>FY23 – New FOG/OW 4” receiving and 6” sludge recirculation MOVs and new hot water cleaning system (stationary steam cleaning system). Two mixing pumps if still utilizing this technology. Install above ground FOG storage tank after new cogeneration system is online in order to provide additional FOG storage capacity to maximize the generation of tipping fee revenues and maximize the export of renewable power to the grid at all times of the day.</p> <p>FY24 – MCC AC unit and PLC upgrade.</p> <p>FY25-29 – Annual allowance for equipment repairs.</p>
7300-660-00	PG&E Interconnection Agreement Modification	<p>Based on the actual cost for the previous PG&amp;E Interconnection Agreement Modification, an allowance is included for a new PG&amp;E Interconnection Agreement Modification in FY20 &amp; FY21 associated with the design and construction of the new cogeneration system.</p> <p>FY20-21 – Allowance for any modifications during the new cogeneration system design and construction.</p>
No Account Number	CMSA Staff Costs for CIP Projects	<p>Capitalization of compensation and benefits for CMSA staff time to manage design of, contracting for, and construction of CIP projects, as listed below. Costs are based on estimated staff time totaling two Full Time Equivalencies (FTEs). Costs for future years will be modified for each current fiscal year in that year’s CIP budget. The projects identified for staff cost capitalization in FY20 &amp; FY21 are:</p> <ul style="list-style-type: none"> <li>7300-720-00 Gates Rehabilitation</li> <li>7300-983-00 Process Tank Maintenance</li> <li>7300-990-00 Secondary Clarifiers Rehabilitation</li> <li>7400-960-00 Facility Roofs Rehabilitation</li> <li>7450-105-00 Electrical Distribution System Rehabilitation</li> <li>7300-715-00 Centrifuge Maintenance</li> <li>7300-991-00 RAS/WAS Pump Replacement</li> <li>7300-729-00 New Cogeneration System</li> </ul>



<b>Effluent Storage Pond Rehabilitation (GL 7300-103-10)</b>			
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b>	Technical Services
<b>Project Delivery</b>	Formally Bid		
<b>Description and Justification</b>	The effluent storage pond was constructed over a deep layer of Young Bay Mud that settles unevenly under the pond. This causes loss of capacity due to berm settling, and small areas of shallow standing water after the pond is emptied due to bottom settling. The berm was reconstructed and raised in 2007, including a new geotextile liner and new sections of intake and outlet piping. There is an allowance for surveying in FY25 and potential renovation of berms and bottom in FY26, depending on the survey results.		
<b>Risk Assessment</b>	This is a low risk project because berm settlement does not occur rapidly. Berm condition will be regularly monitored and the survey timing can be adjusted if necessary.		
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>	
FY25	Survey and design improvements to entire berm, top road, and pond bottom for excessive or uneven settlement	41,300	
FY26	Based on survey results, allowance for re-grading the pond bottom and/or raising the berm, including extending and re-anchoring the buried extra liner material and rebuilding the service road on top of the berm	1,306,500	
		<b>Project Total</b>	<b>\$1,347,800</b>

**Project Photo:**



*Effluent Storage Pond*

<b>Facility Roofs Rehabilitation (GL 7400-960-00)</b>		
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b> Technical Services
<b>Project Delivery</b>	Maintenance Contract/Informally Bid/Formally Bid	
<b>Description and Justification</b>	In FY15, the Agency had a roofing expert survey all its building roofs. The assessment indicated that the original standing seam metal roofs are in good condition. Therefore, planned replacement of the roofs has been postponed. This item contains allowances to rehabilitate portions of the standing seam metal and built-up roofs as needed, and to perform minor repairs on their supporting structures, if required. The various agency built-up roofs were mostly re-done around 2007 and are not expected to require full replacement until around 2030. Allowances are included below for minor repairs on the built-up and standing seam roofs until their complete replacement.	
<b>Risk Assessment</b>	This is a medium risk project as the fall 2018 roof inspection indicated that the roof systems are generally in good condition, with the exception of the items described above.	
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>
FY20	Aging portions of the Administration Building standing seam roof will be repaired and the cost was estimated at 15 percent of the Fall 2018 roofing expert survey estimate. Prepare construction documents to bid and perform a contract for roof system repairs, structural repairs, and/or seismic upgrades.	68,500
FY22	Complete similar work to above row on aging portions of the Maintenance building.	68,500
FY22	Repair Solids Handling Building roof in conjunction with cogeneration project.	160,100
FY23-25	Annual allowance to patch repair facility standing seam and built-up roof areas as needed before full replacement around 2030.	76,700
FY26	Condition Assessment of Agency roofs.	20,000
FY27	Allowance for repairs depending on Condition Assessment results.	150,000
FY23-29	Annual allowance to patch repair facility standing seam and built-up roof areas as needed before full replacement around 2030.	56,400
<b>Project Total</b>		<b>\$600,200</b>

**Project Photo:**



*Maintenance Building with standing seam metal roofs*

<b>Solids Handling Building Elevator Control Replacement (GL 7400-967-00)</b>			
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b>	Technical Services
<b>Project Delivery</b>	Informally Bid		
<b>Description and Justification</b>	The 2018 Facility Master Plan condition assessment initially recommended replacing the entire elevator (Master Plan Project 12-5) of the Solids Handling Building (SHB). After further discussions with staff and reviewing inspection reports, it was determined that the mechanical components of the elevator still have several years of remaining life. However, the control system will need to be replaced due to age and issues that have required increased maintenance in recent years.		
<b>Risk Assessment</b>	This is a medium risk project. The control system has required increased maintenance and will potentially not pass an annual inspection in the near future if it is not replaced.		
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>	
FY20	Major elevator maintenance to ensure compliance with permit.	15,000	
FY23	Replace the SHB elevator control system.	103,500	
		<b>Project Total</b>	<b>\$118,500</b>

**Project Photos:**



*Solids Handling Building Elevator*



*Elevator Control Panel*

Facility Structures Seismic Study (GL 7400-963-00)		
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b> Technical Services
<b>Project Delivery</b>	Professional Services Agreement	
<b>Description and Justification</b>	The 2018 Facility Master Plan recommends conducting a study to evaluate seismic impacts due to soil settlement (Master Plan Project 99-1). Subsidence of the ground has been observed in multiple locations throughout the facility, including in the immediate areas around process tanks. Because structures were constructed on pile foundations, the settlement has produced gaps under the bottom of the structures. It is possible that the original seismic design was dependent on the tops of the piles being at grade and fully supported. With the tops of the piles currently above grade and exposed, the unsupported pile length may be overstressed during an earthquake resulting in structural damage. Ground settlement may have also affected the stresses on buried piping between process areas.	
<b>Risk Assessment</b>	This is a medium risk project due to the unknown risk posed to facility structures resulting from soil settlement.	
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>
FY21	Conduct a study to quantify the risk of structural damage due to soil settlement and identify future structural improvement projects, if necessary.	207,000
<b>Project Total</b>		<b>\$207,000</b>

**Project Photos:**



*Stair modifications to account for settlement*



*Exposed bottom of process tank*

<b>Electrical Distribution System Rehabilitation (GL 7450-105-00)</b>			
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b>	Technical Services
<b>Project Delivery</b>	Professional Services Agreement/Formally Bid		
<b>Description and Justification</b>	The 2018 Facility Master Plan recommends replacing the main electrical switchgear components that distribute power throughout the facility (Master Plan Project 14-1). The existing switchgear electrical components are mostly comprised of equipment from 1985. While most of the equipment is operational, it is increasingly difficult to locate replacements because manufacturers no longer provide full technical support. A detailed assessment of the equipment is proposed to evaluate the cost, siting impacts, and construction sequencing and timing considerations for full equipment replacement, while also factoring in potential future load increases for the facility. In parallel, an inspection and in-place refurbishment of existing equipment will be completed, and minor improvements will be constructed including HVAC improvements and provisions for the connection of a temporary emergency generator. This project also includes allowances to replace motor control centers (MCCs) located in several treatment process areas when condition assessment findings warrant replacement.		
<b>Risk Assessment</b>	This is a high risk project because a failure of the switchgear would result in a significant process disruption, potentially resulting in shutdowns or significant downtime that could result in discharge of untreated effluent.		
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>	
FY20	Assessment of switchgear replacement options and inspection and in-place refurbishment of existing equipment.	110,000	
FY21	Design and construction of HVAC and emergency generator interconnection improvements.	105,000	
FY23	Allowance to refurbish or replace a MCC based on condition assessment findings. Design of main switchgear replacement.	474,784	
FY24	Main switchgear replacement.	2,335,700	
FY25	Allowance to refurbish or replace a MCC based on condition assessment findings.	203,000	
FY27	Allowance to refurbish or replace a MCC based on condition assessment findings.	211,800	
<b>Project Total</b>			<b>\$3,440,284</b>

**Project Photos:**



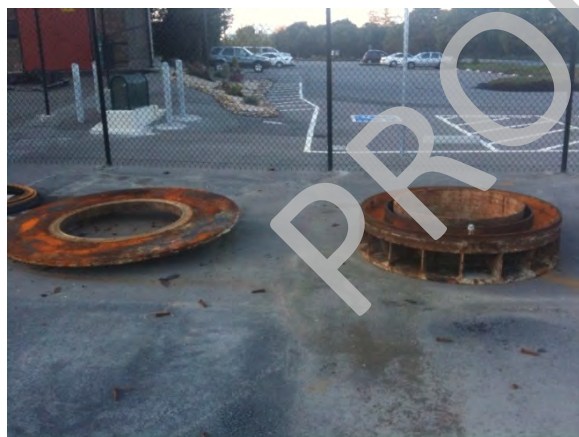
*Switchgear building and transformer*



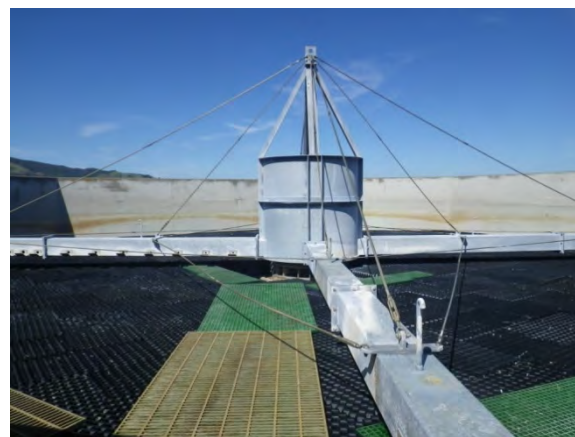
*Switchgear equipment*

<b>Biotower Rotary Distributor Replacement (GL 7300-685-00)</b>			
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b>	Technical Services
<b>Project Delivery</b>	Informally Bid		
<b>Description and Justification</b>	The biotowers are the first of two secondary treatment processes, and remove some of the biochemical oxygen demand from the primary effluent before treatment in the aeration tanks. The rotary distributor is the critical moving part, spreading wastewater evenly on the filter media. These critical components operate in a harsh environment with a 25- to 30-year life expectancy. The rotary distributor and top level of filter media in Biotower No. 1 were replaced in 2010. The 2018 Facility Master Plan recommends replacing the rotating mechanism and media in Biotower No. 2 (Master Plan Project 06-2).		
<b>Risk Assessment</b>	This is a medium risk project. The rotary distributor is operating but has significant corrosion. The upper media bed needs to be replaced due to weather damage. The project description and timing has changed based on the Facilities Master Plan findings.		
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>	
FY25	Replace galvanized-steel distributor mechanism and plastic spreader nozzles with a motor-operated mechanism. Replace distributor bearing. Replace or recoat the cast iron turntable on which the mechanism turns. Replace the top tier of media that is subject to weather damage.	1,009,300	
<b>Project Total</b>			<b>\$1,009,300</b>

**Project Photos:**



*Original base & turntable, Biotower No. 2*



*New rotary distributor, Biotower No. 2*

<b>Gates Rehabilitation (GL 7300-720-00)</b>		
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b> Technical Services
<b>Project Delivery</b>	Maintenance Project/Informally Bid	
<b>Description and Justification</b>	There are several large gates that control flow into, through, and between processes. The gates are also used to isolate process tanks for repair or maintenance. When condition assessments warrant, these gates will be replaced with stainless steel gates, which have a longer service life because they have better corrosion resistance and sealing surfaces that can be refurbished. This account includes two projects recommended in the 2018 Facility Master Plan. The first project is the replacement of the hydraulic system used to open and close primary clarifier gates with an electronic actuator system that will be operated in SCADA (Master Plan Project 04-1). The second project is the replacement of the three influent gates of Chlorine Contact Tanks (CCTs) 1 through 4 (Master Plan Project 09-1).	
<b>Risk Assessment</b>	This is a medium risk project, provided the gates are replaced according to condition assessment findings. However, the risk could be higher if a gate fails in a closed position, which could lead to a process interruption or overflows.	
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>
FY20	Complete majority of work on the Primary Clarifier Gates Actuators Replacement project which begun in FY19.  Replace Ross Valley and San Rafael influent gates in the headworks building and other gates as needed. Assess 84-inch submarine outfall isolation valve.	469,500
FY21-23	Allowance to replace gates as needed based on condition assessment.	243,500
FY24	Replace CCTs 1 through 4 influent gates.	437,700
FY25-29	Allowance to replace gates as needed based on condition assessment.	451,600
<b>Project Total</b>		<b>\$1,602,300</b>

**Project Photos:**



*Hydraulic gate actuator*



*San Rafael and Ross Valley influent gates*

<b>Headworks Equipment (GL 7300-727-00)</b>		
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b> Technical Services
<b>Project Delivery</b>	Maintenance Project	
<b>Description and Justification</b>	Equipment in the headworks building is used to collect, transport, dewater, and store screenings and grit from plant influent. Headworks equipment includes screens, hydraulic systems, grit hoppers, grit classifier, grit pumps, and augers. This equipment operates in a very corrosive and erosive environment and requires ongoing maintenance and refurbishment or replacement. This account includes two projects recommended in the 2018 Facility Master Plan. The first project is the replacement of the hydraulic pumps and control system used to open and close headworks gates (Master Plan Project 04-1). The second project is the replacement of the four original grit classifier systems with new grit classifiers (Master Plan Project 04-2).	
<b>Risk Assessment</b>	This is a low risk project because most of the Headworks equipment has redundant equipment that allows the plant to operate when one piece of equipment is out of service for maintenance.	
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>
FY20-22	Allowance to replace equipment as needed based on condition assessment.	88,700
FY23	Remove the hydraulic control system and install a new hydraulic unit with associated pumps and controls.	361,100
FY24	Allowance to replace equipment as needed based on condition assessment.	31,500
FY25-26	Replace four grit classifier systems including associated pumps, piping, and controls.	1,311,800
FY27-29	Allowance to replace equipment as needed based on condition assessment.	102,900
<b>Project Total</b>		<b>\$1,896,000</b>

**Project Photos:**



*Hydraulic control system*



*Grit classifier*



Odor Control System Improvements (GL 7300-981-00)		
<b>Type of Project</b>	Design and Capital Construction	Lead Department Technical Services
<b>Project Delivery</b>	Professional Services Agreement/Formally Bid	
<b>Description and Justification</b>	Some wastewater treatment processes produce odorous and/or corrosive gases. The existing odor control scrubbers serve as one component of the Agency's overall odor control management program. Odor control scrubbers located in the Headworks, Biotower basement, and Solids Handling Building (SHB) are approaching the end of their service lives. A consulting firm prepared a conceptual design report with limited sampling to evaluate the overall scrubber performance and cost estimates to replace each unit with activated carbon media systems. While sampling showed existing scrubbers were not overly efficient, they are capable of removing odors to a level that did not impact the Agency's surrounding neighbors. The 2018 Facilities Master Plan considered the conceptual design report findings and recommends replacing the Headworks and Biotower odor scrubbers (Master Plan Project 06-3). An allowance for this replacement as well as the SHB odor scrubber replacement has been included in the CIP and will be evaluated in future years depending on actual system performance.	
<b>Risk Assessment</b>	This is a low risk project because the odor scrubbers are operating with minor issues.	
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>
FY20	Replace the SHB failed odor scrubber fan.	20,000
FY24	Placeholder for removing the Headworks odor scrubber and replace with an activated carbon scrubber.	2,003,600
FY26	Remove the Biotower basement odor scrubbers and replace with a single activated carbon scrubber.	2,276,800
FY27	Allowance to design and construct scrubber replacement in the SHB.	1,546,800
<b>Project Total</b>		<b>\$5,847,200</b>

**Project Photos:**



*Headworks odor control scrubber*



*Solids Handling Building odor control scrubber*

<b>Primary Clarifiers Rehabilitation (GL 7400-965-00)</b>			
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b>	Technical Services
<b>Project Delivery</b>	Maintenance Project/Formally Bid		
<b>Description and Justification</b>	<p>There are seven primary clarifiers in the treatment plant. Five of the clarifiers were installed during the original plant construction and two were installed during the Wet Weather Improvement Project. The mechanical equipment in the five original clarifiers has been upgraded to non-corroding, non-metallic components. However, other metal surfaces in the tanks require periodic industrial coating. Additionally, the mechanical equipment also requires periodic replacement. The 2018 Facilities Master Plan recommends a project to address work noted above plus repairing concrete damage and replacing metal piping with PVC piping (Master Plan Project 05-1). As each primary clarifier is taken down, the north walls, which have been found to be leaking into Gallery A at times, will be prepared and coated with a waterproofing product. Note: Additional allowance for flights/chains/sprockets/wear strips is included under the Process Tank Maintenance account and work may be combined with the work in this account if synergies are found during design.</p>		
<b>Risk Assessment</b>	This is a low risk project because the planned work will be conducted in the summer when primary clarifiers can be out of service for extended periods of time.		
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>	
FY20	Replace all primary scum skimmer drives in Primary Clarifiers No. 1 through 5.	35,000	
FY22	Repair concrete, waterproof, and recoat the north wall of Clarifier No. 1, replace metal launders with FRP, and replace metal pipes.	369,800	
FY23	Repeat elements above for Clarifier No. 2.	400,300	
FY24	Repeat elements above for Clarifier No. 3.	408,900	
FY25	Repeat elements above for Clarifiers No. 4 and 5.	835,300	
FY27-28	Allowance for industrial coatings in Clarifier No. 6 and 7.	325,900	
<b>Project Total</b>			<b>\$2,375,200</b>

**Project Photos:**



*Primary Clarifiers*



*Primary Drive Unit*

<b>Secondary Clarifiers Rehabilitation (GL 7300-990-00)</b>			
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b>	Technical Services
<b>Project Delivery</b>	Professional Services Agreement/Formally Bid		
<b>Description and Justification</b>	There are four secondary clarifiers in the treatment plant. The 2018 Facilities Master Plan recommends a project to repair corrosion on mechanical equipment, metal structural components, and internal pipes, resurface the effluent trough concrete, retrofit the catwalk with FRP grating, and repair corrosion on piping in the sumps in the pump room for each clarifier (Master Plan Project 08-1). While each clarifier is out of service, the large drive turntables in Clarifiers No. 1, 3, and 4 will be replaced. The turntable drive for Clarifier No. 2 was replaced in 2011.		
<b>Risk Assessment</b>	This is a high risk project because failure of a secondary clarifier could lead to treatment plant process disruptions and possible discharge of effluent that does not meet NPDES treatment limits.		
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>	
FY20	Allowance for design/construction management assistance and begin construction for Clarifier No. 3 as noted above and replace the turntable drive.	185,000	
FY21	Complete Clarifier No. 3 construction and begin construction for Clarifier No. 4 as noted above and replace the turntable drive.	306,500	
FY22	Complete Clarifier No. 4 construction and begin construction for Clarifier No. 1 as noted above and replace the turntable drive.	313,100	
FY23	Complete Clarifier No. 1 construction and begin construction for Clarifier No. 2 as noted above.	287,800	
FY24	Complete Clarifier No. 2 construction.	156,700	
		<b>Project Total</b>	<b>\$1,249,100</b>

**Project Photos:**



*Secondary clarifier internal equipment*



*Secondary clarifier in operation*

RAS/WAS Pump Replacement (GL 7300-991-00)		
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b> Technical Services
<b>Project Delivery</b>	Formally Bid	
<b>Description and Justification</b>	The 2018 Facilities Master Plan recommends a project to replace the Return Activated Sludge (RAS) and Waste Activated Sludge (WAS) pump systems (Master Plan Project 08-2). These pumping systems are an integral part of the activated sludge treatment process and are mostly original equipment. While the systems are currently operating without major issues, many of the pumps have moderate corrosion and leaks. This project will replace the pump systems and install valving as needed to provide increased ability to isolate pumps for maintenance in the future. The design phase will investigate if it is possible to utilize the RAS pump only with diversion valves to split WAS and RAS. Note: Project elements may be combined with secondary clarifier projects in the future if synergies are found during design and the timing can be coordinated.	
<b>Risk Assessment</b>	This is a high risk project because failure of the activated sludge system could lead to treatment plant process disruptions and possible discharge of effluent that does not meet NPDES treatment limits.	
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>
FY21	Determine if WAS pumps can be eliminated and prepare design documents.	389,700
FY22-23	Construction of pump system improvements.	1,559,000
<b>Project Total</b>		<b>\$1,948,700</b>

**Project Photos:**



*RAS and WAS pumps*

Process Piping Inspection/Repairs/Replacement (GL 7400-966-00)			
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b>	Technical Services
<b>Project Delivery</b>	Professional Services Agreement		
<b>Description and Justification</b>	The San Rafael and Ross Valley Interceptors are large diameter buried force mains and are the only pipelines that convey wastewater from the satellite collection agency service areas to CMSA. There are also several large diameter pipelines within the facility that transfer water between treatment processes, including the Primary Effluent and the RAS pipelines. The treatment plant pipelines contain elastomeric joints that are nearing the end of their service lives. Inspecting these critical buried pipe flex joints may require a diver inspection or robotic inspection technology because the pipelines are difficult to keep dewatered. The 2018 Facilities Master Plan recommends two pipe repair projects in the galleries. The first project addresses corrosion on the 54-inch effluent pipe in Gallery C (Master Plan Project 10-1). The second project addresses repairs to chemical containment lines that are routed throughout the gallery system (Master Plan Project 00-2).		
<b>Risk Assessment</b>	This is a medium risk project because the condition of the pipelines and flexible joints is unknown. However, the pipelines have not leaked or shown signs of corrosion.		
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>	
FY20	Interior inspection of the pipelines, elastomeric joints, and selected sumps, with possible uncovering of the exterior of some buried joints throughout the facility. Includes possible internal sealing of some or all of the elastomeric joints and external pipe repairs. Steel plates will also be added to both ends of the 54-inch storage pond effluent line and the small drain line into the 54-inch will be relocated and the damaged concrete near the 54-inch valve will be repaired.	220,000	
FY25	Complete a corrosion assessment of the 54-inch storage pond discharge pipe.	50,000	
FY26	Replace chemical lines located along gallery walls with double contained PVC pipe and explore opportunities to relocate chemical piping to the bottom of the pipe rack.	113,800	
FY27	Allowance to inspect the San Rafael and Ross Valley Interceptors.	163,400	
<b>Project Total</b>			<b>\$547,200</b>

**Project Photos:**



*Biotower effluent pipe*



*Primary Effluent pipe manifold*

<b>Centrifuge Maintenance (GL 7300-715-00)</b>		
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b> Technical Services
<b>Project Delivery</b>	Professional Services Agreement/Formally Bid	
<b>Description and Justification</b>	<p>The Agency dewateres digested sludge with three high-speed centrifuges that rotate at high speeds to remove water and produce biosolids. The high-speed rotation and corrosive operating environment necessitate a significant amount of routine maintenance for optimum performance. A manufacturer performed condition assessment of the three centrifuges in 2016 found they were all in relatively good condition. The 2018 Facilities Master Plan recommends replacing the existing centrifuges with new centrifuges that have larger capacity to handle the potential increase in biosolids related to increased delivery of organic waste. However, the timing of those increased biosolids loads is still uncertain and may take many years to materialize (if ever). Therefore, routine maintenance and refurbishment of the existing centrifuges will continue on a regular schedule until FY29, at which point the centrifuge system will be re-evaluated in its entirety in combination with the confirmed biosolids loadings at that time. The biosolids hoppers underneath the centrifuges have corrosion and operators are unable to switch between hoppers, resulting in unforeseen hopper overflows at times and imperfect truck filling. Options for the biosolids hoppers will be evaluated at the same time that the entire centrifuge system replacement is being evaluated.</p>	
<b>Risk Assessment</b>	<p>This is a medium risk project because the centrifuges would be over 25 years old before being fully replaced, however with proper maintenance the existing centrifuges are expected to operate and meet the Agency's needs. Project timing will be revisited with each annual CIP update based on the latest centrifuge system performance and condition.</p>	
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>
FY21	Evaluate hopper system condition, identify options for improvements, and develop estimates of associated costs.	50,000
FY23	Begin design of centrifuge replacement.	521,800
FY24	Construct the centrifuge replacement.	2,820,500
	<b>Project Total</b>	<b>\$3,392,300</b>

**Project Photos:**



*Existing Centrifuges*



*Biosolids Hoppers*

<b>Cogeneration Maintenance (GL 7300-722-00)</b>			
<b>Type of Project</b>	Larger Maintenance Activities	<b>Lead Department</b>	Maintenance
<b>Project Delivery</b>	Maintenance Project/Informally Bid/Formally Bid		
<b>Description and Justification</b>	<p>The cogeneration system runs continuously, utilizing biogas and natural gas to generate most of the Agency's electrical power and to supply the Agency's hot water needs. This account includes allowances for purchasing critical spare parts and to perform larger maintenance activities for the existing engine and generator. Larger maintenance activities include on-site upper- and lower-end rebuilds involving the cylinder heads and liners, valves, and pistons; or off-site overhaul work that includes a complete disassembly and reassembly with machining to restore the engine and generator to original factory specifications. The design and construction of a new cogeneration engine is covered in a separate CIP project and scheduled for completion in FY22. After the new engine is operational, the existing engine will rotate into a backup position and run-hour based routine maintenance cost should decrease accordingly, while new cost for the maintenance of the new engine will be added. Due to uncertainty about timing and actual costs, the maintenance costs for the new cogeneration system are currently not included in the CIP and will be updated with actual costs and included in the CIP once the construction of the new cogeneration system nears completion.</p> <p>The existing engine experienced a catastrophic failure event in May 2019 and is proposed to be repaired and re-built offsite in early FY20.</p>		
<b>Risk Assessment</b>	This is a high risk project because the existing engine has experience catastrophic failure and CMSA will be incurring significant costs to purchase power from PG&E.		
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>	
FY20	Complete major off-site emergency repair of the existing engine due to catastrophic failure of the engine in May 2019.	400,000	
FY21	Complete routine maintenance of the existing engine.	60,000	
FY22	Allowances for routine maintenance of the existing cogeneration facilities, assuming the existing engine will see only limited run-hours while in the backup position after the new cogeneration engine is operational.	62,700	
FY23	Scheduled top-end overhaul of existing cogeneration engine.	150,000	
FY24-29	Allowances for routine maintenance of the existing cogeneration facilities, assuming the existing engine will see only limited run-hours while in the backup position after the new cogeneration engine is operational.	414,000	
<b>Project Total</b>			<b>\$1,086,700</b>

New Cogeneration System (GL 7300-729-00)		
<b>Type of Project</b>	Design and Capital Construction	<b>Lead Department</b> Technical Services
<b>Project Delivery</b>	Formally Bid	
<b>Description and Justification</b>	This account includes allowances for designing and constructing a new cogeneration engine as recommended in the 2017 Master Plan and 2018 Cogeneration Predesign. On-going major maintenance activities on the existing and new (once constructed) cogeneration engines are covered in a separate CIP project. The design of the new cogeneration system is planned to begin in FY20 and construction would occur in FY21 and FY22. This schedule coincides with the expansion of the OWRP program and the Agency's ability to sell excess power through a new PG&E Interconnection Agreement and power sale agreement with Marin Clean Energy. The existing cogeneration engine will remain available as a backup unit. Due to budgeting constraints and other reasons explained in the 2018 Cogeneration Predesign, design of additional improvements to the cogeneration and gas treatment system will occur in FY23 that would improve operations and maintenance of the system. Construction of said improvements would occur in FY24. These additional improvements include a new lubrication oil system and waste coolant system, addition of biogas flow meters, controlled biogas recycle lines, redundant biogas chillers, and modifications to the biogas condensate removal systems.	
<b>Risk Assessment</b>	This is a low risk project because the existing engine can remain in service for an extended period of time if properly maintained. However, the Agency would lose the opportunity to generate additional revenue from a more efficient system.	
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>
FY20	Design replacement cogeneration technology (Including \$15,000 allowance for final design contingency).	598,226
FY21	Procure and install replacement cogeneration technology.	5,063,164
FY22	Complete installation of a replacement cogeneration technology.	1,687,721
FY23	Design additional cogeneration system improvements.	114,000
FY24	Procure and install additional cogeneration system improvements.	1,559,700
<b>Project Total</b>		<b>\$9,022,811</b>

**Project Photo:**



*Existing cogeneration system*



<b>Nutrient Removal (7300 992-00)</b>		
<b>Type of Project</b>	Planning and Design	<b>Lead Department</b> Technical Services
<b>Project Delivery</b>	Formally Bid	
<b>Description and Justification</b>	<p>The 2019 Bay Area Watershed Permit includes a proposed nitrogen discharge cap for CMSA beginning in 2024 which is approximately 15 to 20 percent above CMSA’s typical 2018 nitrogen discharge levels. Depending on CMSA’s service area growth and future increases of the organic waste program, CMSA may be close to or above its nitrogen cap by 2024. Significant uncertainty exists at this time about the exact nature of the Regional Water Board’s enforcement of the nitrogen caps in 2024, and specifically if, when, and how it would be enforced. Therefore there is a non-trivial probability that CMSA would not be impacted at all by this cap until 2029 or even much later permit cycles.</p> <p>However, in the event that it becomes evident that CMSA is impacted by a load cap, staff would propose to study and plan for potential compliance pathways in a thoughtful and systematic manner as soon as more specific information about potential compliance timelines is known. There are several promising process-related optimization measures that may facilitate CMSA comfortably meeting compliance at potentially relatively low cost. These measures may potentially have additional side benefits like decreased plant power consumption, increased biogas production, and more stable overall treatment plant or process performance.</p> <p>Due to the uncertain nature of this subject, funds for the planning, design and construction of nutrient removal facilities at CMSA are not included in the CIP at this time.</p> <p>However, CMSA staff will be closely monitoring nutrient related permitting developments on a continuous basis. If indications arise that CMSA may be impacted by nutrient load targets, staff will update the CIP accordingly.</p>	
<b>Risk Assessment</b>	This is a low risk project because there is still adequate time to prepare for potential future compliance targets if they materialize.	
<b>Schedule</b>	<b>Activity Description</b>	<b>Cost</b>
	None included at this time.	0
	<b>Project Total</b>	<b>\$ 0</b>

## **SECTION 9. FY20 & FY21 Proposed Budget—10-Year Financial Forecast**

The Agency adopts with each budget a 10-year financial forecast to accompany it. The forecast is a model of revenues, expenses, capital, and reserves, and essentially sets forth a strategic plan to guide funding-sources-and-uses-decisions for the operating and capital budgets. The financial forecast consists of sections for Preliminary Assumptions, Operating Surplus (Shortfall), Capital Improvement Program, and Reserve Reconciliation.

The first section, preliminary assumptions, is to assign assumption values for expenditures and revenues except regional sewer charges to establish a 10-year forecast for operating and capital programs. The base year of the forecast is the adopted budget for the most recent fiscal year. All future projection values derive from the base year. Amounts for debt service and debt service coverage are specific amounts from the debt service amortization tables. Amounts for the capital improvements program are per the 10-year CIP schedule. Revenue from capacity charges increases annually by the ENR index per the Agency's fee ordinance. The forecast is constructed to *project* future expenses and capital and to *limit* revenues from service charges and the capital fee only to known values authorized by the Board. In this manner, it will be clearly apparent when there will be a revenue shortfall and how long reserves will last without revenue increases.

The Operating Surplus (Shortfall) section is a summary of the operating budget that reflects a surplus, funded, or a shortfall, not funded. Funding for the operating budget comes primarily from sewer service charges from JPA members together with "all other revenues" such as contract services, programs, hauler, permits, and inspections. Operating expenses includes all expenses except depreciation, debt service, and capital. Debt service and capital are funded from separate dedicated sources.

The next section is the Capital Improvement Program funding. Projects and amounts of the capital improvement program are per the 10-year CIP schedule. Funding for the capital improvement program comes from the capital fee collected from JPA members, the debt service coverage amount also collected from JPA members, capacity charges received from new sewer connections, and from capital reserves.

The last section is a reconciliation of the three types of designated reserves, Unrestricted Operating Reserve, Unrestricted Capital Reserve, and Restricted Capital Reserve. Beginning balances for each of these reserve types is the amount per the Investments Schedule. Unrestricted operating reserves are maintained at 25% of operating costs before debt and capital. Excess amounts of unrestricted operating reserves are transferred to unrestricted capital reserves to be used to fund capital. Restricted capital reserves consist of capacity charges and debt service coverage fees collected and are used exclusively for capital. Any differences to fund capital comes from unrestricted capital reserves.

The financial forecast document is a representation of the model for funding the Agency's operating and capital programs.

**CENTRAL MARIN SANITATION AGENCY  
10-YEAR FINANCIAL FORECAST**

Line No.	Description	Assumption	Adopted Budget FY19	Revenue Program Period				Service Charges / Capital Fee as Last Authorized Forecast						
				Proposed Year 1 FY20	Proposed Year 2 FY21	Year 3 FY22	Year 4 FY23	Year 5 FY24	Year 6 FY25	Year 7 FY26	Year 8 FY27	Year 9 FY28		
<b>ADOPTED ASSUMPTIONS</b>			<b>EDU CMSA</b>	<b>48,279</b>										
<b>Funding Requirements:</b>														
a	Salaries and wages	3.5%	\$ 5,555,200	\$ 5,693,800	\$ 5,999,600	\$ 6,209,586	\$ 6,426,922	\$ 6,651,864	\$ 6,884,679	\$ 7,125,643	\$ 7,375,040	\$ 7,633,167		
b	Retirement - CalPERS normal cost (Note 2)	Various	597,251	652,500	722,100	769,037	819,024	872,260	928,957	989,340	1,053,647	1,122,134		
c	Retirement - CalPERS UAL (Note 2)	Various	597,749	724,400	850,300	930,749	1,003,715	1,030,619	1,060,249	1,090,731	1,122,090	1,154,350		
d	All other employee benefits	3.0%	1,563,700	1,495,900	1,565,300	1,612,259	1,660,627	1,710,446	1,761,759	1,814,612	1,869,050	1,925,122		
e	Chemicals and fuels	2.0%	1,126,900	1,282,500	1,256,800	1,281,936	1,307,575	1,333,726	1,360,401	1,387,609	1,415,361	1,443,668		
f	Biosolids management	2.0%	400,300	418,500	435,300	444,006	452,886	461,944	471,183	480,606	490,219	500,023		
g	Permit testing and monitoring	1.5%	148,800	143,800	142,500	144,638	146,807	149,009	151,244	153,513	155,816	158,153		
h	Maintenance and repairs	2.0%	363,500	364,700	377,200	384,744	392,439	400,288	408,293	416,459	424,788	433,284		
i	Utilities	3.5%	317,800	386,600	390,400	404,064	418,206	432,843	447,993	463,673	479,901	496,698		
j	Insurance premiums	3.5%	250,800	384,500	405,900	420,107	434,810	450,029	465,780	482,082	498,955	516,418		
k	General and administrative	2.0%	900,000	915,400	879,700	897,294	915,240	933,545	952,216	971,260	990,685	1,010,499		
l	Operating before debt and capital		11,822,000	12,462,600	13,025,100	13,498,419	13,978,250	14,426,572	14,892,754	15,375,527	15,875,552	16,393,515		
m	Debt service: actual plus estimated new debt		3,973,206	3,967,331	3,957,006	4,612,006	4,611,706	5,306,381	5,308,506	5,303,381	5,352,756	5,310,506		
n	Operating before capital		15,795,206	16,429,931	16,982,106	18,110,425	18,589,956	19,732,953	20,201,260	20,678,908	21,228,308	21,704,021		
o	Capital program		2,862,500	3,900,626	8,484,664	5,503,521	5,012,184	10,956,300	5,105,100	7,952,200	5,439,600	1,515,200		
p	Total funding requirements		<b>\$ 18,657,706</b>	<b>\$ 20,330,557</b>	<b>\$ 25,466,770</b>	<b>\$ 23,613,946</b>	<b>\$ 23,602,140</b>	<b>\$ 30,689,253</b>	<b>\$ 25,306,360</b>	<b>\$ 28,631,108</b>	<b>\$ 26,667,908</b>	<b>\$ 23,219,221</b>		
			3.5%	3.5%	3.5%	3.5%	3.5%	0.0%						
q	Unrestricted - Regional sewer service charges		\$ 10,622,376	\$ 10,994,159	\$ 11,378,955	\$ 11,777,218	\$ 12,189,421	\$ 12,189,421	\$ 12,189,421	\$ 12,189,421	\$ 12,189,421	\$ 12,189,421	\$ 12,189,421	\$ 12,189,421
r	Unrestricted - Capital fee (Note 4)		811,259	1,020,824	1,243,030	640,905	865,397	865,397	865,397	865,397	865,397	865,397	865,397	865,397
s	Unrestricted - All other revenues	3.0%	1,712,048	2,137,826	2,414,203	2,486,629	2,561,228	2,638,065	2,717,207	2,798,723	2,882,685	2,969,165		
t	Restricted capital - Debt service charge (Note 5)		3,973,206	3,967,331	3,957,006	4,612,006	4,611,706	5,306,381	5,308,506	5,303,381	5,352,756	5,310,506		
u	Restricted capital - Debt service coverage		993,302	991,833	989,252	1,153,002	1,152,927	1,326,595	1,327,127	1,325,845	1,338,189	1,327,627		
v	Restricted capital - Capacity charges	2.6%	30,091	30,873	31,676	32,500	33,345	34,212	35,101	36,014	36,950	37,911		
w	Restricted capital - other financing sources		-	450,000	9,000,000	-	10,000,000	-	-	-	-	-		
x	Subtotal funding sources before reserve (increase) usage		18,142,282	19,592,847	29,014,122	20,702,260	31,414,023	22,360,070	22,442,758	22,518,780	22,665,397	22,700,026		
y	Reserve (Increase) Usage (Note 6)		515,425	737,710	(3,547,352)	2,911,686	(7,811,883)	8,329,183	2,863,602	6,112,328	4,002,510	519,195		
z	Total funding sources		<b>\$ 18,657,706</b>	<b>\$ 20,330,557</b>	<b>\$ 25,466,770</b>	<b>\$ 23,613,946</b>	<b>\$ 23,602,140</b>	<b>\$ 30,689,253</b>	<b>\$ 25,306,360</b>	<b>\$ 28,631,108</b>	<b>\$ 26,667,908</b>	<b>\$ 23,219,221</b>		
aa	Control total		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		

**NOTES ON FORECAST:**

- The purpose of the above section (Preliminary Assumptions) is to assign assumption values for expenditures and revenues except regional sewer charges to establish a 10-year pro-forma forecast
- Annual increases per CalPERS most recent FY19 actuarial valuation dated Aug 2018 - Amortization Schedule and Alternatives
- Funding from JPA agencies increases 3.5% per year for each year of the 5-year revenue plan
- Capital fee remains at last authorized amount in outer years beyond revenue program period
- Assume new debt issue for \$9M in FY21 and \$10M in FY23
- Use of reserves to balance capital except for years where debt proceeds are used
- The above forecast is in the form of a balanced budget and is NOT FUNDING. FUNDING IS SHOWN BELOW IN SECTIONS I, II, and III
- Beginning reserve balances for Section III are per the Treasurer's Report
- Transfer operating surpluses to unrestricted capital reserve as necessary to maintain Board established 25% unrestricted operating reserve
- Transfer unrestricted capital reserves to fully fund CIP Section II until depleted for forecast purposes
- Capacity charges, the debt service coverage fee, the capital fee, and unrestricted capital reserve usage fund the capital program
- Unrestricted operating reserve beginning balance contains amount per treasurer's report plus \$100,000 insurance reserve plus \$250,000 contingency reserve

**Red:** Indicates reserve usage.      **Brackets:** Indicates reserve increases.

**CENTRAL MARIN SANITATION AGENCY  
10-YEAR FINANCIAL FORECAST**

Line No.	Description	Assumption	Adopted Budget FY19	Revenue Program Period				Service Charges / Capital Fee as Last Authorized				
				Proposed Year 1 FY20	Proposed Year 2 FY21	Year 3 FY22	Year 4 FY23	Forecast				
						Year 5 FY24	Year 6 FY25	Year 7 FY26	Year 8 FY27	Year 9 FY28		
<b>FUNDING FOR PROGRAMS - DETAIL</b>												
<b>OPERATING PROGRAM</b>												
1	Total operating costs before debt and capital		\$ 11,822,000	\$ 12,462,600	\$ 13,025,100	\$ 13,498,419	\$ 13,978,250	\$ 14,426,572	\$ 14,892,754	\$ 15,375,527	\$ 15,875,552	\$ 16,393,515
2	Service charges and other revenues		12,334,424	13,131,985	13,793,158	14,263,847	14,750,649	14,827,486	14,906,628	14,988,144	15,072,105	15,158,586
3	Total operating surplus (shortfall)		\$ 512,424	\$ 669,385	\$ 768,058	\$ 765,429	\$ 772,398	\$ 400,913	\$ 13,874	\$ (387,383)	\$ (803,446)	\$ (1,234,929)
<b>CAPITAL IMPROVEMENT PROGRAM</b>												
4	Total Annual CIP to Fund (10-Year CIP) (Inc debt financed proj)		\$ 2,862,500	\$ 3,900,626	\$ 8,484,664	\$ 5,503,521	\$ 5,012,184	\$ 10,956,300	\$ 5,105,100	\$ 7,952,200	\$ 5,439,600	\$ 1,515,200
5	Restricted - other financing sources (e.g., bonds, loans, grants)		\$ -	\$ -	\$ 6,218,125	\$ 2,781,875	\$ -	\$ 8,903,765	\$ 1,096,235	\$ -	\$ -	\$ -
6	Restricted - Capacity charges		30,091	30,873	31,676	32,500	33,345	34,212	35,101	36,014	36,950	37,911
7	Restricted - Debt Service Coverage (i.e., covenant req)		992,024	993,302	991,833	989,252	1,153,002	1,152,927	1,326,595	1,327,127	1,325,845	1,338,189
8	Unrestricted - Capital Fee		811,259	1,020,824	1,243,030	640,905	865,397	865,397	865,397	865,397	865,397	865,397
9	Unrestricted - General Cap Rsv (Inc) Draw (step 2)		1,029,127	1,855,627	-	1,058,989	2,960,441	-	1,781,772	2,327,903	-	(726,296)
10	Total Available Funding		\$ 2,862,501	\$ 3,900,626	\$ 8,484,664	\$ 5,503,521	\$ 5,012,184	\$ 10,956,300	\$ 5,105,100	\$ 4,556,440	\$ 2,228,192	\$ 1,515,200
11	Control Total / (Unfunded Capital)	\$ (6,607,166)	\$ 1	\$ (0)	\$ 0	\$ (0)	\$ 0	\$ 0	\$ (0)	\$ (3,395,760)	\$ (3,211,408)	\$ 0
<b>RESERVE RECONCILIATION</b>												
12	Restricted capital reserve balance - beg (Treas Report)		\$ 990,477	\$ 991,755	\$ 990,287	\$ 3,769,581	\$ 1,151,456	\$ 1,151,381	\$ 2,421,284	\$ 1,325,580	\$ 1,324,299	\$ 1,336,643
13	Other financing sources balance - beg		-	-	-	2,781,875	-	-	1,096,235	-	-	-
14	New debt issuance proceeds		-	-	9,000,000	-	-	10,000,000	-	-	-	-
15	Project requisition draws (neg number) (use 1st, then reserve)		-	-	(6,218,125)	(2,781,875)	-	(8,903,765)	(1,096,235)	-	-	-
16	Other financing sources balance - end		-	-	2,781,875	-	-	1,096,235	-	-	-	-
17	Capacity charges revenue		30,091	30,873	31,676	32,500	33,345	34,212	35,101	36,014	36,950	37,911
18	Capacity charges usage for capital		(30,091)	(30,873)	(31,676)	(32,500)	(33,345)	(34,212)	(35,101)	(36,014)	(36,950)	(37,911)
19	Debt coverage collection - current year		993,302	991,833	989,252	1,153,002	1,152,927	1,326,595	1,327,127	1,325,845	1,338,189	1,327,627
20	Debt coverage usage - prior year		(992,024)	(993,302)	(991,833)	(989,252)	(1,153,002)	(1,152,927)	(1,326,595)	(1,327,127)	(1,325,845)	(1,338,189)
21	Net change		1,278	(1,468)	2,779,294	(2,618,125)	(75)	1,269,903	(1,095,704)	(1,281)	12,344	(10,563)
22	Restricted capital reserve balance - end		\$ 991,755	\$ 990,287	\$ 3,769,581	\$ 1,151,456	\$ 1,151,381	\$ 2,421,284	\$ 1,325,580	\$ 1,324,299	\$ 1,336,643	\$ 1,326,080
<b>Unrestricted capital reserve balance - beg (Treas Report)</b>												
23	Capital fee revenue		\$ 7,866,245	\$ 7,259,692	\$ 5,913,300	\$ 6,540,733	\$ 6,128,843	\$ 3,820,842	\$ 4,109,675	\$ 2,327,903	\$ -	\$ -
24	Unrestricted operating reserve transfer-in (step 1)		811,259	1,020,824	1,243,030	640,905	865,397	865,397	865,397	865,397	865,397	865,397
25	Capital fee usage to fund CIP		422,574	509,235	627,433	647,099	652,440	288,833	-	-	-	-
26	Unrestricted capital reserve draw (enter CIP control total) (step 2)		(811,259)	(1,020,824)	(1,243,030)	(640,905)	(865,397)	(865,397)	(865,397)	(865,397)	(865,397)	(865,397)
27	Net change		(1,029,127)	(1,855,627)	(1,058,989)	(2,960,441)	(2,960,441)	(1,781,772)	(2,327,903)	(2,327,903)	-	726,296
28	Unrestricted capital reserve balance - end		\$ 7,259,692	\$ 5,913,300	\$ 6,540,733	\$ 6,128,843	\$ 3,820,842	\$ 4,109,675	\$ 2,327,903	\$ -	\$ -	\$ 726,296
<b>Unrestricted operating reserve balance - beg (Treas Report) (Note 12)</b>												
29	Service charges and other revenues		\$ 2,865,650	\$ 2,955,500	\$ 3,115,650	\$ 3,256,275	\$ 3,374,605	\$ 3,494,563	\$ 3,606,643	\$ 3,620,517	\$ 3,233,134	\$ 2,429,688
30	Operating expenses		12,334,424	13,131,985	13,793,158	14,263,847	14,750,649	14,827,486	14,906,628	14,988,144	15,072,105	15,158,586
31	Unrestricted operating reserve transfer-out (excess or draw) (step 1)		(11,822,000)	(12,462,600)	(13,025,100)	(13,498,419)	(13,978,250)	(14,426,572)	(14,892,754)	(15,375,527)	(15,875,552)	(16,393,515)
32	Net change		(422,574)	(509,235)	(627,433)	(647,099)	(652,440)	(288,833)	-	-	-	-
33	Unrestricted operating reserve balance - end		\$ 89,850	\$ 160,150	\$ 140,625	\$ 118,330	\$ 119,958	\$ 112,080	\$ 13,874	\$ (387,383)	\$ (803,446)	\$ (1,234,929)
34	(25% of operating costs before debt and capital)		25%	25%	25%	25%	25%	25%	24%	21%	15%	7%
35	Net change		(515,425)	(1,187,710)	3,547,352	(2,911,685)	(2,188,117)	1,670,816	(2,863,602)	(2,716,567)	(791,102)	(519,195)
36	Reserve balance total - beg		\$ 11,534,481	\$ 11,019,056	\$ 9,831,345	\$ 13,378,697	\$ 10,467,012	\$ 8,278,894	\$ 9,949,710	\$ 7,086,109	\$ 4,369,541	\$ 3,578,439
37	Reserve balance total - end		\$ 11,019,056	\$ 9,831,345	\$ 13,378,697	\$ 10,467,012	\$ 8,278,894	\$ 9,949,710	\$ 7,086,109	\$ 4,369,541	\$ 3,578,439	\$ 3,059,243

**CENTRAL MARIN SANITATION AGENCY  
10-YEAR FINANCIAL FORECAST**

Line No.	Description	Assumption	Adopted Budget FY19	Revenue Program Period				Service Charges / Capital Fee as Last Authorized					
				Proposed Year 1 FY20	Proposed Year 2 FY21	Year 3 FY22	Year 4 FY23	Year 5 FY24	Forecast			Year 9 FY28	
								Year 6 FY25	Year 7 FY26	Year 8 FY27			
<b>FUNDING FOR PROGRAMS - SUMMARY (ALTERNATIVE 2d - DEBT FINANCED SCHEDULED PROJECTS PLUS CAPITAL AMOUNT TO BALANCE)</b>													
<b>OPERATING PROGRAM SUMMARY</b>													
1	Annual operating costs for funding	Various	\$ 11,822,000	\$ 12,462,600	\$ 13,025,100	\$ 13,498,419	\$ 13,978,250	\$ 14,426,572	\$ 14,892,754	\$ 15,375,527	\$ 15,875,552	\$ 16,393,515	
				3.5%	3.5%	3.5%	3.5%	0.0%					
2	Regional service charges		10,622,376	10,994,159	11,378,955	11,777,218	12,189,421	12,189,421	12,189,421	12,189,421	12,189,421	12,189,421	
3	Other revenues	3.0%	1,712,048	2,137,826	2,414,203	2,486,629	2,561,228	2,638,065	2,717,207	2,798,723	2,882,685	2,969,165	
4	Total revenues		12,334,424	13,131,985	13,793,158	14,263,847	14,750,649	14,827,486	14,906,628	14,988,144	15,072,105	15,158,586	
5	Operating surplus (shortfall)		\$ 512,424	\$ 669,385	\$ 768,058	\$ 765,429	\$ 772,398	\$ 400,913	\$ 13,874	\$ (387,383)	\$ (803,446)	\$ (1,234,929)	
6	(Operating reserves at 25% of operating costs - amount)		\$ 2,955,500	\$ 3,115,650	\$ 3,256,275	\$ 3,374,605	\$ 3,494,563	\$ 3,606,643	\$ 3,723,188	\$ 3,843,882	\$ 3,968,888	\$ 4,098,379	
7	(Operating reserves at 25% of operating costs - percent)		25%	25%	25%	25%	25%	25%	24%	21%	15%	7%	
<b>CAPITAL IMPROVEMENT PROGRAM SUMMARY</b>													
	Annual CIP costs for funding		\$ 56,731,895	\$ 2,862,500	\$ 3,900,626	\$ 8,484,664	\$ 5,503,521	\$ 5,012,184	\$ 10,956,300	\$ 5,105,100	\$ 7,952,200	\$ 5,439,600	\$ 1,515,200
9	Capacity Charges	2.6%	30,091	30,873	31,676	32,500	33,345	34,212	35,101	36,014	36,950	37,911	
10	Debt Service Coverage (i.e., covenant req)		992,024	993,302	991,833	989,252	1,153,002	1,152,927	1,326,595	1,327,127	1,325,845	1,338,189	
11	Capital Fee	0	811,259	1,020,824	1,243,030	640,905	865,397	865,397	865,397	865,397	865,397	865,397	
12	Reserve Funding		1,029,127	1,855,627	-	1,058,989	2,960,441	-	1,781,772	2,327,903	-	(726,296)	
13	Total Available Funding		\$ 2,862,501	\$ 3,900,626	\$ 8,484,664	\$ 5,503,521	\$ 5,012,184	\$ 10,956,300	\$ 5,105,100	\$ 4,556,440	\$ 2,228,192	\$ 1,515,200	
14	Control Total / (Unfunded Capital)		\$ 1	\$ (0)	\$ 0	\$ (0)	\$ 0	\$ 0	\$ (0)	\$ (3,395,760)	\$ (3,211,408)	\$ 0	
15	(Capital funding ratio - target 70%)	Actual AVE	89.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	57.3%	41.0%	100.0%	
<b>ANNUAL UNIT COSTS SUMMARY</b>													
16	EDU unit count to CMSA w/o SQSP (budget)	48,279	48,279	48,279	48,279	48,279	48,279	48,279	48,279	48,279	48,279	48,279	
17	Regional service charge per unit		\$ 220.02	\$ 227.72	\$ 235.69	\$ 243.94	\$ 252.48	\$ 252.48	\$ 252.48	\$ 252.48	\$ 252.48	\$ 252.48	
18	Capital fee per unit		16.80	21.14	25.75	13.28	17.92	17.92	17.92	17.92	17.92	17.92	
19	Debt service charge per EDU count fixed per 9-21-16 memo	48,039	103.38	103.23	102.96	120.01	120.00	138.07	138.13	138.00	139.28	138.18	
	Debt service rate stabilization		103.38	103.23	102.96	120.01	120.00	138.07	138.13	138.00	139.28	138.18	
	Total annual CMSA charges per unit		\$ 340.21	\$ 352.10	\$ 364.40	\$ 377.22	\$ 390.40	\$ 408.48	\$ 408.53	\$ 408.40	\$ 409.69	\$ 408.59	
	Percent increase from prior year			3.49%	3.49%	3.52%	3.49%	0.00%	0.01%	-0.03%	0.31%	-0.27%	
	Control total debt plus coverage to collect	21,435,064		\$ 4,959,164	\$ 4,946,258	\$ 5,765,008	\$ 5,764,633	\$ -					
	Actual debt plus coverage collected	21,435,064		4,959,164	4,946,258	5,765,008	5,764,633	-					
	Difference over (under)	-		\$ -	\$ -	\$ -	\$ -	\$ -					

**CENTRAL MARIN SANITATION AGENCY  
10-YEAR FINANCIAL FORECAST**

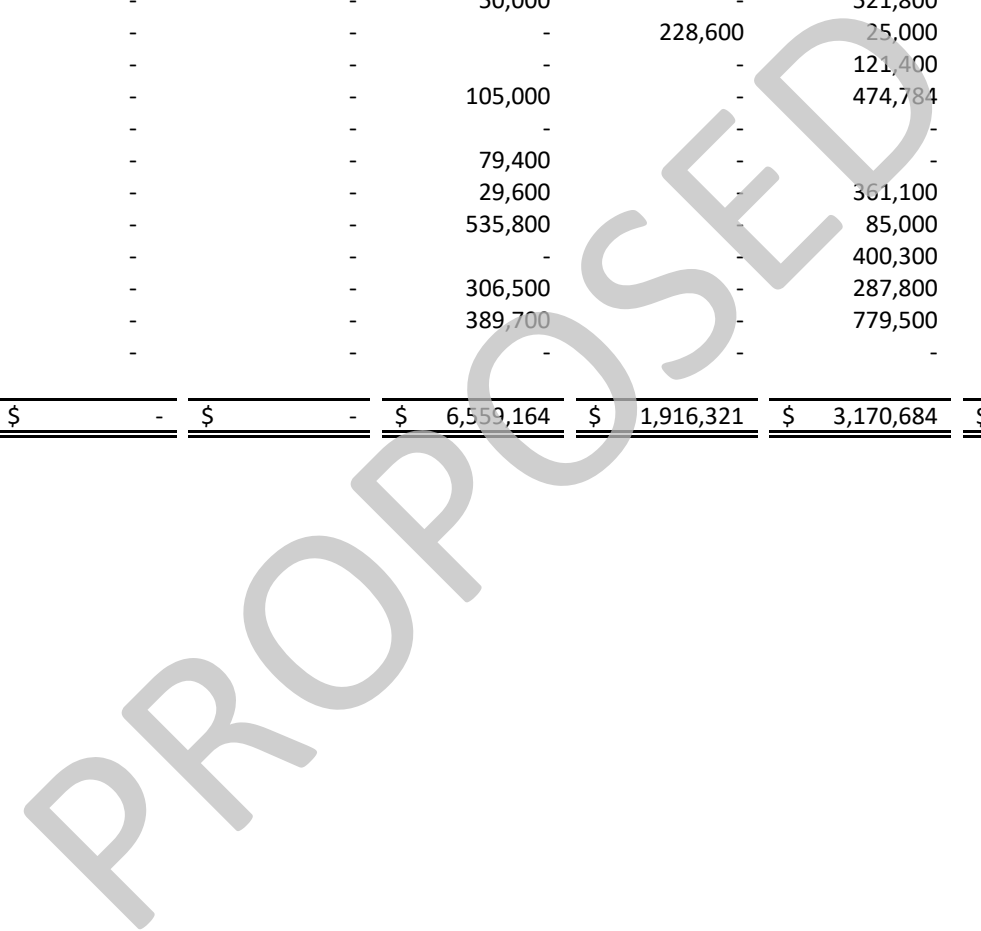
Line No.	Description	Assumption	Adopted Budget FY19	Revenue Program Period				Service Charges / Capital Fee as Last Authorized				
				Proposed Year 1 FY20	Proposed Year 2 FY21	Year 3 FY22	Year 4 FY23	Year 5 FY24	Forecast			Year 9 FY28
									Year 6 FY25	Year 7 FY26	Year 8 FY27	

**DEBT FINANCED SCHEDULED PROJECTS TO ACCOMPANY ALTERNATIVE 2d**

PROJECT DESCRIPTION	TOTALS	PROJECT AMOUNTS									
Cogeneration maintenance (3)	\$ 8,424,585	\$ -	\$ -	\$ 5,063,164	\$ 1,687,721	\$ 114,000	\$ 1,559,700	\$ -	\$ -	\$ -	\$ -
Centrifuge maintenance	3,392,300	-	-	50,000	-	521,800	2,820,500	-	-	-	-
Facility roofs rehabilitation	279,200	-	-	-	228,600	25,000	25,600	-	-	-	-
Fuel storage tanks	121,400	-	-	-	-	121,400	-	-	-	-	-
Electrical distribution system rehabilitation	2,915,484	-	-	105,000	-	474,784	2,335,700	-	-	-	-
Bio-Tower rotary distributor replacement	-	-	-	-	-	-	-	-	-	-	-
Gates rehabilitation	79,400	-	-	79,400	-	-	-	-	-	-	-
Headworks equipment	422,200	-	-	29,600	-	361,100	31,500	-	-	-	-
Process tank maintenance	707,700	-	-	535,800	-	85,000	86,900	-	-	-	-
Primary clarifiers rehabilitation	809,200	-	-	-	-	400,300	408,900	-	-	-	-
Secondary clarifiers rehabilitation	679,331	-	-	306,500	-	287,800	85,031	-	-	-	-
RAS/WAS pump replacement	1,169,200	-	-	389,700	-	779,500	-	-	-	-	-
Digester inspect, cleaning, cover replace	-	-	-	-	-	-	-	-	-	-	-
<b>Total projects</b>	<b>\$ 19,000,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 6,559,164</b>	<b>\$ 1,916,321</b>	<b>\$ 3,170,684</b>	<b>\$ 7,353,831</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

Issue #1, Closing '20, Pmt strt '21, Loan type	Rev Bd or SRF
Close of transaction	FY 2020
Repayment begins	FY 2021
Principal plus estimated 2% cost of issuance	\$ 9,180,000
Interest rate	3.50%
Years amortization	20
Estimated payment	\$ 645,915
<b>Budgeted amount</b>	<b>\$ 646,000</b>

Issue #2, Closing '23, Pmt strt '24, Loan type	Rev Bd or SRF
Close of transaction	FY 2023
Repayment begins	FY 2024
Principal plus estimated 2% cost of issuance	\$ 10,200,000
Interest rate	3.50%
Years amortization	20
Estimated payment	\$ 717,683
<b>Budgeted amount</b>	<b>\$ 718,000</b>



## SECTION 10. DEBT OBLIGATIONS

The Agency took advantage of historically low interest rates in FY15 by refunding its Series 2006 Revenue Bonds to realize savings through lower interest rates. On April 22, 2015, the Agency issued \$49,310,000 of Series 2015 Revenue Bonds at a premium of \$5,344,174, with an average interest rate of 2.78% percent. The proceeds from the 2015 bonds were placed in an escrow account and used 1) to make debt service payments on the existing Series 2006 Bonds through September 1, 2016, and 2) to redeem the outstanding Series 2006 Revenue Bonds when they became callable. The Agency's sole, ongoing debt service obligation is the Series 2015 bonds, which are fully registered, with principal due annually on September 1, and interest payable semi-annually on March 1 and September 1. The refinancing transaction resulted in cost savings of over \$15 million for the period from FY16 to FY32.

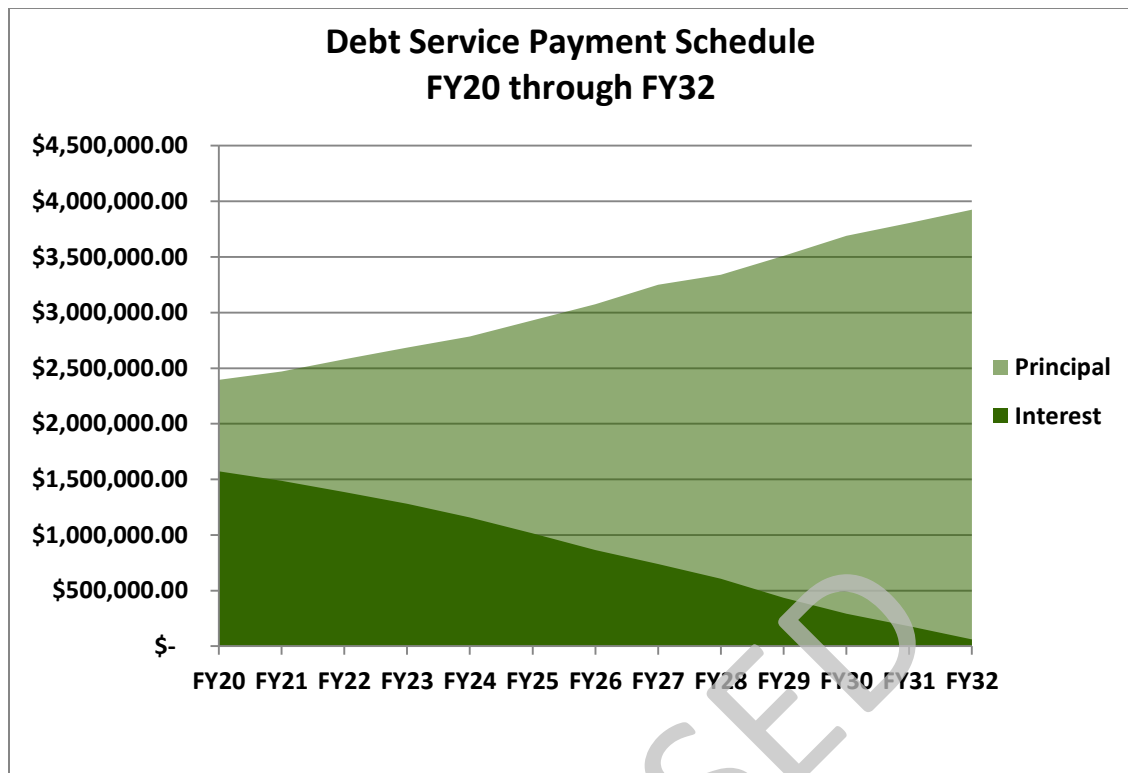
The table below displays the amount of outstanding debt service obligations through FY32.

### Refunding Revenue Bonds Series 2015 Debt Service Schedule Remaining to FY32

Fiscal Year	Principal	Interest	Total
2019-20	2,395,000	1,572,331	3,967,331
2020-21	2,470,000	1,487,006	3,957,006
2021-22	2,580,000	1,386,006	3,966,006
2022-23	2,685,000	1,280,706	3,965,706
2023-24	2,785,000	1,157,381	3,942,381
2024-25	2,930,000	1,014,506	3,944,506
2025-26	3,075,000	864,381	3,939,381
2026-27	3,250,000	738,756	3,988,756
2027-28	3,340,000	606,506	3,946,506
2028-29	3,510,000	435,256	3,945,256
2029-30	3,690,000	292,156	3,982,156
2030-31	3,805,000	179,731	3,984,731
2031-32	3,925,000	61,328	3,986,328
<b>Total Refunding Revenue Bond Series 2015 Debt Outstanding as of July 1, 2019</b>	<b>\$40,440,000</b>	<b>\$11,076,050</b>	<b>\$51,516,050</b>

Each JPA Member is obligated to pay its proportionate share of the semi-annual debt service payments, and a payment for debt service coverage (equivalent to 25% of the annual debt service) pursuant to the Debt Service Payment Agreement between CMSA and the Member Agencies, as well as the Master Indenture between CMSA and the Bond Trustee. The proportionate allocation of the debt service payment and coverage to each member is based upon average EDU counts over a 10-year period from the FY07 to the FY16 years reported for the JPA service area. This allocation method smooths out unit count fluctuations and promotes stable/predictable debt service costs to members.

**Debt Limits:** The Agency is an enterprise business activity supported by user fees with no revenues from taxes, and accordingly, is not subject to legal debt limitation.



In accordance with the Agency’s Financial Policy on Reserves, debt service coverage funds are restricted for capital project use with the limitation that the amount collected during each fiscal period cannot be expended in the same period. The annual budget appropriates funds from Restricted Reserves for Capital Projects to fund current year Capital Improvement Program (CIP) activities. The FY20 Budget appropriates approximately \$992,000 to be spent from the Restricted Reserves for CIP activities. Because debt service obligations are collected from JPA Members, the existing debt level has little impact on the Agency’s current operations. Details for the Agency’s FY20 CIP can be found in Section 8 – Capital Improvement Program.

The 10-year table below displays debt service payment and coverage collection since FY11:

<b>Debt Service Charges per Equivalent Dwelling Unit</b>				
Fiscal Year	Debt Service Charges/EDU	Principal	Interest	25% Coverage Collected
<b>Series 2015 Revenue Bonds</b>				
2019-20	\$95.29	\$2,395,000	\$1,572,331	\$991,833
2018-19	95.43	2,330,000	1,643,206	993,301
2017-18	95.16	2,250,000	1,711,906	990,477
2016-17	94.74	2,195,000	1,773,094	992,023
2015-16	87.10	2,095,000	1,564,224	914,806
<b>Series 2006 Revenue Bonds</b>				
2014-15	\$110.75	\$2,135,000	\$2,517,501	\$1,163,125
2013-14	111.69	2,040,000	2,616,539	1,164,135
2012-13	113.51	1,955,000	2,701,751	1,164,188
2011-12	106.08	1,880,000	2,775,914	1,163,979
2010-11	103.95	1,805,000	2,849,708	1,163,677



## SECTION 11. KEY TERMS AND FINANCIAL GLOSSARY WITH ACRONYM LISTING

- **ASSETS:** Anything of material and economic value or usefulness that is owned by the entity.
- **BAY AREA CLEAN WATER AGENCIES (BACWA):** A joint powers agency formed under the California Government Code by the five largest wastewater treatment agencies that provide sanitary sewer services to the more than seven million people living in the nine county San Francisco Bay Area. CMSA is one of BACWA's 65 principal and associate members.
- **BAY AREA CHEMICAL CONSORTIUM (BACC):** A cooperative group of over 50 public water and wastewater agencies in northern California whose primary purpose is to seek competitive bids from vendors to supply and deliver chemicals for water and/or wastewater treatment.
- **BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD):** A government agency that regulates sources of air pollution within the nine San Francisco Bay Area Counties.
- **BOND PREMIUM:** A bond that is priced higher than its stated face (par) value.
- **CAPITAL ASSETS:** Includes Agency land, treatment plant, outfall, facilities, buildings, and equipment net of depreciation.
- **CAPITAL EXPENDITURE:** An expenditure of \$5,000 or more that is used to purchase a capital asset with a useful life of one year or more, or an investment that improves the useful life of an existing asset.
- **CAPITAL IMPROVEMENT PROGRAM (CIP):** A plan that describes and explains the Agency's capital and asset management projects, delineated by type of project and funding source, over ten fiscal years. The CIP is a planning document that provides the Agency with an opportunity to evaluate and assess its capital needs from financial, engineering, operational and planning perspectives.
- **CAPACITY CHARGE:** A one-time fee charged to all new users connecting to, and creating additional demand on, the sanitary and sewer treatment systems and is a funding mechanism by which the cost of the facilities to serve them are paid for. Government code requires capacity charges to fund capital projects.
- **COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM (CMMS):** A software program that is used for inventory control, procurement management, fixed asset condition assessment, maintenance repair management, and asset reporting. The Agency uses a CMMS product called NEXGEN.
- **CONTRACT SERVICE REVENUES:** Services provided by the Agency under contract to other local agencies for pump station and collection system maintenance, the various source control programs, a new service to assure safe disposal of amalgam and mercury contaminants.
- **CURRENT AND OTHER ASSETS:** Assets that can easily be converted to cash or consumed within one year. Includes cash, investments, receivables, prepaid expenses, deposits with others (example: OPEB asset).
- **CURRENT LIABILITIES:** Payment obligations owed by the Agency within the next 12 months.
- **EQUIVALENT DWELLING UNIT (EDU):** An EDU is one single-family residence.
- **ENTERPRISE FUND:** A government accounting fund that provides goods or services to the public for a fee that makes the entity self-supporting.
- **FLOW(S):** The total incoming sewage flow(s) to CMSA from JPA member agencies measured in millions of gallons and collected for the previous April 1 to March 31. It is used to calculate the sewer service charge and allocate to each JPA member agency its respective portion of the sewer charge.
- **FOG:** Fats, Oils and Grease
- **FULL TIME EQUIVALENT (FTE):** A position converted to a decimal equivalent of a full-time employee position.
- **HAULERS, PERMITS and INSPECTION REVENUE:** Fees and charges for use of Agency septage receiving facility, permit fees for commercial and industrial waste regulated commercial and industrial dischargers, reimbursement of Agency labor, and administrative costs for performing inspections and other services.

- **INVESTED IN CAPITAL ASSETS, NET OF RELATED DEBT:** Represents amounts invested in capital assets less accumulated depreciation and any outstanding debt used to acquire the assets.
- **JOINT POWERS AGREEMENT (JPA):** An agreement between two or more local government agencies to form a separate governmental entity distinct from the member governments. It authorizes the powers the JPA is allowed to exercise.
- **LIABILITIES:** What the Agency owes others.
- **MCSTOPP:** Marin County Stormwater Pollution Prevention Program
- **MEDICAL AFTER RETIREMENT ACCOUNT (MARA):** An employer paid contribution to participating employee's MARA account. The accumulated funds, owned by the individual, can be spent on qualified medical expenses during retirement.
- **NET POSITION:** The difference between total assets and total liabilities.
- **NON-CURRENT LIABILITIES:** Payment obligations owed by the Agency more than 12 months in the future.
- **NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES):** A federal permit that establishes the quality requirements of the Agency's treatment waters, and requires the Agency to manage and maintain pretreatment, pollution prevention, mercury reduction and public education programs.
- **OTHER NON-OPERATING REVENUE:** Includes CSRMA dividends, CalCARD prompt payment incentive rebates, settlement claims, the occasional sale of assets, SDI disability reimbursements, and other miscellaneous revenue sources.
- **OPEB:** Other post-employment benefits which are specifically medical benefits for retired employees.
- **POST-EMPLOYMENT HEALTH PLAN (PEHP):** An employer paid contribution to participating employee's PEHP account has replaced the MARA. The accumulated funds, owned by the individual, can be spent on qualified medical expenses during retirement.
- **PEPRA:** Public Employees' Pension Reform Act established a cap on the amount of compensation that can be used to calculate a retirement benefit for new public employees hired on or after January 1, 2013.
- **PROGRAM REVENUES:** The Agency is the lead coordinator for the Safety Director, Countywide Education, and Outside Safety Training programs. Costs incurred by CMSA are allocated to the districts that participate in the programs. The Agency invoices participating districts quarterly for Safety Director and Countywide Education expenditures in accordance with agreements with program participants.
- **RESTRICTED CASH:** Cash and investments not available for immediate use and set aside for specific, contractual purposes.
- **REVENUE BOND:** Debt obligation for which interest and principal payments are secured by the debt service portion of service charge revenues.
- **SANITARY DISTRICT No. 2 (SD#2):** SD#2 is a CMSA JPA member, and comprises the Town of Corte Madera and unincorporated properties on the Tiburon peninsula.
- **SERVICE CHARGE:** A fee for wastewater treatment service and payment of the revenue bond debt service.
- **UNRESTRICTED CASH:** Cash and investments available to use for operations and not tied to a specific expenditure or reserve.
- **WATER ENVIRONMENT FEDERATION (WEF):** A not-for-profit technical and educational organization of 36,000 individual members and 75 affiliated Member Associations representing water quality professionals around the world.

## **ACRONYM LISTING**

AM	Asset Management
AOWP	Adult Offender Work Program
BACC	Bay Area Chemical Consortium
BACWA	Bay Area Clean Water Agencies
BAPPG	Bay Area Pollution Prevention Group
BAAQMD	Bay Area Air Quality Management District
BOD	Biological Oxygen Demand
CAFR	Comprehensive Annual Financial Report
CalPERS	California Public Employees' Retirement System
CAMP	California Asset Management Program
CASA	California Association of Sanitation Agencies
CCI	Construction Cost Index and/or City Cost Index (ENR.com)
CIP	Capital Improvement Program
CMMS	Computerized Maintenance Management System
CMSA	Central Marin Sanitation Agency
COLA	Cost of Living Adjustment
CoM	County of Marin
CPI	Consumer Price Index
CSRMA	California Sanitation Risk Management Authority
CUPA	Certified Unified Program Agencies
CWEA	California Water Environment Association
DAFs	Dissolved Air Flotation Thickeners
EDU	Equivalent Dwelling Unit
ELAP	Environmental Laboratory Approval Program
ENR	Engineering News-Record
F2E	Food-to-Energy
FOG	Fats, Oils, and Grease program (see Contract Service Revenues)
FTE	Full Time Equivalent
FW	Food Waste
FY	Fiscal Year
GASB	Government Accounting Standards Board
GFOA	Government Finance Officers Association
G&A	General & Administrative
IW	Industrial Waste
JPA	Joint Powers of Authority
LAIF	Local Agency Investment Fund (see Interest Income)
LARK	City of Larkspur
LGVSD	Las Gallinas Sanitary District (see Contract Service Revenues)
MARA	Medical After Retirement Account
MSS	Marin Sanitary Service
NACWA	National Association of Clean Water Agencies
NBWA	North Bay Watershed Association
NPDES	National Pollutant Discharge Elimination System
OPEB	Other Post-Employment Benefits (retiree medical benefits)
OWRF	Organic Waste Receiving Facility
PAFR	Popular Annual Financial Report
PEHP	Post-Employment Health Plan (employee benefit)
RVSD	Ross Valley Sanitary District, JPA Member
SBP	Strategic Business Plan
SD #2	Sanitary District #2, JPA Member

SDI	State Disability Insurance
SQSP	San Quentin State Prison
SQ Village	San Quentin Village
SQVSMMD	San Quentin Village Sewage Maintenance District
SRSD	San Rafael Sanitation District, JPA Member
SSC	Sewer Service Charge
SWRCB	State Water Resources Control Board
TCSD	Tamalpais Community Services District (see Contract Service Revenues)
TOC	Table of Contents
TSS	Total Suspended Solids
USA	Underground Service Alert
WAS	Waste Activated Sludge

PROPOSED

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PROPOSED



**CENTRAL MARIN SANITATION AGENCY**  
Proposed Budget for the FY20 & FY21  
**SCHEDULE OF REVENUE ALLOCATION TABLES**

Description	Budget FY19	Proposed FY20	Proposed FY21
Flow-Strength Allocation Table (for service charges and capital fee)	36M Flow 36M Strength	36M Flow 36M Strength	36M Flow 36M Strength
SRSD	40.86%	42.25%	42.25%
RVSD	50.49%	49.30%	49.30%
SD #2	8.65%	8.45%	8.45%
<b>Totals</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>
<b>Allocation of Service Charges to Members</b>	<b>\$ 10,622,376</b>	<b>\$ 10,994,000</b>	<b>\$ 11,379,000</b>
SRSD	4,340,303	4,644,965	4,807,628
RVSD	5,363,238	5,420,042	5,609,847
SD #2	918,836	928,993	961,526
<b>Totals</b>	<b>\$ 10,622,377</b>	<b>\$ 10,994,000</b>	<b>\$ 11,379,001</b>
<b>Allocation of Capital Fee to Members</b>	<b>\$ 811,258</b>	<b>\$ 1,021,000</b>	<b>\$ 1,252,000</b>
SRSD	331,480	431,373	528,970
RVSD	409,604	503,353	617,236
SD #2	70,174	86,275	105,794
<b>Totals</b>	<b>\$ 811,258</b>	<b>\$ 1,021,000</b>	<b>\$ 1,252,000</b>
<b>Debt Service Cost - Refunding Revenue Bonds Series 2015</b>			
Service charges-debt service principal	\$ 2,330,000	\$ 2,395,000	\$ 2,470,000
Service charges-debt service interest	1,643,206	1,572,331	1,487,006
Subtotal debt service	3,973,206	3,967,331	3,957,006
Service charges-debt service coverage	993,302	991,833	989,252
<b>Total debt service cost</b>	<b>\$ 4,966,508</b>	<b>\$ 4,959,164</b>	<b>\$ 4,946,258</b>
<b>EDU Count (for debt service allocation)</b>			
SRSD (Effective FY 2017-18 fixed at 19,545)	19,545	19,545	19,545
RVSD (Effective FY 2017-18 fixed at 22,404)	22,404	22,404	22,404
SD #2 (Effective FY 2017-18 fixed at 6,090)	6,090	6,090	6,090
SQSP (Effective FY 2017-18 fixed at 4,005)	4,005	4,005	4,005
<b>Total EDU's</b>	<b>52,044</b>	<b>52,044</b>	<b>52,044</b>
<b>Allocation of Debt Service Costs to Members</b>			
SRSD	\$ 1,865,160	\$ 1,862,402	\$ 1,857,555
RVSD	2,137,992	2,134,830	2,129,274
SD #2	581,163	580,303	578,793
SQSP	382,193	381,628	380,635
<b>Totals</b>	<b>\$ 4,966,508</b>	<b>\$ 4,959,164</b>	<b>\$ 4,946,258</b>
Total debt service charge per EDU	\$ 95.43	\$ 95.29	\$ 95.04
<b>Total billed charges to JPA members</b>	<b>16,400,142</b>	<b>16,974,164</b>	<b>17,577,258</b>

**CENTRAL MARIN SANITATION AGENCY**  
Proposed Budget for FY20 & FY21  
**Initial Allocation of Service Charges using Flow and Strength (without SQSP)**

**I. Allocation of treatment costs by Flow and Strength**

A. Flow volume	50.6%
B. Biological Oxygen Demand mass (BOD, Strength)	24.7%
C. Total Suspended Solids mass (TSS, Strength)	24.7%
<b>Total Distribution</b>	<b>100.0%</b>

**A. Annual (April to March) Flows volume into CMSA in million gallons**

	SRSD	RVSD	SD #2	Total CMSA Plant Influent Flow
April 1, 2016 to March 31, 2017	1,844.03	2,597.79	472.68	4,914.50
April 1, 2017 to March 31, 2018	1,411.51	1,888.58	382.15	3,682.24
April 1, 2018 to March 31, 2019	1,807.98	2,301.31	438.86	4,548.15
<b>Total 36 month Flow</b>	<b>5,063.52</b>	<b>6,787.68</b>	<b>1,293.69</b>	<b>13,144.89</b>
<b>% of Flow</b>	<b>38.52%</b>	<b>51.64%</b>	<b>9.84%</b>	<b>100.0%</b>

**B. Annual (April to March) Mass of Biological Oxygen Demand (BOD) in pounds**

	SRSD	RVSD	SD #2	Total CMSA Plant Influent BOD
April 1, 2016 to March 31, 2017	4,293,860	4,450,865	674,224	9,418,949
April 1, 2017 to March 31, 2018	3,605,713	4,281,207	585,582	8,472,502
April 1, 2018 to March 31, 2019	4,743,449	4,438,157	599,208	9,780,814
<b>Total 36 month BOD</b>	<b>12,643,022</b>	<b>13,170,229</b>	<b>1,859,014</b>	<b>27,672,265</b>
<b>% of Total BOD</b>	<b>45.69%</b>	<b>47.59%</b>	<b>6.72%</b>	<b>100.0%</b>

**C. Annual (April to March) Mass of Total Suspended Solids (TSS) in pounds**

	SRSD	RVSD	SD #2	Total CMSA Plant Influent TSS
April 1, 2016 to March 31, 2017	5,543,868	5,629,170	905,498	12,078,536
April 1, 2017 to March 31, 2018	4,660,290	5,612,940	799,015	11,072,245
April 1, 2018 to March 31, 2019	6,114,054	4,991,101	862,434	11,967,589
<b>Total 36 month TSS</b>	<b>16,318,212</b>	<b>16,233,211</b>	<b>2,566,947</b>	<b>35,118,370</b>
<b>% of Total TSS</b>	<b>46.47%</b>	<b>46.22%</b>	<b>7.31%</b>	<b>100.0%</b>

**II. Allocation of Sewer Service Charges to JPA Members**

This is determined by multiplying the allocation of treatment costs by volume and and strength (Section I) by each member's share of the flow (Section A), BOD (B) and TSS (C)

	SRSD	RVSD	SD #2	Total Allocation
FY20 & FY21 Budget	42.25%	49.30%	8.45%	100.00%



**CENTRAL MARIN SANITATION AGENCY**  
Proposed Budget for FY20 & FY21  
**Initial Allocation of Service Charges using Flow and Strength (with SQSP)**

**I. Allocation of treatment costs by Flow and Strength**

A. Flow volume	50.6%
B. Biological Oxygen Demand mass (BOD, Strength)	24.7%
C. Total Suspended Solids mass (TSS, Strength)	24.7%
<b>Total Distribution</b>	<b>100.0%</b>

**A. Annual (April to March) Flows volume into CMSA in million gallons**

	SRSD	RVSD	SD #2	SQSP	Total CMSA Plant Influent Flow
April 1, 2016 to March 31, 2017	1,844.03	2,597.79	472.68	136.90	5,051.40
April 1, 2017 to March 31, 2018	1,411.51	1,888.58	382.15	166.12	3,848.36
April 1, 2018 to March 31, 2019	1,807.98	2,301.31	438.86	190.43	4,738.58
<b>Total 36 month Flow</b>	<b>5,063.52</b>	<b>6,787.68</b>	<b>1,293.69</b>	<b>493.45</b>	<b>13,638.34</b>
<b>% of Flow</b>	<b>37.13%</b>	<b>49.77%</b>	<b>9.49%</b>	<b>3.62%</b>	<b>100.0%</b>

**B. Annual (April to March) Mass of Biological Oxygen Demand (BOD) in pounds**

	SRSD	RVSD	SD #2	SQSP	Total CMSA Plant Influent BOD
April 1, 2016 to March 31, 2017	4,293,860	4,450,865	674,224	355,347	9,774,296
April 1, 2017 to March 31, 2018	3,605,713	4,281,207	585,582	404,146	8,876,648
April 1, 2018 to March 31, 2019	4,743,449	4,438,157	599,208	376,680	10,157,494
<b>Total 36 month BOD</b>	<b>12,643,022</b>	<b>13,170,229</b>	<b>1,859,014</b>	<b>1,136,173</b>	<b>28,808,438</b>
<b>% of Total BOD</b>	<b>43.89%</b>	<b>45.72%</b>	<b>6.45%</b>	<b>3.94%</b>	<b>100.0%</b>

**C. Annual (April to March) Mass of Total Suspended Solids (TSS) in pounds**

	SRSD	RVSD	SD #2	SQSP	Total CMSA Plant Influent TSS
April 1, 2016 to March 31, 2017	5,543,868	5,629,170	905,498	457,495	12,536,031
April 1, 2017 to March 31, 2018	4,660,290	5,612,940	799,015	487,062	11,559,307
April 1, 2018 to March 31, 2019	6,114,054	4,991,101	862,434	514,072	12,481,661
<b>Total 36 month TSS</b>	<b>16,318,212</b>	<b>16,233,211</b>	<b>2,566,947</b>	<b>1,458,629</b>	<b>36,576,999</b>
<b>% of Total TSS</b>	<b>44.61%</b>	<b>44.38%</b>	<b>7.02%</b>	<b>3.99%</b>	<b>100.0%</b>

**II. Allocation of Sewer Service Charges to JPA Members**

This is determined by multiplying the allocation of treatment costs by volume and and strength (Section I) by each member's share of the flow (Section A), BOD (B) and TSS (C)

	SRSD	RVSD	SD #2	SQSP	Total Allocation
FY20 & FY21 Budget	40.64%	47.44%	8.13%	3.79%	100.00%



**CENTRAL MARIN SANITATION AGENCY**  
Schedule of Equivalent Dwelling Units (EDU) and Cost per EDU

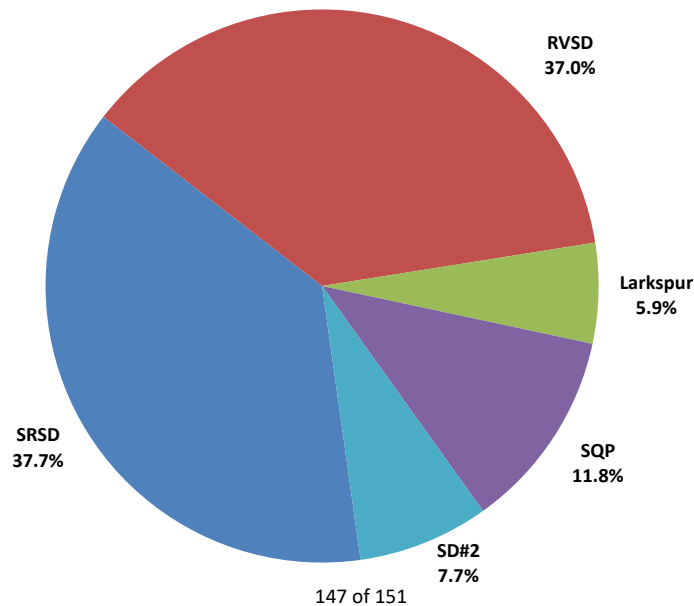
Status	Fiscal Year	San Rafael Sanitation District (SRSD)	Ross Valley Sanitary District (RVSD)	City of Larkspur	Sanitary District #2 (SD #2)	Total EDU JPA Member:	San Quentin State Prison (SQSP)	Total EDU Count	Change
Actual	2009-10	19,575	19,709	3,050	6,078	48,412	7,529	55,941	(287)
Actual	2010-11	19,401	19,261	3,021	5,975	47,658	7,209	54,867	(1,074)
Actual	2011-12	19,409	18,835	3,079	5,955	47,278	3,247	50,525	(4,342)
Actual	2012-13	19,482	19,511	2,997	6,116	48,106	4,005	52,111	1,586
Actual	2013-14	19,703	19,498	2,949	6,006	48,156	4,005	52,161	50
Actual	2014-15	19,643	19,666	2,982	6,216	48,507	4,005	52,512	351
Actual	2015-16	19,555	19,700	3,019	6,076	48,350	4,005	52,355	(157)
Actual	2016-17	19,332	19,298	3,039	6,055	47,724	4,005	51,729	(626)
Actual	2017-18	19,565	19,448	3,060	6,008	48,081	4,005	52,086	357
Actual	2018-19	19,716	19,345	3,066	6,152	48,279	4,005	52,284	198

The EDU table above shows reported EDUs for each fiscal year. The total EDU count for JPA members is used to establish the operating revenue EDU rate. The debt service EDU count was fixed effective FY18 for debt service allocation purposes. The combined operating and debt service EDU rates are used to establish the annual waste facilities use charge each July 1st.

	FY20	FY21
Service Charges & Capital Fee	\$ 12,015,000	\$ 12,631,001
EDU Count	48,279	48,279
Operating EDU Rate	\$ 248.87	\$ 261.63
Debt Service	\$ 4,959,164	\$ 4,946,258
Fixed EDU Count	52,044	52,044
Debt Service EDU Rate	\$ 95.29	\$ 95.04
<b>TOTAL COMBINED EDU RATE</b>	<b>\$ 344.15</b>	<b>\$ 356.67</b>

FY20 & FY21						
Budget	SRSD	RVSD	Larkspur	SD#2	SQSP	TOTAL
Total EDU	19,716	19,345	3,066	6,152	4,005	52,284
% of Total	37.7%	37.0%	5.9%	11.8%	7.7%	100.0%

**EDU's by Member Agencies and San Quentin Prison  
as a Percentage of Total EDU's for FY20 & FY21**



**CENTRAL MARIN SANITATION AGENCY**  
**Health & Safety Program Budget FY20 & FY21**

TABLE 1 - HEALTH & SAFETY CORE PROGRAM

	Adopted	Adopted	Projected	Proposed	FY20	FY20	FY20	Proposed	FY21	FY21	FY21	Comments		
	FY18	FY19	FY19	FY20	Change vs FY19	NSD 39.75%	CMSA 60.25%	FY21	Change vs FY20	NSD 39.75%	CMSA 60.25%			
<b>Fixed Expenses</b>														
Salary - Safety Specialist/Manager (1 FTE)	111,839	118,000	91,454	119,771	31.0%	47,600	72,200	124,562	4.0%	49,500	75,000	3% & 4% COLA eff 07/01 and one step adjust each fiscal year.		
Car Allowance - Health & Safety Manager (1 FTE)	4,800	4,800	4,246	4,800	13.0%	1,900	2,900	4,800	0.0%	1,900	2,900	\$400/month		
Benefits - CalPERS Retirement	24,574	29,400	6,257	8,208	31.2%	3,300	4,900	8,782	7.0%	3,500	5,300	PEPRA (FY19 budgeted open position at higher Classic ER rate)		
Benefits - SS/Medicare	1,681	1,800	1,326	1,809	36.4%	700	1,100	1,876	3.7%	800	1,200	Employer paid medicare for salary and car allowance (1.45%)		
Benefits - Health	11,040	29,200	10,048	11,140	10.9%	4,400	6,700	11,585	4.0%	4,600	7,000			
Benefits - PEHP	1,680	1,700	1,372	1,745	27.2%	700	1,100	1,818	4.2%	800	1,100	Er contributes 1.5% base salary to Post Employ Health Plan		
Benefits - Retiree Health (2)	6,481	6,400	5,454	6,509	19.3%	2,600	3,900	6,769	4.0%	2,700	4,100			
<b>Total Salaries &amp; Benefits</b>	<b>162,095</b>	<b>191,300</b>	<b>120,158</b>	<b>153,982</b>	<b>28.1%</b>	<b>61,200</b>	<b>92,800</b>	<b>160,191</b>	<b>4.0%</b>	<b>63,800</b>	<b>96,600</b>			
<b>Variable Expenses (account 6830-016-06)</b>														
Professional Services	6,000	6,000	-	6,000	NA	2,400	3,600	6,000	0.0%	2,400	3,600	Contract services to assist in program development.		
Publications	1,300	1,600	797	1,600	100.7%	600	1,000	1,700	6.3%	700	1,000	Mancomm, CalOSHA Reporter, ANSI/NFPA standards		
Memberships	750	750	625	750	20.0%	300	500	795	6.0%	300	500	NSC, CWEA, American Society Safety Engineers		
Office Supplies	450	450	76	450	492.2%	200	300	500	11.1%	200	300			
Safety Shoes	200	200	-	200	NA	100	100	250	25.0%	100	200			
Training Materials	2,000	2,000	-	2,000	NA	800	1,200	2,000	0.0%	800	1,200	Training Supplies, DVDs		
Computer Software/Supply	3,600	4,000	3,894	4,000	2.7%	1,600	2,400	4,200	5.0%	1,700	2,500	Keller On-Line, MSDS Online		
Pump Station Safety Assessment	-	-	-	-	-	-	-	-	NA	-	-			
Seminars/Conferences	6,200	5,500	1,100	6,200	463.6%	2,500	3,700	5,800	-6.5%	2,300	3,500	CASA, CWEA, Fall Prot, Forklift, and WC training		
<b>Subtotal Variable Expenses</b>	<b>20,500</b>	<b>20,500</b>	<b>6,492</b>	<b>21,200</b>	<b>226.6%</b>	<b>8,500</b>	<b>12,800</b>	<b>21,245</b>	<b>0.2%</b>	<b>8,500</b>	<b>12,800</b>			
<b>Total Health &amp; Safety Program Expenses</b>	<b>182,595</b>	<b>211,800</b>	<b>126,650</b>	<b>175,182</b>	<b>38.3%</b>	<b>69,700</b>	<b>105,600</b>	<b>181,436</b>	<b>3.6%</b>	<b>72,300</b>	<b>109,400</b>			
<b>Testing/Training Expenses</b>														
Testing and Training-CMSA 6830-017-01	13,100	5,560	3,831	9,100	137.5%	-	9,100	5,200	-42.9%	-	5,200	Hearing tests, CPR/First Aid, ICS, Traffic Control		
Testing and Training-NSD 6830-017-06	11,200	4,560	2,930	4,800	63.8%	4,800	-	5,200	8.3%	5,200	-	Hearing tests, CPR/First Aid, ICS, Traffic Control		
<b>Subtotal Testing and Training</b>	<b>24,300</b>	<b>10,120</b>	<b>6,761</b>	<b>13,900</b>	<b>105.6%</b>	<b>4,800</b>	<b>9,100</b>	<b>10,400</b>	<b>-25.2%</b>	<b>5,200</b>	<b>5,200</b>			
<b>Total Program Expenses</b>	<b>206,895</b>	<b>221,920</b>	<b>133,411</b>	<b>189,082</b>	<b>41.7%</b>	<b>74,500</b>	<b>114,700</b>	<b>191,836</b>	<b>1.5%</b>	<b>77,500</b>	<b>114,600</b>			
Admin Fee (5% of NSD's share H&S Mgr Salary)	5,592	2,400	3,865	2,400	-37.9%	2,400	-	2,500	NA	2,500	-	Applies to NSD Health & Safety revenue budget		
Salary - ASRS&SO (.25 FTE)	35,842	38,800	38,800	40,200	3.6%	20,100	20,100	41,400	NA	20,700	20,700	.25 FTE cost shared equally (NSD not budgeted)		
Benefits - ARS&SO (FY18: .25 FTE)	11,593	12,400	12,400	11,100	-10.5%	5,550	5,550	11,800	NA	5,900	5,900	.25 FTE cost shared equally (NSD not budgeted)		
Car Allowance - ARS&SO Salary (.25 FTE)	1,200	-	-	-	NA	-	-	-	NA	-	-	NSD's ARS&SO does not receive car allowance		
<b>Total Salaries &amp; Benefits - ARS&amp;SO</b>	<b>48,635</b>	<b>51,200</b>	<b>-</b>	<b>51,300</b>	<b>-</b>	<b>25,650</b>	<b>25,650</b>	<b>53,200</b>	<b>-</b>	<b>26,600</b>	<b>26,600</b>	Admin, Risk Services & Safety Officer (ARS&SO)		
						<b>FY20 Budget Summary</b>			<b>FY21 Budget Summary</b>					
						NSD		CMSA	NSD		CMSA			
						Program Expenditures		69,700	N/A	72,300		N/A	H&S Revenue Budget (Excludes ARS&SO)	
						5% Admin Fee		2,400	N/A	2,500		N/A	H&S Revenue Budget 5% Admin Fee	
						<b>TOTAL 4070-000-00 Budget</b>		<b>72,100</b>		<b>TOTAL 4070-000-00 Budget</b>		<b>74,800</b>		
								-	38,450			39,400	<b>TOTAL 6830-016-01 H&amp;S Prog &amp; 12.5% ASRS&amp;SO</b>	
Outside Safety Training Services						NSD reimburses CMSA		4,800	9,100	NSD reimburses CMSA		5,200	5,200	<b>TOTAL 6830-017-06 (NSD) &amp; 01 (CMSA)</b>
						Total budget for NSD		76,900	47,550	Total budget for NSD		80,000	44,600	<b>Total CMSA shared expenses and 12.5% ASRS&amp;SO</b>

**FY20 Distribution of Health & Safety Program Expenses to Participating Districts**

Method of Distribution: Each District has an equal share 50% of the total expense.  
 The remaining 50% of the program cost is distributed by the number of authorized positions for each District.

**Total Cost Core Program** 175,182 Excludes .25 FTE ARS&SO (costs shared equally) & 5% Admin Fee  
**50% of Total Expense** \$ 87,591

Agency	Distribution on 50% of Program Cost	Number of Authorized Positions*	Percentage of Total Number of Employees	Distribution on remaining 50% of Program Cost	Total Annual Payment	Total Allocation Percentage
<b>CMSA*</b>	43,795	43	70.5%	61,744	105,540	60.25%
<b>NSD*</b>	43,795	18	29.5%	25,846	69,642	39.75%
<b>Total</b>	<b>87,591</b>	<b>61</b>	<b>100.0%</b>	<b>87,591</b>	<b>175,182</b>	<b>100.00%</b>

\*Authorized positions excludes CMSA Safety Specialist/Manager and NSD Administrative, Risk Services & Safety Officer (ARS&RSO) positions

**FY21 Distribution of Health & Safety Program Expenses to Participating Districts**

Method of Distribution: Each District has an equal share 50% of the total expense.  
 The remaining 50% of the program cost is distributed by the number of authorized positions for each District.

**Total Cost Core Program** 181,436 Excludes .25 FTE ARS&SO (costs shared equally) & 5% Admin Fee  
**50% of Total Expense** \$ 90,718

Agency	Distribution on 50% of Program Cost	Number of Authorized Positions*	Percentage of Total Number of Employees	Distribution on remaining 50% of Program Cost	Total Annual Payment	Total Allocation Percentage
<b>CMSA*</b>	45,359	43	70.5%	63,949	109,308	60.25%
<b>NSD*</b>	45,359	18	29.5%	26,769	72,128	39.75%
<b>Total</b>	<b>90,718</b>	<b>61</b>	<b>100.0%</b>	<b>90,718</b>	<b>181,436</b>	<b>100.00%</b>

\*Authorized positions excludes CMSA Safety Specialist/Manager and NSD Administrative, Risk Services & Safety Officer (ARS&RSO) positions

**CENTRAL MARIN SANITATION AGENCY**  
Public Education Committee Biennial Budget FY20 & FY21

Program Costs	FY18	FY19	FY19 YTD	FY20	FY21
			Expenses		
Event Enrollment (Booth costs and event support)	\$ 15,000	\$ 7,000	\$ 2,500	\$ 4,000	\$ 4,000
Juggler Show (20 shows per year annual cost)	10,000	10,000	9,500	12,000	10,000
RxSafe Marin	-	14,000	14,000	-	14,000
Fast Forward/Kidspeak Publication (110,000 copies)	4,000	4,000	4,000	4,000	4,000
Logo Development (new logo every other year)	3,000	3,000	1,200		2,000
Awards ( 6 plaques - purchase plaques local and state)	1,000	-		600	-
Meeting Expenses (copies, demo promo/brochure items)	500	500	300	500	500
SAV-R-BAY website redesign				5,000	300
Educational Video reproduction/updating	10,000	18,000	17,100		
Booth Set Up Supplies (numerous events throughout year)	2,000	1,000	900	1,000	1,000
Booth Technology equipment					2,000
Brochures (printing/updates/ development)	1,200	3,000		3,000	3,000
MCSTOPPP Calendar Support			-		
Promotional Items	24,000	24,000	23,000	12,000	24,000
STRAW - Students and Teachers Restoring A Watershed				1,000	1,000
High School Cu, Hg watershed Audit				1,000	1,000
Marin Science & Environmental Leadership Program at Terra Linda HS		2,500	2,500	2,500	2,500
Contingency	5,000	-		5,000	
<b>Totals</b>	<b>\$ 75,700</b>	<b>\$ 87,000</b>	<b>\$ 75,000</b>	<b>\$ 51,600</b>	<b>\$ 69,300</b>

Agency	Program Cost Allocation to Participating Members					Member Revenue to CMSA (Cost Plus 15% Program Management Fee)			
	Percent	Annual Total Program Costs				FY18	FY19	FY20	FY21
	Share	FY18	FY19	FY20	FY21				
CMSA	40.6%	\$ 30,734	\$ 35,322	\$ 20,950	\$ 28,136				
LGVSD	13.2%	\$ 9,992	11,484	6,811	\$ 9,148	\$ 11,491	\$ 13,207	\$ 7,833	\$ 10,520
NSD	24.8%	\$ 18,774	21,576	12,797	\$ 17,186	21,590	24,812	14,716	\$ 19,764
SASM	11.6%	\$ 8,781	10,052	5,986	\$ 8,039	10,098	11,606	6,883	\$ 9,245
SMCSD	6.8%	\$ 5,148	5,916	3,509	\$ 4,712	5,920	6,803	4,035	\$ 5,419
SD5	3.0%	\$ 2,271	2,610	1,548	\$ 2,079	2,612	3,002	1,780	\$ 2,391
<b>Totals</b>	<b>100.0%</b>	<b>\$ 75,700</b>	<b>\$ 87,000</b>	<b>\$ 51,600</b>	<b>\$ 69,300</b>	<b>\$ 51,711</b>	<b>\$ 59,430</b>	<b>\$ 35,248</b>	<b>\$ 47,339</b>

NOTES:

Event Enrollment - committee decreased amount needed due to several events being discontinued (Salmon Festival, BAEER Faire) in 2018.

Educational Video reproduction/updating - committee plans to fund the video production from FY19 funds only

Booth Set Up Supplies (numerous events throughout year) - committee lowered this amount needed after reviewing the amount historically spent on this line item.

Brochures (printing/updates/development) - committee would like to reprint current brochures in Spanish, to reach more of the target audience and develop a flyer directed toward senior citizens.

MCSTOPPP Calendar Support - MCSTOPP is no longer publishing an annual county wide calendar. If this organization starts up again, the committee will discuss funding.

STRAW - this program was only funded in FY17.

RxSafe Marin - For FY20 we will be halting our monetary support in order for them to catch up to our donation. They plan to spend FY19 money in FY20.

SAV-R-BAY website redesign - The website is hosted locally through CMSA, but needs to be professionally overhauled and redesigned.

MSEL - Student Outreach Research Projects - LGVSD currently works with MSEL students and suggested this would be a great addition to the Public Education Program. This year the student project researched the effects of microbeads from beauty products, on the environment and the difficulty removing them from wastewater. The students made alternative beauty products using natural ingredients and have printed up the recipes for people to make at home. They will be presenting their project at the Downtown San Rafael Farmer's Market, Thursday, April 26th and San Rafael, Civic Center Farmer's Market, Sunday, April 29th in hopes to bring attention to this problem. The requested \$2,500 would be seed money to assist the MSEL program at Terra Linda High School.



## Central Marin Sanitation Agency

# Financial Policies Manual

FY20 & FY21 GFOA Budget published on the [www.cmsa.us/finance](http://www.cmsa.us/finance) website will include the Financial Policies Manual

*Board Adopted in full on November 13, 2018.*

**Individual Policy Revision Adoptions**

**#531 – Investments: March 14, 2019**

**#550 – Annual Budget: April 9, 2019**