



**Montara Water
and Sanitary District**
Serving the Community of Montara and Moss Beach

P.O. Box 370131
8888 Cabrillo Hwy
Montara, CA 94037-0131
t: 650.728.3545 • f: 650.728.8556

To sensitively manage the natural resources entrusted to our care, to provide the people of Montara - Moss Beach with reliable, high – quality water, wastewater, and trash disposal at an equitable price, and to ensure the fiscal and environmental vitality of the district for future generations. Be open to providing other services desired by our community.

AGENDA

Special Meeting

District Board of Directors

8888 Cabrillo Highway
Montara, California 94037

May 31, 2018 at 7:30 p.m.

CALL TO ORDER

ROLL CALL

PRESIDENT'S STATEMENT

ORAL COMMENTS (Items other than those on the agenda)

PUBLIC HEARING

1. [Review and Possible Action Concerning Adoption of Maximum Sewer Service Charges for Fiscal Year 2018/2019 and 2019/2020.](#)

CONSENT AGENDA

1. [Approve Minutes for May 3, 2018](#)
2. [Approve Financial Statements for April, 2018.](#)
3. Approve Warrants for May 31, 2018
4. [SAM Flow Report for April.](#)
5. [Monthly Review of Current Investment Portfolio.](#)
6. [Connection Permit Applications Received.](#)
7. [Monthly Water Production Report for April 2018.](#)
8. [Rain Report.](#)
9. [Solar Energy Report.](#)
10. [Monthly Public Agency Retirement Service Report for March 2018.](#)

OLD BUSINESS

NEW BUSINESS

1. [Review and Possible Action Concerning Sewer Authority Mid-Coastside Fiscal Year 2018-2019 Budgets.](#)
2. [Review and Possible Action Concerning MWSD Fiscal Year 2018-2019 Draft Water and Sewer Budgets and Capital Improvement Programs.](#)
3. [Review and Possible Action Concerning Award of Contract for 2017-18 SEWER IMPROVEMENT PROJECT AND SPOT REPAIRS.](#)
4. [Review and Possible Action Concerning Approval of Purchase Order for 2018 Chevrolet Colorado \(Replacement\) Through California State Contract 1-18-23-20D.](#)
5. [Review of the Department of Water Resources Reclassification of the Half Moon Bay Terrace to High Priority.](#)
6. [Review and Possible Action Concerning Cancellation of Next Regular Scheduled Meetings June 1, June 14, and July 5, 2018, and Scheduling of Alternative Meetings.](#)

REPORTS

1. Sewer Authority Mid-Coastside Meetings (Boyd)
2. MidCoast Community Council Meeting (Slater-Carter)
3. CSDA Report (Slater-Carter)
4. Attorney's Report (Schricker)
5. Directors' Reports
6. General Manager's Report (Heldmaier)

FUTURE AGENDAS

ADJOURNMENT

CONVENE IN CLOSED SESSION

CONFERENCE WITH LEGAL COUNSEL -- EXISTING LITIGATION

(Government Code §54956.9(d)(1))

Case Names: *City of Half Moon Bay v. Granada Community Services District, et al.*
(Santa Clara County Super, Crt. No. 17CV316927)

Regional Water Quality Control Board v. Sewer Authority Mid-Coastside
(ACL Complaint No. R2-2017-1024)

*Regional Water Quality Control Board v. Montara Water and Sanitary
District* (ACL Complaint No. [unspecified])

CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION

(Government Code §54956.9(d)(2))

Significant Exposure to Litigation:

Number of cases: 2

REPORT OF ACTION TAKEN IN CLOSED SESSION, IF ANY ADJOURNMENT



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: **May 31, 2018**

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

A handwritten signature in black ink, appearing to be 'CH'.

SUBJECT: Review and Possible Action Concerning Adoption of Maximum Sewer Service Charges for Fiscal Year 2018/2019 and 2019/2020.

A Sewer Rate Study was presented at the March 8 and April 5 meetings. The Board provided input for the preparation of a final version.

The last MWSD sewer rate study was implemented in 2010. The Prop 2018 limit was set for the coming 4 years. However, the District was able to extend the rate increase over a period of 8 years. MWSD has planned for its infrastructure and operations costs accordingly and required rate increases mainly to offset inflation.

Current and planned budget increases at the Sewer Authority Mid-Coastside, and current legal action brought by the City of Half Moon Bay result in increased funding needs that need to be paid for by the owners of SAM. The SAM Budget increased by ~25% last FY and is suggested to increase by ~18% this year. SAM is asking its owners for infrastructure upgrades of close to \$40 million in the coming 20 years.

At the April 5 meeting the Board authorized staff to send notices to homeowners that suggest sewer service charge increases from currently \$14.31 per hcf to \$17.41 for FY 18/19 and to \$21.07 for FY 19/20.

Alex Handlers with Bartle Wells will be available at the meeting.

RECOMMENDATION:

Open the Public Hearing, allow for relevant testimony, close the public hearing, and adopt Ordinance No.____, Ordinance of the Montara Water and Sanitary District Establishing Maximum Sewer Service Charges for Fiscal Years July 1, 2018 – June 30, 2019 and July 1, 2019 – June 30, 2020.

Attachments

ORDINANCE NO.

ORDINANCE OF THE MONTARA WATER AND SANITARY DISTRICT ESTABLISHING MAXIMUM SEWER SERVICE CHARGES FOR FISCAL YEARS JULY 1, 2018 – JUNE 30 2019 AND JULY 1, 2019 – JUNE 30, 2020

THE BOARD OF THE MONTARA WATER AND SANITARY DISTRICT, A PUBLIC AGENCY IN THE COUNTY OF SAN MATEO, CALIFORNIA, DOES ORDAIN AS FOLLOWS:

Section 1. Findings. The Board of the Montara Water and Sanitary District hereby finds and declares that:

a. This Board has caused to be prepared a study of estimated costs of operation, maintenance and repair of, and for the construction of certain capital improvements to, the Montara Water and Sanitary District sewerage system over the two (2) fiscal years July 1, 2018 – June 30, 2019 and July 1, 2019 – June 30, 2010.

b. This Board also commissioned a study of proposed sewer system rates and charges that would produce estimated revenues sufficient to correspond to the aforesaid costs.

c. The necessity for enacting particular rates or charges within the aforesaid two (2)-year period depends upon actual revenues received which, in turn, are a factor of user demands upon the water system.

d. This Board reviews annually the estimated costs and revenues of the sewerage system and establishes rates and charges that will raise revenues corresponding to annually adjusted estimates.

e. The rates and charges enacted by this ordinance are maximums for each corresponding rate component listed hereinafter.

f. Specific sewer system rates and charges corresponding to adjusted estimates of costs and revenues that may be enacted by ordinance adopted subsequent to the effective date of this ordinance shall not exceed said maximums.

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g. Written notice by mail of the proposed fees and charges hereinafter described was given to the record owner of each identified parcel upon which the fee or charge is proposed for imposition, the amount of the fee or charge proposed to be imposed upon each, the basis upon which the amount of the proposed fee or charge was calculated, the reason for the fee or charge, together with the date, time and place of the public hearing on the proposed fee or charge, which hearing date is not less than forty- five (45) days from the mailing of said notice.

h. In addition to the aforesaid notice, notice of said public hearing was published not less than twice, with at least five (5) days intervening between the dates of the first and last publication, in a newspaper of general circulation regularly published once a week or oftener within the County of San Mateo.

i. On May 31, 2018, the aforesaid public hearing was held at which all persons present and expressing a desire to be heard on the matter of adoption of the hereinafter described sewer system rates and charges were heard and all written documents pertaining thereto were received.

j. This Board considered all protests, written and oral, against the proposed fees and charges.

k. Written protests by a majority of the owners of parcels identified as being subject to imposition of the fees and charges were not presented.

Section 2. Sewer System Maximum Rates and Charges.

a. The following maximum sewerage system rates and charge are hereby established:

SCHEDULE OF SEWER SERVICE CHARGES

During the next two (2) fiscal years (July 1 – June 30) commencing July 1, 2018, sewer service charge rates may be revised depending on cash flow needs not to exceed the maximum rates set forth in the table below. At the end of the second

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fiscal year (June 30, 2020) the most recent schedule of rates rate will remain in effect pending further review of the sewer system's financial condition. The rates will remain effective unless and until revised using the same written notice and protest hearing procedure followed for these maximums.

Occupancy Use Rate Category	Maximum Rate Fiscal Year 2018-19	Maximum Rate Fiscal Year 2019-20
Residential	\$17.41 per HCF**	\$21.07 per HCF
Restaurants	\$30.21 per HCF	\$36.55 per HCF
Motels/Hotels	\$18.33 per HCF	\$22.18 per HCF
Offices	\$15.69 per HCF	\$18.98 per HCF
General Commercial	\$16.80 per HCF	\$20.33 per HCF
Schools	\$15.93 per HCF	\$19.28 per HCF
Hospitals	\$17.36 per HCF	\$21.01 per HCF
All Other Institutional and Industrial	Determined Individually	

*The actual rate shall be determined periodically during the two (2) fiscal year periods to reflect changes in operational costs and revenues received. The last adjustment shall remain in effect unless and until revised after further review of the sewer enterprise's (system's) financial condition. The minimum bill is based on 16 HCF usage during wet weather months.

**HCF=Hundred Cubic Feet

b. The rates and charges hereby established are maximums for the listed rate components. Rates and charges equal to, or less than, said maximums corresponding to estimated costs of operation of the District's sewer system may be enacted from time to time by separate ordinance including, without limitation, by ordinance amending, supplementing or restating the District's Master Fee Schedule; provided, that the last rate or charge or rates or charges so enacted shall remain in full force and effect until superseded by a subsequent enactment; provided further, that such charges shall in no event revert to the schedule of

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rates and charges in effect prior to enactment of the above rates and charges or to a lower rate than the last rate enacted pursuant hereto. Nothing herein contained shall be deemed a limitation upon the District to enact rates and charges superseding the maximum rates and charges hereby established; provided, that such superseding rates and charges shall have been enacted in accordance with all legal requirements pertaining thereto.

Section 3. Effective Date. Upon adoption, this Ordinance shall be entered in the minutes of the Board, posted for one week in three (3) public places in the District and shall become effective immediately upon expiration of one week following said posting.

President

COUNTERSIGNED:

Secretary

* * *

I hereby certify that the foregoing Ordinance was duly and regularly passed and adopted by the Board of the Montara Water and Sanitary District, San Mateo County, California, at a meeting thereof held on the 31st day of May 2018, by the following vote of the members thereof:

AYES, and in favor thereof, Directors:

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NOES, Directors:

ABSENT, Directors:

Secretary



Montara Water & Sanitary District

Serving the Communities of Montara and Moss Beach

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E-mail: mwsd@coastside.net

Visit Our Web Site: <http://www.mwsd.montara.org>

NOTICE OF PUBLIC HEARING ON PROPOSED SEWER RATE INCREASES

Dear Property Owner,

Montara Water and Sanitary District is proposing to increase its sewer service charges over the next two years. The proposed increases are needed to fund the costs of sewer operations, maintenance, and capital improvements to aging infrastructure including the District's sewer collection system and the regional wastewater treatment plant operated by the Sewer Authority Mid-Coastside. The District will hold a Public Hearing on the proposed sewer service charges as follows:

Date: May 31, 2018

Time: 7:30 p.m.

**Place: Montara Water and Sanitary District
8888 Cabrillo Highway, Montara, CA 94037
(Adjacent to the Point Montara Lighthouse & Hostel)**

The sewer utility is a self-supporting enterprise that relies primarily on revenues from sewer service charges to fund the costs of providing service. As such, sewer rates must be set at levels adequate to fund the costs of operations, maintenance, debt service, and capital improvements needed to keep the aging wastewater system in good operating condition. The proposed rate increases are needed to:

- Provide funding for critical capital improvements to the regional wastewater treatment plant operated by Sewer Authority Mid-Coastside, which is over 40 years old and in need of substantial rehabilitation.
- Increase funding for rehabilitation and replacement of aging sewer collection system pump stations and pipelines, many of which are now over 60 years old and reaching the end of their useful operating lives.
- Fund operating and maintenance expenses for the regional wastewater treatment plant, which have increased in recent years partly due to the age and condition of facilities, and provide funding for inflationary cost increases for the District.

The District last adopted sewer rate adjustments in 2010. At the time, these rate adjustments were anticipated to be phased in over four years. The District has worked consistently to minimize costs. Due to cost control measures and other factors, the District was able to raise rates slower than anticipated. Typical residential sewer bills are currently in the middle range compared to other regional agencies. The District recognizes that the proposed rate increases will place additional impacts on customers and plans to re-evaluate its rates and finances in upcoming years to ensure sewer rates continue to reflect the cost of providing wastewater service.

Proposed Sewer Rates

The District is proposing to adopt sewer rate increases for the next two fiscal years as shown on the table below. The proposed sewer rates are applied per hundred cubic feet (hcf) of billable annual usage subject to a minimum charge based on 4 hcf per month (48 hcf per year) of billable use. Residential sewer service charges are calculated based on annualized water use from four wet-weather months (November - February or December - March depending on water billing cycle), a period of minimal outdoor irrigation. Commercial sewer service charges vary based on customer class and wastewater strength and are applied based on annual water use. The first rate increase effective July 1, 2018 includes both an overall rate increase as well as some small adjustments designed to align rates with the cost of service for each customer class. Sewer service charges are collected on the San Mateo County property tax rolls.

PROPOSED SEWER RATES			
	Current Sewer Rates*	Proposed Rates Effective	
		July 1, 2018	July 1, 2019
Sewer Service Charge Rates	Equivalent	Rate	Rate
<u>Customer Class</u>	<u>rate per hcf</u>	<u>per hcf</u>	<u>per hcf</u>
Residential	\$14.31	\$17.41	\$21.07
Restaurants	25.96	30.21	36.55
Motels	15.39	18.33	22.18
Offices	12.65	15.69	18.98
General Commercial	13.70	16.80	20.33
Schools	12.88	15.93	19.28
Hospitals	14.40	17.36	21.01

Sewer Service Charge Rates are usage-based rates billed per hundred cubic feet (hcf) of billable use; 1 hcf = one hundred cubic feet, or approximately 748 gallons.

Annual sewer service charges are subject to a minimum charge based on 4 hcf per month (48 hcf per year) of billable use.

* Note: Sewer rates are currently expressed as a rate per 4 months of billable use in the District's Master Fee Schedule. For example, the current residential rate is \$42.93 per hcf and is applied to total water use over a 4-month period. This equates to a rate of \$14.31 per hcf of annualized billable use. Going forward, sewer rates will be expressed as a rate per hcf of annual billable use.

Sample Residential Bill Calculation for Fiscal Year Beginning July 1, 2018: A typical residential customer with average monthly water use of 5 hcf from November-February or December-March has annualized billable use of 5 hcf x 12 months = 60 hcf. The annual sewer service charge is calculated by multiplying annual billable use of 60 hcf x \$17.55 per hcf = \$1,053 which is collected on the property tax rolls.

Process for Submitting Written Protests

Property owners may submit written protests against the proposed rate increases. The proposed rates will not be adopted if written protests are received from a majority of affected parcels with one written protest counted per parcel. Pursuant to California law, protests must be submitted in writing and must a) identify the affected property or properties, such as by address or Assessor's Parcel Number; b) include the name and signature of the property owner submitting the protest; and c) indicate opposition to the proposed sewer rate increases. Protests submitted by e-mail, facsimile, or other electronic means will not be accepted. Written protests can be mailed to: District Clerk, Montara Water and Sanitary District, P.O. Box 370131, Montara, CA 94037. Written protests may also be delivered to the District's offices at 8888 Cabrillo Highway in Montara. All written protests must be submitted prior to the close of the Public Hearing.

For additional information or questions, please contact the District at (650) 728-3545.

Montara Water & Sanitary District



Sewer Rate Study

Revised Draft Findings & Rate Alternatives

March 19, 2018



BARTLE WELLS ASSOCIATES
INDEPENDENT PUBLIC FINANCE ADVISORS



Montara Water & Sanitary District

Sewer Rate Study

Summary of Key Issues



Background

- The sewer utility is currently in sound financial health but faces substantial financial challenges in upcoming years
 - District facing increased funding needs for rehabilitation and replacement of aging infrastructure including capital improvements to both MWSD's sewer collection system and the Sewer Authority Mid-Coastside (SAM) regional wastewater conveyance system and treatment plant
- District has accrued a healthy level of sewer fund reserves; however, this is largely due to a temporary deferral of capital improvement project expenditures
 - A substantial drawdown of fund reserves is anticipated in upcoming years
- Sewer rate revenues have remained relatively flat for past 5 years around \$2 million per year, as rate increases have been offset by declines in billed sewer use
 - As operating costs have gradually increased, funding remaining for capital improvements has decreased
 - Current rates support roughly \$500,000 - \$600,000 of total annual capital expenditures
- Last sewer rate study completed 2010
 - Rate increases adopted in 2010 have been phased in much slower than anticipated
 - District anticipated reaching maximum adopted rates over 4 years, but has been able to spread out the rate increases over 8 years
- District has implemented small, inflationary rate increases most years over past decade
 - Average annual increase over past 10 years is approximately 4.3%, however rates have only increased by about 3.0% per year over the past 5 years (roughly the rate of inflation)
 - Accounting for inflation and reduced water & sewer use, as customers cut back water use in response to drought, many customers now pay roughly the same sewer charges (or in some cases less) in inflation-adjusted terms than they did 10 years ago.
- Typical residential sewer charge is in the middle range compared to other agencies in San Mateo County
 - Many other agencies have adopted substantially higher rate increases over the past 5 years or are in the process of implementing multi-year rate increases
 - Other agencies are facing similar challenges as MWSD including need to increase funding for rehabilitation and replacement of aging infrastructure including old pipelines and aging wastewater treatment facilities

Financial & Rate Projections

- BWA updated financial projections to evaluate annual revenue requirements and project rate increases needed to fund operating and capital programs while maintaining financial health
- Key assumptions:
 - Beginning fund balances almost \$7 million as of June 30, 2017
 - MWSD revenues and expenses based on 2017/18 Budget
 - SAM expenses for collection services and wastewater treatment based on SAM Budget (with Mid-Year Adjustment for 2017/18) and SAM Proposed Budget for 2018/19
 - Operating expenses escalated at 5% per year for financial planning purposes
 - Incorporates MWSD 5-Year Capital Improvement Program, which averages about \$1.8 million per year
 - Includes \$525,000 per year for SAM capital improvements, based on MWSD’s estimated 21% share of a \$2.5 million annual SAM capital program
- Financial projections indicate that significant sewer rate increases needed in upcoming years
- Key factors driving the need for rate increases include:
 - Substantial increases in MWSD and SAM capital funding needs for rehabilitation and replacement of aging infrastructure that includes a) aging sewer collection system pipelines and pump stations, and b) a 40+ year-old wastewater treatment plant in coastal conditions
 - District engineer estimates MWSD capital funding needs to replace aging District infrastructure over the next 50 years at \$1.9 million per year (in current dollars)
 - Roughly 60% of MWSD sewer pipelines are now over 60 years old
 - SAM infrastructure in need of major reinvestment due to age and condition
 - Modest increase in SAM operating expenses starting this fiscal year 2017/18
 - Ongoing cost inflation

Preliminary Financial & Rate Scenarios

- A. Initial one-time rate spike** to immediately increase capital funding to about \$2 million per year for combined MWSD and SAM infrastructure improvements; smaller increases in outer years
- B. Phase-in substantial rate increases** to escalate total capital funding to about \$2.5 million per year and keep up with operating cost inflation. Draw down fund reserves to fully fund capital needs while rates are phasing in.
- B+. Slower phase-in of rate increases** to gradually increase funding for capital needs, but not fully achieve long-term funding needs. Partially reduce capital funding and draw down fund reserves to help fund capital needs while rates are phasing in.

	2018/19	2019/20	2020/21	2021/22	2022/23
A) Initial Rate Spike	90%	0%	0%	8%	8%
B) Phase In Rate Increases	26%	24%	22%	20%	0%
B+) Slower Phase In of Rates	20%	18%	18%	16%	15%

- *District can opt to move forward with the first few years of rate increases at this stage and re-evaluate finances in future years...e.g. take significant, gradual steps in the right direction along a long-term path.*

- Rate impacts for each customer class will vary a little bit due to an updated cost-of-service rate realignment
- Rates often reflect a balance of competing objectives
 - Need to fund increased capital needs vs. desire to minimize rate increases
- Lower rate increases in near term result in need for larger rate increases in future years, and vice versa

Sewer Customers & Use

- The following table shows a summary breakdown of residential vs. commercial sewer customers, billed usage, and sewer rate revenues for the current fiscal year 2017/18

	Residential	Commercial	Total
Sewer Customers	1,785 97.1%	54 2.9%	1,839
Billed Usage	42,768 91.6%	3,936 8.4%	46,704
Sewer Rate Revenues	\$1,797,571 89.9%	\$201,481 10.1%	\$1,999,052

Sewer Rate Structure

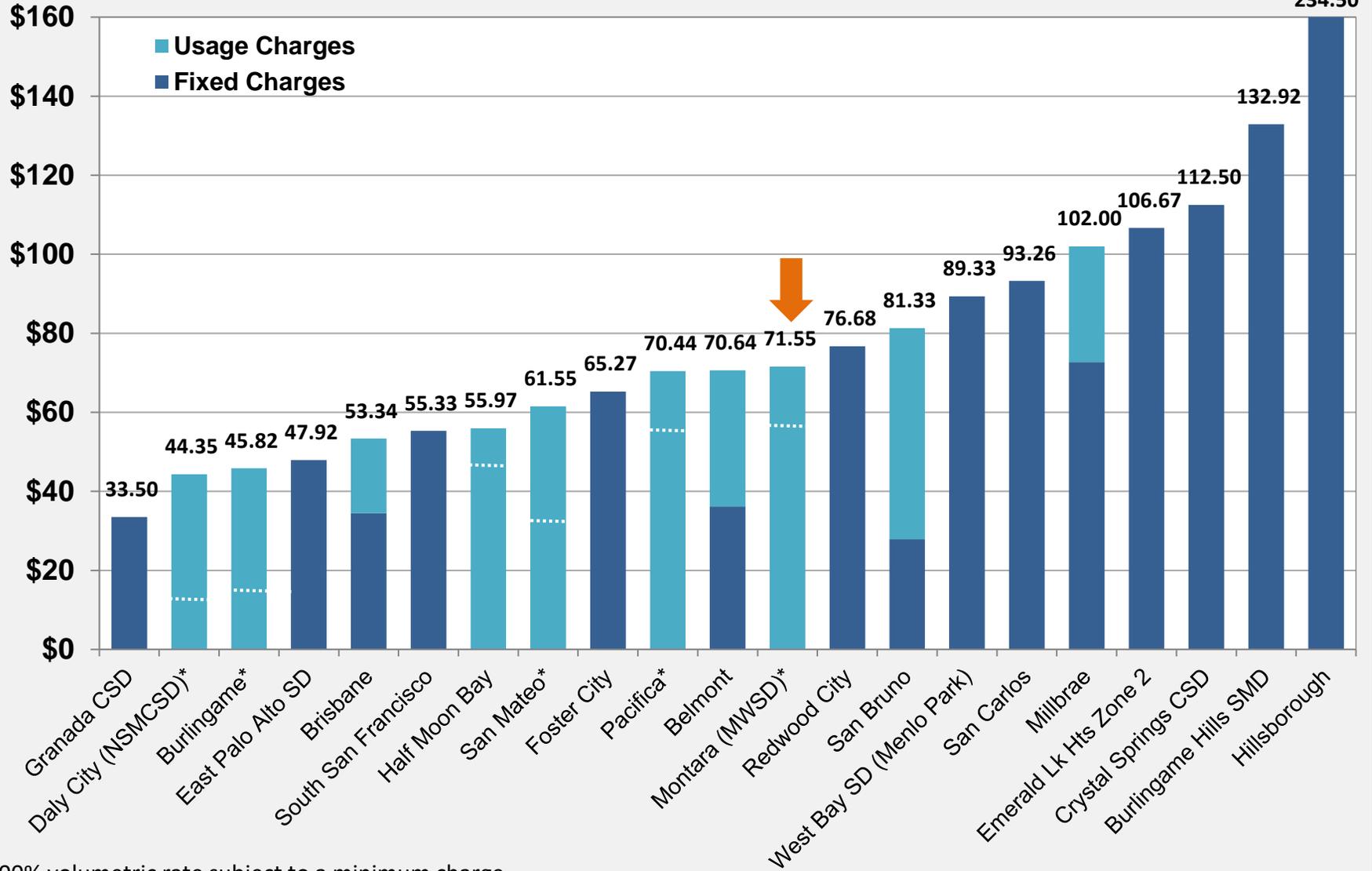
- Current sewer rates are volumetric rates based on prior-year or prior-winter water use
 - Rates for all customer classes are subject to a minimum charge based on 16 hcf of billed usage (for a 4-month period)...equivalent to a charge based on 4 hcf of monthly use
 - Residential rates are applied to water use from two bi-monthly billing periods covering either Nov-Feb or Dec-Mar (depending on billing cycle)
 - 7 Commercial rate classes with rates that vary based on wastewater strength; commercial rates are applied based on four months of average annual water use.
- BWA updated rates based on updated cost-of-service allocations, resulting in slightly different percentage rate increases for each customer class over the next two years
- Annual sewer service charges collected via the County's property tax rolls

Next Steps

- Present revised findings rate alternatives and receive Board direction
 - Obtain Board approval to move forward with the Proposition 218 rate increase process
 - Target dates:
 - April 20 - Mail Proposition 218 Notices on or before this date
 - June 7 - Proposition 218 Rate Hearing at the first Board Meeting in June
-

Single Family Residential Monthly Sewer Bills 2017/18

San Mateo County: Based on flat rate or 5 hcf of monthly winter water use



* 100% volumetric rate subject to a minimum charge.

Table 1
Montara Water & Sanitary District
Current Sewer Rates

Sewer Customer Class	Current Sewer Rates ¹	Minimum Annual Charge ²	Equivalent Sewer Rate (\$ per hcf)	Equivalent Sewer Rate (\$ per 100 glns)	% of Residential Rate
Residential	\$42.93	\$686.88	\$14.31	\$1.91	100%
Restaurants	77.87	1,245.92	25.96	3.47	181%
Motels	46.16	738.56	15.39	2.06	108%
Offices	37.94	607.04	12.65	1.69	88%
General Commercial	41.11	657.76	13.70	1.83	96%
All Other Commercial	44.73	715.68	14.91	1.99	104%
Schools	38.63	618.08	12.88	1.72	90%
Hospitals	43.19	691.04	14.40	1.92	101%

1 Residential rates are applied to water use from four wet weather months (Nov-Feb or Dec-Mar)
Commercial rates are applied based on four months of average use throughout year.

2 Minimum annual charge based on 16 hcf of sewer use for 2 bi-monthly billing periods (4 hcf per month).

Table 2
Montara Water & Sanitary District
Historical Sewer Rates

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Rate Adjustment (rounded)		3.8%	14.0%	2.5%	4.3%	3.0%	3.0%	3.0%	3.0%	2.9%
Sewer Service Charge Rates										
<i>Volumetric charges billed per four months of water use (\$ per hcf)*</i>										
Residential*	\$29.30	\$30.42	\$34.69	\$35.55	\$37.07	\$38.18	\$39.33	\$40.51	\$41.73	\$42.93
Restaurants	53.15	55.18	62.94	64.49	67.252	69.27	71.35	73.49	75.69	77.87
Motels	31.5	32.7	37.3	38.21	39.864	41.06	42.29	43.56	44.87	46.16
Offices	25.9	26.89	30.66	31.43	32.768	33.75	34.76	35.81	36.88	37.94
General Commercial	28.07	29.14	33.23	34.06	35.508	36.57	37.67	38.8	39.96	41.11
All Other Commercial	30.53	31.7	36.15	37.044	38.63	39.79	40.98	42.21	43.48	44.73
Schools	26.37	27.38	31.22	32	33.361	34.36	35.93	36.46	37.55	38.63
Hospitals	29.48	30.6	34.9	35.76	37.298	38.42	39.57	40.76	41.98	43.19
Minimum Charge: <i>Minimum sewer bill based on 16 hcf of billed use from 2 bi-monthly billing periods (4 hcf per month).</i>										
* Residential charges are applied based on water use from two winter billing periods (Nov/Dec & Jan/Feb or Dec/Jan & Feb/Mar). Commercial charges are applied based on average bi-monthly water use from the prior fiscal year.										
Note: 1 hcf = 1 hundred cubic feet, or approximately 748 gallons.										

Table 3
Montara Water & Sanitary District
Sewer Service Customers

	2015/16		2016/17		2017/18	
	<u>Accounts</u>	<u>Dwelling Units</u>	<u>Accounts</u>	<u>Dwelling Units</u>	<u>Accounts</u>	<u>Dwelling Units</u>
Residential						
Single Family	1,724	1,724	1,732	1,732	1,738	1,738
Multi-Family	56	150	49	125	46	114
Mobile Homes	<u>1</u>	<u>227</u>	<u>1</u>	<u>227</u>	<u>1</u>	<u>227</u>
Subtotal	1,781	2,101	1,782	2,084	1,785	2,079
	97.0%		97.0%		97.1%	
Commercial						
Restaurants	7		7		7	
Motels	4		4		4	
Offices	14		14		13	
General Commercial	18		18		18	
All Other Commercial	-		-		-	
Schools	5		5		5	
Hospitals (Medical)	5		5		5	
Other (Res Rate)	<u>2</u>		<u>2</u>		<u>2</u>	
Subtotal	55		55		54	
	3.0%		3.0%		2.9%	
Total	1,836		1,837		1,839	

Table 4
Montara Water & Sanitary District
Billed Sewer Use (hcf)

	2015/16	2016/17	2017/18	2-Year Average	
				4-Months	Annual
Billed Sewer Use for 4 Months (with Minimum 16 hcf)					
Residential					
Single Family	38,261	36,445	36,490	36,468	109,404
Multi-Family	1,390	1,275	1,098	1,187	3,561
Mobile Homes	5,597	4,981	5,180	5,081	15,243
Subtotal	45,248	42,701	42,768	42,736	128,208
	91.5%	91.7%	91.6%	91.6%	91.6%
Commercial					
Restaurants	1,041	986	882	934	2,802
Motels	259	223	219	221	663
Offices	252	243	270	257	771
General Commercial	735	636	587	612	1,836
All Other Commercial	-	-	-	-	-
Schools	262	175	238	207	621
Hospitals (Medical)	1,483	1,517	1,631	1,574	4,722
Other (Res Rate)	192	107	109	108	324
Subtotal	4,224	3,887	3,936	3,913	11,739
	8.5%	8.3%	8.4%	8.4%	8.4%
Total	49,472	46,588	46,704	46,649	139,947

Table 5
 Montara Water & Sanitary District
 Average Billed Monthly Sewer Use (hcf)

	2015/16	2016/17	2017/18
Residential			
Single Family	5.5	5.3	5.2
Multi-Family	2.3	2.6	2.4
Mobile Homes	6.2	5.5	5.7
Subtotal	5.4	5.1	5.1
Commercial			
Restaurants	37.2	35.2	31.5
Motels	16.2	13.9	13.7
Offices	4.5	4.3	5.2
General Commercial	10.2	8.8	8.2
All Other Commercial	-	-	-
Schools	13.1	8.8	11.9
Hospitals (Medical)	74.2	75.9	81.6
Other (Res Rate)	24.0	13.4	13.6
Subtotal	19.2	17.7	18.2

Table 6
Montara Water & Sanitary District
Sewer Service Charges

	2015/16	2016/17	2017/18
Sewer Service Charge Revenues			
Residential	\$1,809,181 89.8%	\$1,747,864 89.9%	\$1,797,571 89.9%
Commercial			
Restaurants	76,502	74,643	68,690
Motels	13,547	13,462	14,126
Offices	10,743	10,735	11,461
General Commercial	27,471	24,581	24,219
All Other Commercial	-	-	-
Schools	9,589	6,610	9,234
Hospitals (Medical)	60,443	63,691	70,446
Other (Res Rate)	6,482	3,130	3,306
Subtotal	204,777 10.2%	196,851 10.1%	201,481 10.1%
Total	2,013,958	1,944,715	1,999,052

Table 7
 Montara Water & Sanitary District
 Sewer Reserve Fund Balances

Reserve Fund	Investment	Fund Balance as of June 30			
		2014	2015	2016	2017
Operating Reserve	Wells Fargo	\$884,560	\$1,913,858	\$3,386,704	\$2,894,886
Operating Reserve	LAIF	0	255,195	158,079	281,893
Capital Reserve	Wells Fargo	4,717,921	3,789,564	3,804,933	3,867,818
Connection Fees Reserve	Wells Fargo	43,000	228,488	325,604	152,756
Total		5,645,481	6,187,105	7,675,320	7,197,353

A number of capital projects were deferred in 2015 and 2016, largely due to permitting issues. The District anticipates drawing down reserves in upcoming years to help fund capital needs.

Table 8
Montara Water & Sanitary District
Outstanding Sewer Debt

	2008 CIEDB Loan	2013 PNC Lease (50% Sewer)	Total
Issue Size	\$1,010,000	\$1,818,134	
Interest Rate	3.05%	2.95%	
Term	30 Years	20 Years	
Payments	Semi-Annual	Monthly	
Purpose	Sewer Lift Stations	Water Meters	
2015/16	\$55,200	\$59,300	\$114,500
2016/17	55,100	62,300	117,400
2017/18	55,000	65,300	120,300
2018/19	54,900	68,900	123,800
2019/20	54,600	72,400	127,000
2020/21	54,600	76,100	130,700
2021/22	54,600	79,900	134,500
2022/23	54,600	83,500	138,100
2023/24	54,600	87,200	141,800
2024/25	54,000	88,600	142,600
2025/26	54,000	88,700	142,700
2026/27	54,000	29,500	83,500
2027/28	54,000	-	54,000
2028/29	54,000	-	54,000
2029/30	53,300	-	53,300
2030/31	53,300	-	53,300
2031/32	53,300	-	53,300
2032/33	53,300	-	53,300
2033/34	53,300	-	53,300
2034/35	47,000	-	47,000
2035/36	47,000	-	47,000
2036/37	47,000	-	47,000
2037/38	47,000	-	47,000
2038/39	23,000	-	23,000

Debt service rounded to nearest \$100

Table 9
Montara Water & Sanitary District
Sewer System Capital Projects

valuation estimates need for about \$2 million per year for replacements

	2017/18	2018/19	2019/20	2020/21	2021/22
MWSD SEWER CAPITAL PROJECTS					
Mechanical System Repairs & Replacements	\$30,000	\$75,000	\$50,000	\$50,000	\$25,000
Inflow & Infiltration Testing / Televising	10,000	15,000	15,000	15,000	15,000
Seal Cove Area Repair and Maint. Project	35,000	20,000	15,000	15,000	15,000
Replace Pump Station Pumps	20,000	20,000	150,000	50,000	20,000
Replace Medium High Priority Sewer Mains	575,000	450,000	1,300,000	1,300,000	1,500,000
Spot Repairs Program	25,000	15,000	15,000	15,000	15,000
Replace Distillery Pump Station	0	5,000	15,000	120,000	80,000
Cabrillo Hwy Express Sewer	945,000	900,000	0	400,000	500,000
Pump Station Communication Upgrades	0	2,500	2,500	2,500	2,500
Subtotal	1,640,000	1,502,500	1,562,500	1,967,500	2,172,500
SAM CAPITAL ASSESSMENT					
	<u>Budget</u>				
SAM Capital Improvements	included	2,500,000	2,500,000	2,500,000	2,500,000
Est. MWSD Allocation %	below	21.0%	21.0%	21.0%	21.0%
MWSD Allocation \$ (rounded)	856,000	525,000	525,000	525,000	525,000
TOTAL	2,496,000	2,027,500	2,087,500	2,492,500	2,697,500

Table 10
Montara Water & Sanitary District
Sewer Authority Mid-Coastside Expenses

	2015/16 Actual	2016/17 Actual	2017/18 Estimated	2017/18 + Mid-Yr Adj*	2018/19 Proposed
MWSD'S SEWER AUTHORITY MID-COASTSIDE EXPENSES					
Wastewater Treatment					
Administrative Services	\$244,692	\$204,348	\$296,117	\$317,717	\$341,797
Treatment Division	463,200	424,507	650,054	659,774	619,120
Environmental Compliance	-	65,675	33,549	33,549	35,521
Subtotal	707,892	694,530	979,720	1,011,040	996,438
Contract Collection Services	325,958	321,608	312,877	312,877	301,644
Total Operating Expenses	1,033,850	1,016,138	1,292,597	1,323,917	1,298,082
Infrastructure/Non-Operating	160,666	153,710	545,951	856,030	514,703
Total Expenses	1,194,516	1,169,848	1,838,548	2,179,947	1,812,785

* 2017/18 Mid-Year Budget Amendment totals \$341,399.

Table 11
Montara Water & Sanitary District
Historical Sewer Finances

	Actual 2014/15	Actual 2015/16	Estimated 2016/17	Budget 2017/18
Beginning Sewer Fund Balances	\$5,645,000	\$6,187,000	\$7,675,000	\$7,021,000
REVENUES				
Sewer Service Charges	2,196,000	2,055,000	1,957,000	1,999,000
Property Taxes	214,000	326,000	327,000	235,000
Connection/Remodel Fees	166,000	101,000	167,000	195,000
Interest Earnings	12,000	18,000	17,000	70,000
Cell Phone Tower Lease	32,000	33,000	34,000	34,000
Other Revenues	54,000	34,000	42,000	39,000
Total Revenues	2,674,000	2,567,000	2,544,000	2,572,000
EXPENSES				
Operating Expenses				
Personnel	243,000	302,000	300,000	307,000
Professional Services	80,000	115,000	97,000	115,000
Facilities & Administration	35,000	44,000	45,000	46,000
Engineering	61,000	32,000	46,000	52,000
Pumping	27,000	29,000	31,000	32,000
SAM Wastewater Treatment	704,000	770,000	749,000	980,000
SAM Budget Amendment	0	0	0	31,000
SAM Collection Services	285,000	326,000	322,000	313,000
Other Operating Expenses	24,000	18,000	27,000	54,000
Subtotal Operating Expenses	1,459,000	1,636,000	1,617,000	1,930,000
Debt Service				
PNC Equipment Lease	56,000	59,000	62,000	65,000
I-Bank Loan	55,000	55,000	55,000	55,000
Subtotal Debt Service	111,000	114,000	117,000	120,000
Capital Improvements				
MWSD Capital Improvements	999,000	244,000	1,055,000	1,640,000
SAM Capital Assessment	63,000	161,000	105,000	546,000
SAM Budget Amendment	0	0	0	310,000
Subtotal Non-Operating Expenses	1,062,000	405,000	1,160,000	2,496,000
Total Expenses	2,632,000	2,155,000	2,894,000	4,546,000
Revenues Less Expenses	42,000	412,000	(350,000)	(1,974,000)
Ending Fund Balances	5,687,000	6,599,000	7,325,000	5,047,000
Funds Generated for Capital	1,104,000	817,000	810,000	522,000

Table 12A
Montara Water & Sanitary District
Sewer Cash Flow Projections

Scenario A
Initial Rate Spike for Full CIP Funding
With Smaller Additional Increases in Later Years

	Budget	Projected				
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Rate Adjustment Effective Date	July 1					
Rate Adjustments	2.9%	90%	-	-	8%	8%
New Sewer Connections (EDUs)		5	5	5	5	5
Sewer Capacity Charges (EDU)	\$24,913	\$25,411	\$25,919	\$26,437	\$26,966	\$27,505
Growth in Customer Base		0.3%	0.3%	0.3%	0.3%	0.3%
Interest Earnings Rate	1.0%	1.5%	1.5%	1.5%	1.5%	1.5%
Cost Escalation		5.0%	5.0%	5.0%	5.0%	5.0%
Beginning Sewer Fund Balances	\$7,021,000	\$4,947,000	\$5,078,000	\$5,169,000	\$4,770,000	\$4,374,000
REVENUES						
Sewer Service Charges	1,999,000	3,808,000	3,819,000	3,830,000	4,148,000	4,493,000
Property Taxes (+2%)	235,000	240,000	245,000	250,000	255,000	260,000
Connection/Remodel Fees	195,000	137,000	140,000	142,000	145,000	148,000
Interest Earnings (est.)	70,000	74,000	76,000	78,000	72,000	66,000
Cell Phone Tower Lease	34,000	35,000	36,000	37,000	38,000	39,000
Other Revenues	39,000	40,000	40,000	40,000	40,000	40,000
Total Revenues	2,572,000	4,334,000	4,356,000	4,377,000	4,698,000	5,046,000
EXPENSES						
Operating Expenses						
Personnel	307,000	322,000	338,000	355,000	373,000	392,000
Professional Services	115,000	121,000	127,000	133,000	140,000	147,000
Facilities & Administration	46,000	64,000	68,000	71,000	75,000	78,000
Engineering	52,000	55,000	58,000	61,000	64,000	67,000
Pumping	32,000	34,000	36,000	38,000	40,000	42,000
SAM Wastewater Treatment	1,011,000	996,000	1,046,000	1,098,000	1,153,000	1,211,000
SAM Collection Services	313,000	302,000	317,000	333,000	350,000	368,000
Other Operating Expenses	54,000	57,000	60,000	63,000	66,000	69,000
Subtotal Operating Expenses	1,930,000	1,951,000	2,050,000	2,152,000	2,261,000	2,374,000
Debt Service						
PNC Equipment Lease	65,000	69,000	72,000	76,000	80,000	84,000
I-Bank Loan	55,000	55,000	55,000	55,000	55,000	55,000
Subtotal Debt Service	120,000	124,000	127,000	131,000	135,000	139,000
Non-Operating Expenses						
MWSD Capital Improvements	1,640,000	1,503,000	1,563,000	1,968,000	2,173,000	2,000,000
SAM Capital Assessment	856,000	525,000	525,000	525,000	525,000	525,000
Est. Additional Legal Expenses	100,000	100,000	0	0	0	0
Subtotal Non-Operating Expenses	2,596,000	2,128,000	2,088,000	2,493,000	2,698,000	2,525,000
Total Expenses	4,646,000	4,203,000	4,265,000	4,776,000	5,094,000	5,038,000
Revenues Less Expenses	(2,074,000)	131,000	91,000	(399,000)	(396,000)	8,000
Ending Fund Balances	4,947,000	5,078,000	5,169,000	4,770,000	4,374,000	4,382,000
Rsrv Target 50% O&M + \$2M	2,965,000	2,976,000	3,025,000	3,076,000	3,131,000	3,187,000
Debt Service Coverage: ≥ 1.20	5.35	19.22	18.16	16.98	18.05	19.22
Funds Generated for Capital	522,000	2,259,000	2,179,000	2,094,000	2,302,000	2,533,000

Scenario A

Montara Water & Sanitary District

Sewer Revenues & Expenses (\$ Millions)

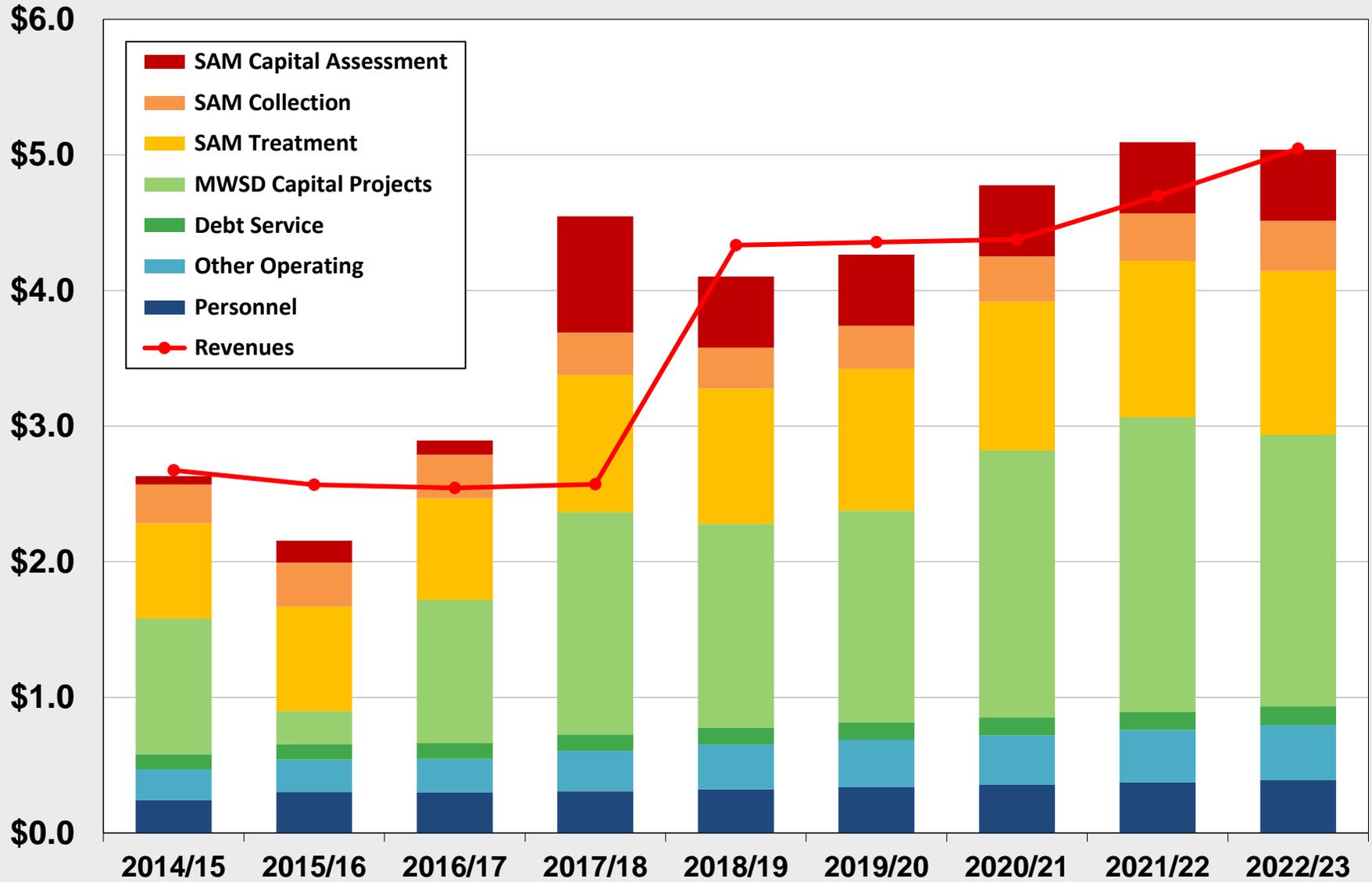


Table 12B
Montara Water & Sanitary District
Sewer Cash Flow Projections

Scenario B
Phase in Rate Increases & Draw Down Reserves
Full CIP Funding

	Budget	Projected				
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Rate Adjustment Effective Date	July 1					
Rate Adjustments	2.9%	26%	24%	22%	20%	0%
New Sewer Connections (EDUs)		5	5	5	5	5
Sewer Capacity Charges (EDU)	\$24,913	\$25,411	\$25,919	\$26,437	\$26,966	\$27,505
Growth in Customer Base		0.3%	0.3%	0.3%	0.3%	0.3%
Interest Earnings Rate	1.0%	1.5%	1.5%	1.5%	1.5%	1.5%
Cost Escalation		5.0%	5.0%	5.0%	5.0%	5.0%
Beginning Sewer Fund Balances	\$7,021,000	\$4,947,000	\$3,795,000	\$3,188,000	\$2,771,000	\$2,821,000
REVENUES						
Sewer Service Charges	1,999,000	2,525,000	3,140,000	3,842,000	4,624,000	4,637,000
Property Taxes (+2%)	235,000	240,000	245,000	250,000	255,000	260,000
Connection/Remodel Fees	195,000	137,000	140,000	142,000	145,000	148,000
Interest Earnings (est.)	70,000	74,000	57,000	48,000	42,000	42,000
Cell Phone Tower Lease	34,000	35,000	36,000	37,000	38,000	39,000
Other Revenues	39,000	40,000	40,000	40,000	40,000	40,000
Total Revenues	2,572,000	3,051,000	3,658,000	4,359,000	5,144,000	5,166,000
EXPENSES						
Operating Expenses						
Personnel	307,000	322,000	338,000	355,000	373,000	392,000
Professional Services	115,000	121,000	127,000	133,000	140,000	147,000
Facilities & Administration	46,000	64,000	68,000	71,000	75,000	78,000
Engineering	52,000	55,000	58,000	61,000	64,000	67,000
Pumping	32,000	34,000	36,000	38,000	40,000	42,000
SAM Wastewater Treatment	1,011,000	996,000	1,046,000	1,098,000	1,153,000	1,211,000
SAM Collection Services	313,000	302,000	317,000	333,000	350,000	368,000
Other Operating Expenses	54,000	57,000	60,000	63,000	66,000	69,000
Subtotal Operating Expenses	1,930,000	1,951,000	2,050,000	2,152,000	2,261,000	2,374,000
Debt Service						
PNC Equipment Lease	65,000	69,000	72,000	76,000	80,000	84,000
I-Bank Loan	55,000	55,000	55,000	55,000	55,000	55,000
Subtotal Debt Service	120,000	124,000	127,000	131,000	135,000	139,000
Non-Operating Expenses						
MWSD Capital Improvements	1,640,000	1,503,000	1,563,000	1,968,000	2,173,000	2,000,000
SAM Capital Assessment	856,000	525,000	525,000	525,000	525,000	525,000
Est. Additional Legal Expenses	100,000	100,000	0	0	0	0
Subtotal Non-Operating Expenses	2,596,000	2,128,000	2,088,000	2,493,000	2,698,000	2,525,000
Total Expenses	4,646,000	4,203,000	4,265,000	4,776,000	5,094,000	5,038,000
Revenues Less Expenses	(2,074,000)	(1,152,000)	(607,000)	(417,000)	50,000	128,000
Ending Fund Balances	4,947,000	3,795,000	3,188,000	2,771,000	2,821,000	2,949,000
Rsrv Target 50% O&M + 2M	2,965,000	2,976,000	3,025,000	3,076,000	3,131,000	3,187,000
Debt Service Coverage: \geq 1.20	5.35	8.87	12.66	16.85	21.36	20.09
Funds Generated for Capital	522,000	976,000	1,481,000	2,076,000	2,748,000	2,653,000

Scenario B

Montara Water & Sanitary District

Sewer Revenues & Expenses (\$ Millions)

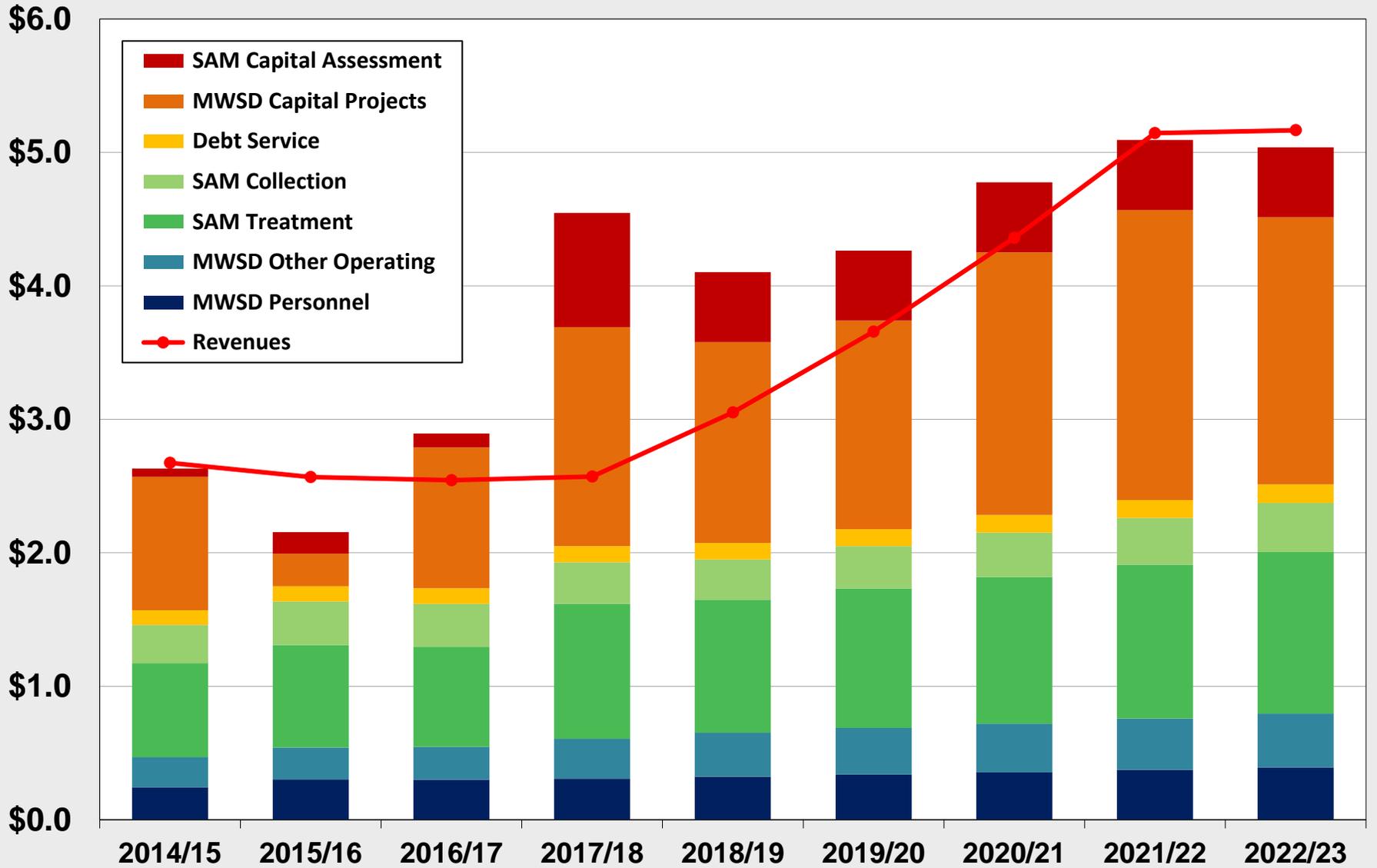


Table 12B+
Montara Water & Sanitary District
Sewer Cash Flow Projections

Scenario B+
Slower Phase In of Rate Increases
With Reduced CIP Funding in Near-Term

	Budget	Projected				
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Rate Adjustment Effective Date	July 1	July 1	July 1	July 1	July 1	July 1
Rate Adjustments	2.9%	20%	18%	18%	16%	15%
New Sewer Connections (EDUs)		5	5	5	5	5
Sewer Capacity Charges (EDU)	\$24,913	\$25,411	\$25,919	\$26,437	\$26,966	\$27,505
Growth in Customer Base		0.3%	0.3%	0.3%	0.3%	0.3%
Interest Earnings Rate	1.0%	1.5%	1.5%	1.5%	1.5%	1.5%
Cost Escalation		5.0%	5.0%	5.0%	5.0%	5.0%
Beginning Sewer Fund Balances	\$7,021,000	\$4,947,000	\$3,675,000	\$3,335,000	\$3,164,000	\$3,186,000
REVENUES						
Sewer Service Charges	1,999,000	2,405,000	2,846,000	3,368,000	3,918,000	4,519,000
Property Taxes (+2%)	235,000	240,000	245,000	250,000	255,000	260,000
Connection/Remodel Fees	195,000	137,000	140,000	142,000	145,000	148,000
Interest Earnings (est.)	70,000	74,000	55,000	50,000	47,000	48,000
Cell Phone Tower Lease	34,000	35,000	36,000	37,000	38,000	39,000
Other Revenues	39,000	40,000	40,000	40,000	40,000	40,000
Total Revenues	2,572,000	2,931,000	3,362,000	3,887,000	4,443,000	5,054,000
EXPENSES						
Operating Expenses						
Personnel	307,000	322,000	338,000	355,000	373,000	392,000
Professional Services	115,000	121,000	127,000	133,000	140,000	147,000
Facilities & Administration	46,000	64,000	68,000	71,000	75,000	78,000
Engineering	52,000	55,000	58,000	61,000	64,000	67,000
Pumping	32,000	34,000	36,000	38,000	40,000	42,000
SAM Wastewater Treatment	1,011,000	996,000	1,046,000	1,098,000	1,153,000	1,211,000
SAM Collection Services	313,000	302,000	317,000	333,000	350,000	368,000
Other Operating Expenses	54,000	57,000	60,000	63,000	66,000	69,000
Subtotal Operating Expenses	1,930,000	1,951,000	2,050,000	2,152,000	2,261,000	2,374,000
Debt Service						
PNC Equipment Lease	65,000	69,000	72,000	76,000	80,000	84,000
I-Bank Loan	55,000	55,000	55,000	55,000	55,000	55,000
Subtotal Debt Service	120,000	124,000	127,000	131,000	135,000	139,000
Non-Operating Expenses						
			\$2M reduced CIP funding over 3 years			
MWSD Capital Improvements	1,640,000	1,503,000	1,000,000	1,250,000	1,500,000	2,000,000
SAM Capital Assessment	856,000	525,000	525,000	525,000	525,000	525,000
Est. Additional Legal Expenses	100,000	100,000	0	0	0	0
Subtotal Non-Operating Expenses	2,596,000	2,128,000	1,525,000	1,775,000	2,025,000	2,525,000
Total Expenses	4,646,000	4,203,000	3,702,000	4,058,000	4,421,000	5,038,000
Revenues Less Expenses	(2,074,000)	(1,272,000)	(340,000)	(171,000)	22,000	16,000
Ending Fund Balances	4,947,000	3,675,000	3,335,000	3,164,000	3,186,000	3,202,000
Rsrv Target 50% O&M + 2M	2,965,000	2,976,000	3,025,000	3,076,000	3,131,000	3,187,000
Debt Service Coverage: ≥ 1.20	5.35	7.90	10.33	13.24	16.16	19.28
Funds Generated for Capital	522,000	856,000	1,185,000	1,604,000	2,047,000	2,541,000

Scenario B+

Montara Water & Sanitary District

Sewer Revenues & Expenses (\$ Millions)

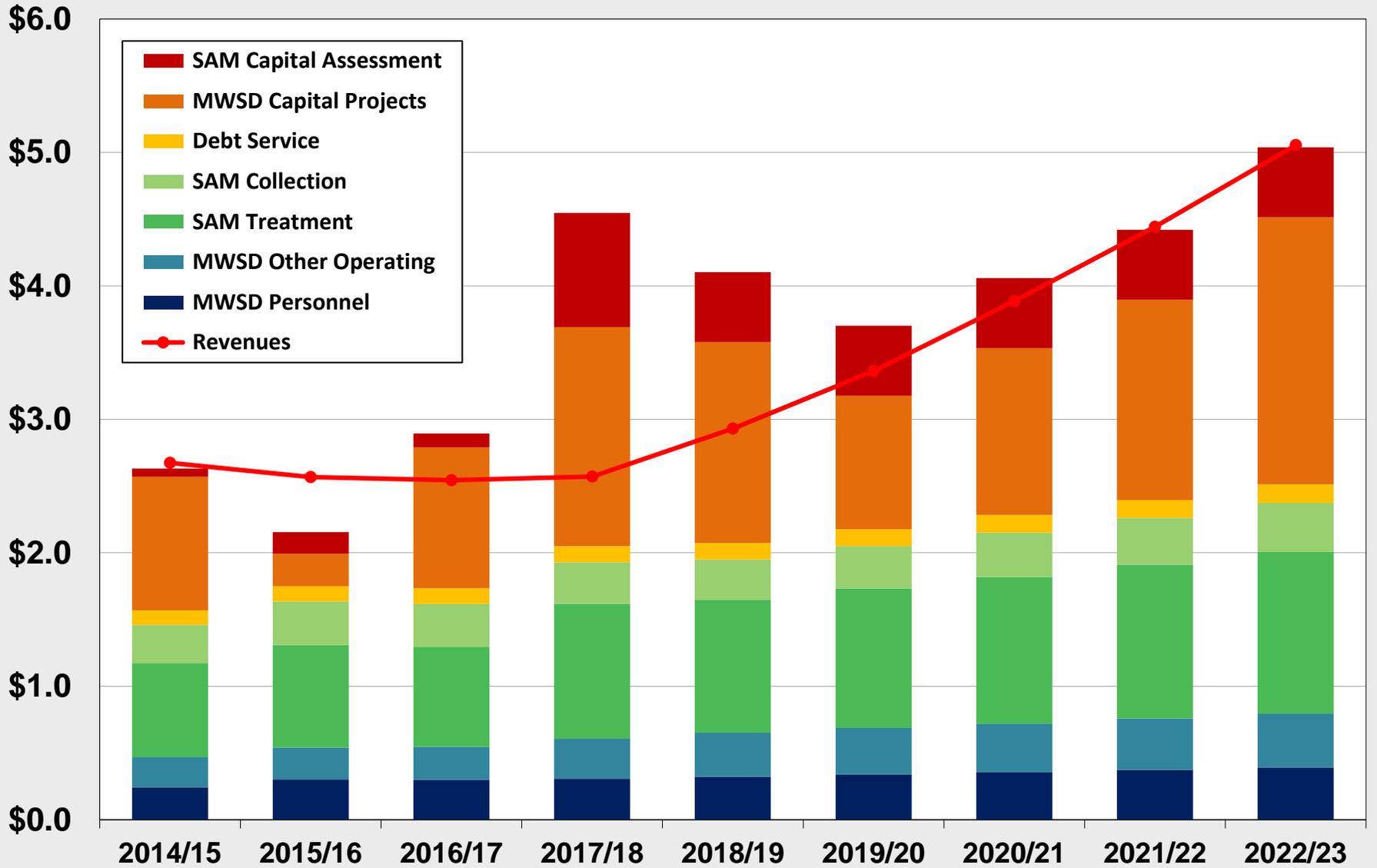


Table 13
Montara Water & Sanitary District
Wastewater Loadings by Customer Class

Customer Class	ACCOUNTS/PARCELS		FLOW	BOD		SS	
	Est. Billed Parcels	Dwelling Units	Billed Swr Flow (hcf)	Strength (mg/l)	Loadings (lbs/year)	Strength (mg/l)	Loadings (lbs/year)
Residential							
Single Family	1,738	1,738	109,404	175	119,445	175	119,445
Multi-Family	46	114	3,561	175	3,888	175	3,888
Mobile Homes	1	227	15,243	175	16,642	175	16,642
Subtotal	1,785	2,079	128,208		139,975		139,975
Commercial							
Restaurants	7		2,802	800	13,985	600	10,489
Motels	4		663	310	1,282	120	496
Offices	13		771	130	625	80	385
General Commercial	18		1,836	150	1,718	150	1,718
Schools	5		621	130	504	100	387
Hospitals	5		4,722	250	7,365	100	2,946
Other (Res Rate)	2		324	200	404	200	404
Subtotal	54		11,739		25,883		16,825
Total	1,839		139,947		165,858		156,800

Note: Wastewater strength estimates based on SWRCB Commercial User Strength Characteristics.

Table 14
Montara Water & Sanitary District
Cost Recovery Allocation

	3-Year Avg Expenses	Cost Allocation %			Cost Allocation \$		
		Flow	BOD	SS	Flow	BOD	SS
	2018/19-2020/21						
EXPENSES							
<u>Operating</u>							
Personnel	338,333	80%	10%	10%	270,667	33,833	33,833
Professional Services	127,000	100%	0%	0%	127,000	0	0
Facilities & Administration	67,667	100%	0%	0%	67,667	0	0
Engineering	58,000	100%	0%	0%	58,000	0	0
Pumping	36,000	100%	0%	0%	36,000	0	0
SAM Wastewater Treatment	1,046,667	50%	25%	25%	523,333	261,667	261,667
SAM Collection Services	317,333	80%	10%	10%	253,867	31,733	31,733
Other Operating Expenses	60,000	100%	0%	0%	60,000	0	0
Subtotal Operating	2,051,000	68.1%	16.0%	16.0%	1,396,533	327,233	327,233
<u>Debt Service</u>							
PNC Equipment Lease	72,333	100%	0%	0%	72,333	0	0
I-Bank Loan	55,000	100%	0%	0%	55,000	0	0
Subtotal Debt Service	127,333	100.0%	0.0%	0.0%	127,333	0	0
<u>Non-Operating/Other</u>							
MWSD Sewer Improvements	1,251,000	100%	0%	0%	1,251,000	0	0
SAM Capital Assessment	525,000	50%	25%	25%	262,500	131,250	131,250
Subtotal Capital Projects	1,776,000	85.2%	7.4%	7.4%	1,513,500	131,250	131,250
TOTAL EXPENSES	3,954,333	76.8%	11.6%	11.6%	3,037,367	458,483	458,483
LESS REVENUE OFFSETS							
Property Taxes	245,000	100%	0%	0%	245,000	0	0
Connection Fees	139,667	100%	0%	0%	139,667	0	0
Interest/Other	45,222	100%	0%	0%	45,222	0	0
Subtotal Capital Projects	429,889	100.0%	0.0%	0.0%	429,889	0	0
COST RECOVERY FROM RATES	3,524,444	73.98%	13.01%	13.01%	2,607,478	458,483	458,483
Rounded		74.0%	13.0%	13.0%			

Scenario B

**Phase in Rate Increases & Draw Down Reserves
With Full CIP Funding Over 5 Years**

Rate Derivation Tables

Table 15
 Montara Water & Sanitary District
 Revenue Recovery & Unit Rates

Scenario B

Service Charge Revenue Requirement			
Rate Revenue Target 2019/20			\$3,140,000
	Flow	BOD	SS
Cost Allocation			
Rate Revenue Recovery Allocation %	74.0%	13.0%	13.0%
Revenue Recovery \$	\$2,323,600	\$408,200	\$408,200
Wastewater Loadings			
Units	139,947 hcf	165,858 lbs	156,800 lbs
Unit Rate Per Treatment Parameter			
Units	\$16.6034 per hcf	\$2.4611 per lb	\$2.6033 per lb

Note: Rate Revenue Target for 2019/20 is below the total annual cost of service.

Table 16
Montara Water & Sanitary District
Rate Calculation 2019/20

Scenario B

Customer Class	WW Strength		Loadings per hcf		Unit Rates			Total Rate (per hcf)
	BOD (mg/l)	SS (mg/l)	BOD (lbs)	SS (lbs)	Flow (per hcf)	BOD (per hcf)	SS (per hcf)	
Unit Rates					\$16.603	\$2.461	\$2.603	
Residential	175	175	1.09178	1.09178	\$16.603	\$2.687	\$2.842	\$22.13
Restaurants	800	600	4.99099	3.74324	16.603	12.283	9.745	38.64
Motels	310	120	1.93401	0.74865	16.603	4.760	1.949	23.32
Offices	130	80	0.81104	0.49910	16.603	1.996	1.299	19.90
General Commercial	150	150	0.93581	0.93581	16.603	2.303	2.436	21.35
Schools	130	100	0.81104	0.62387	16.603	1.996	1.624	20.23
Hospitals	250	100	1.55968	0.62387	16.603	3.839	1.624	22.07

Note: Wastewater strength estimates based on SWRCB Commercial User Strength Characteristics.

Table 17
Montara Water & Sanitary District
Projected Sewer Rates

Scenario B

Customer Class	Current Rates		Projected Rates		
	2017/18 \$ per 4-month hcf	\$ per hcf	2017/18 \$ per hcf	2019/20 \$ per hcf	2-Year Increase
Sewer Service Charge Rates¹					
<i>Volumetric charge billed per hundred cubic feet of metered water use.</i>					
Residential	\$42.93	\$14.31	\$18.22	\$22.13	54.6%
Restaurants	77.87	25.96	32.30	38.64	48.9%
Motels	46.16	15.39	19.35	23.32	51.6%
Offices	37.94	12.65	16.27	19.90	57.4%
General Commercial	41.11	13.70	17.53	21.35	55.8%
Schools	38.63	12.88	16.55	20.23	57.1%
Hospitals	43.19	14.40	18.23	22.07	53.3%
All Other Commercial	44.73	14.91	-	-	-
<i>Minimum Billed Use (hcf)²</i>	<i>16 hcf</i>		<i>4 hcf per month</i>		

1 Residential rates applied based on annualized average monthly use from Nov-Feb or Dec-Mar.
Commercial rates applied based on annual use from prior year.

2 Minimum annual charge based on 4 hcf of billable sewer use per month.

Table 18
 Montara Water & Sanitary District
 Projected Residential Rate Impacts

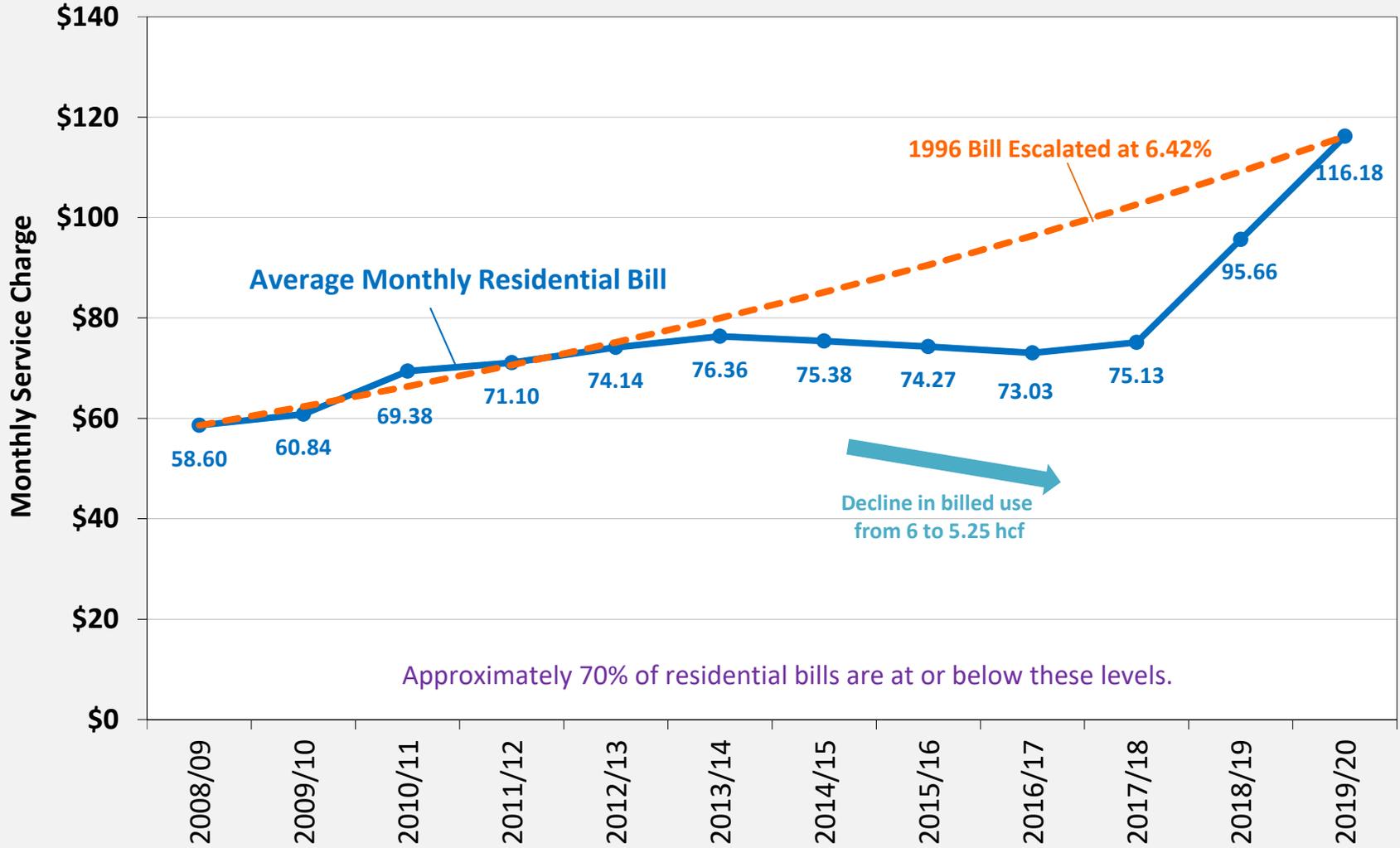
Scenario B

		Monthly	Current	Projected	
		Use (hcf)	2017/18	2018/19	2019/20
RESIDENTIAL BILLS					
<u>Monthly Charges</u>					
Minimum	50% of bills	4.0	\$57.24	\$72.88	\$88.52
Average Bill	70% at or below	5.25	75.13	95.66	116.18
Med-High	Top 10%	7.5	107.33	136.65	165.98
High	Top 5%	9.0	128.79	163.98	199.17
<u>Annual Charges</u>					
Minimum	50% of bills	4.0	\$686.88	\$874.56	\$1,062.24
Average Bill	70% at or below	5.25	901.53	1,147.86	1,394.19
Med-High	Top 10%	7.5	1,287.90	1,639.80	1,991.70
High	Top 5%	9.0	1,545.48	1,967.76	2,390.04

Scenario B

Montara Water & Sanitary District

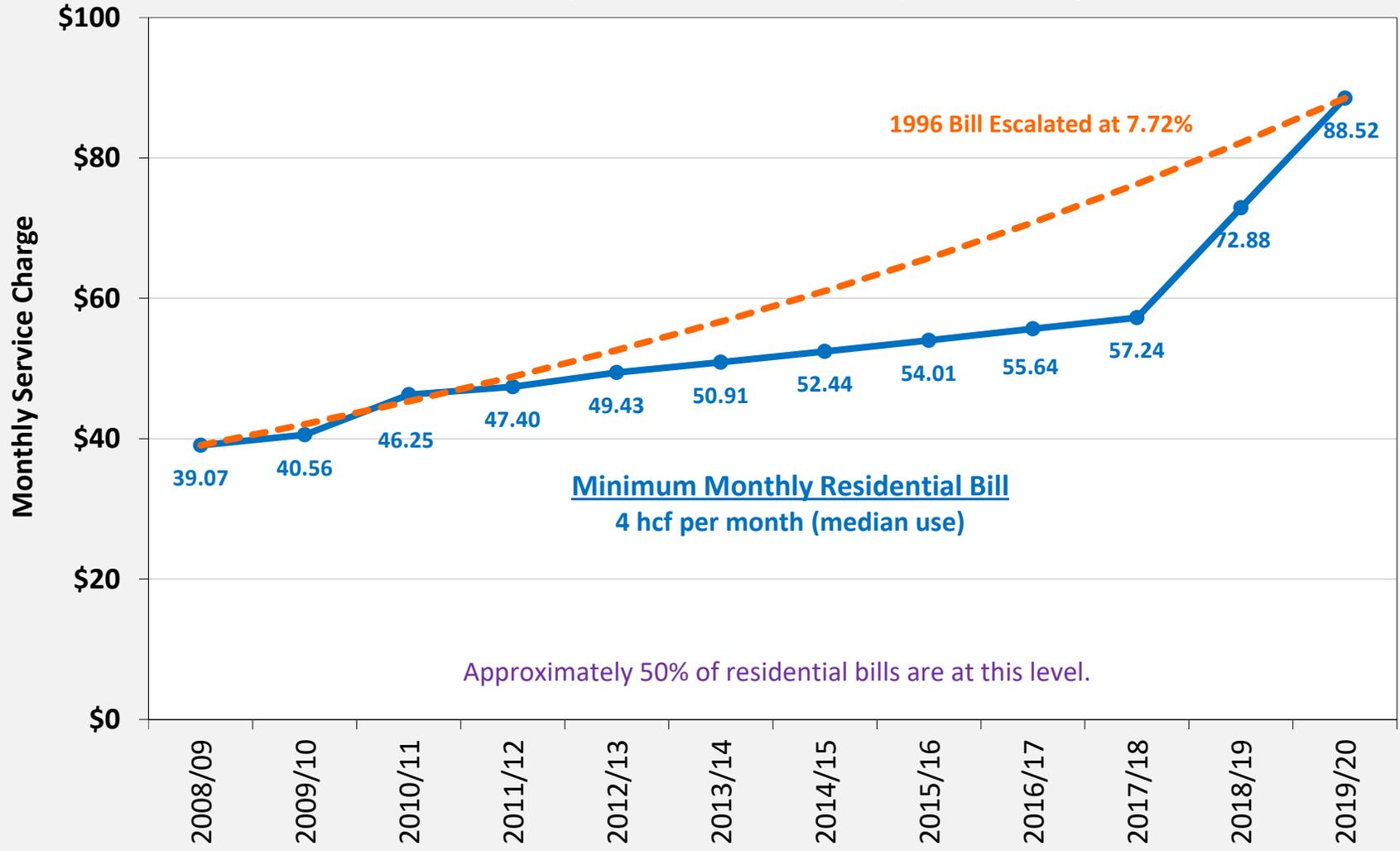
Historical & Projected Monthly Sewer Charges for a Home with Average Use



Scenario B

Montara Water & Sanitary District

Historical & Projected Minimum Monthly Sewer Charges



Scenario B+

**Slower Phase In of Rate Increases
With Partially Reduced CIP Funding Over 5 Years**

Rate Derivation Tables

Table 15
 Montara Water & Sanitary District
 Revenue Recovery & Unit Rates

Scenario B+

Service Charge Revenue Requirement			
Rate Revenue Target 2019/20			\$2,846,000
	Flow	BOD	SS
Cost Allocation			
Rate Revenue Recovery Allocation %	74.0%	13.0%	13.0%
Revenue Recovery \$	\$2,106,040	\$369,980	\$369,980
Wastewater Loadings			
Units	139,947 hcf	165,858 lbs	156,800 lbs
Unit Rate Per Treatment Parameter			
Units	\$15.0488 per hcf	\$2.2307 per lb	\$2.3596 per lb

Note: Rate Revenue Target for 2019/20 is below the total annual cost of service.

Table 16
 Montara Water & Sanitary District
 Rate Calculation 2019/20

Scenario B+

Customer Class	WW Strength		Loadings per hcf		Unit Rates			Total Rate (per hcf)
	BOD (mg/l)	SS (mg/l)	BOD (lbs)	SS (lbs)	Flow (per hcf)	BOD (per hcf)	SS (per hcf)	
Unit Rates					\$15.049	\$2.231	\$2.360	
Residential	175	175	1.09178	1.09178	\$15.049	\$2.435	\$2.576	\$20.06
Restaurants	800	600	4.99099	3.74324	15.049	11.133	8.833	35.02
Motels	310	120	1.93401	0.74865	15.049	4.314	1.767	21.14
Offices	130	80	0.81104	0.49910	15.049	1.809	1.178	18.04
General Commercial	150	150	0.93581	0.93581	15.049	2.088	2.208	19.35
Schools	130	100	0.81104	0.62387	15.049	1.809	1.472	18.34
Hospitals	250	100	1.55968	0.62387	15.049	3.479	1.472	20.01

Note: Wastewater strength estimates based on SWRCB Commercial User Strength Characteristics.

Table 17
Montara Water & Sanitary District
Projected Sewer Rates

Scenario B+

Customer Class	Current Rates		Projected Rates		
	2017/18 \$ per 4-month hcf	2017/18 \$ per hcf	2017/18 \$ per hcf	2019/20 \$ per hcf	2-Year Increase
Sewer Service Charge Rates¹					
<i>Volumetric charge billed per hundred cubic feet of metered water use.</i>					
Residential	\$42.93	\$14.31	\$17.19	\$20.06	40.2%
Restaurants	77.87	25.96	30.49	35.02	34.9%
Motels	46.16	15.39	18.26	21.14	37.4%
Offices	37.94	12.65	15.34	18.04	42.6%
General Commercial	41.11	13.70	16.53	19.35	41.2%
Schools	38.63	12.88	15.61	18.34	42.4%
Hospitals	43.19	14.40	17.20	20.01	39.0%
All Other Commercial	44.73	14.91	-	-	-
<i>Minimum Billed Use (hcf)²</i>	<i>16 hcf</i>		<i>4 hcf per month</i>		

1 Residential rates applied based on annualized average monthly use from Nov-Feb or Dec-Mar.
Commercial rates applied based on annual use from prior year.

2 Minimum annual charge based on 4 hcf of billable sewer use per month.

Table 18
 Montara Water & Sanitary District
 Projected Residential Rate Impacts

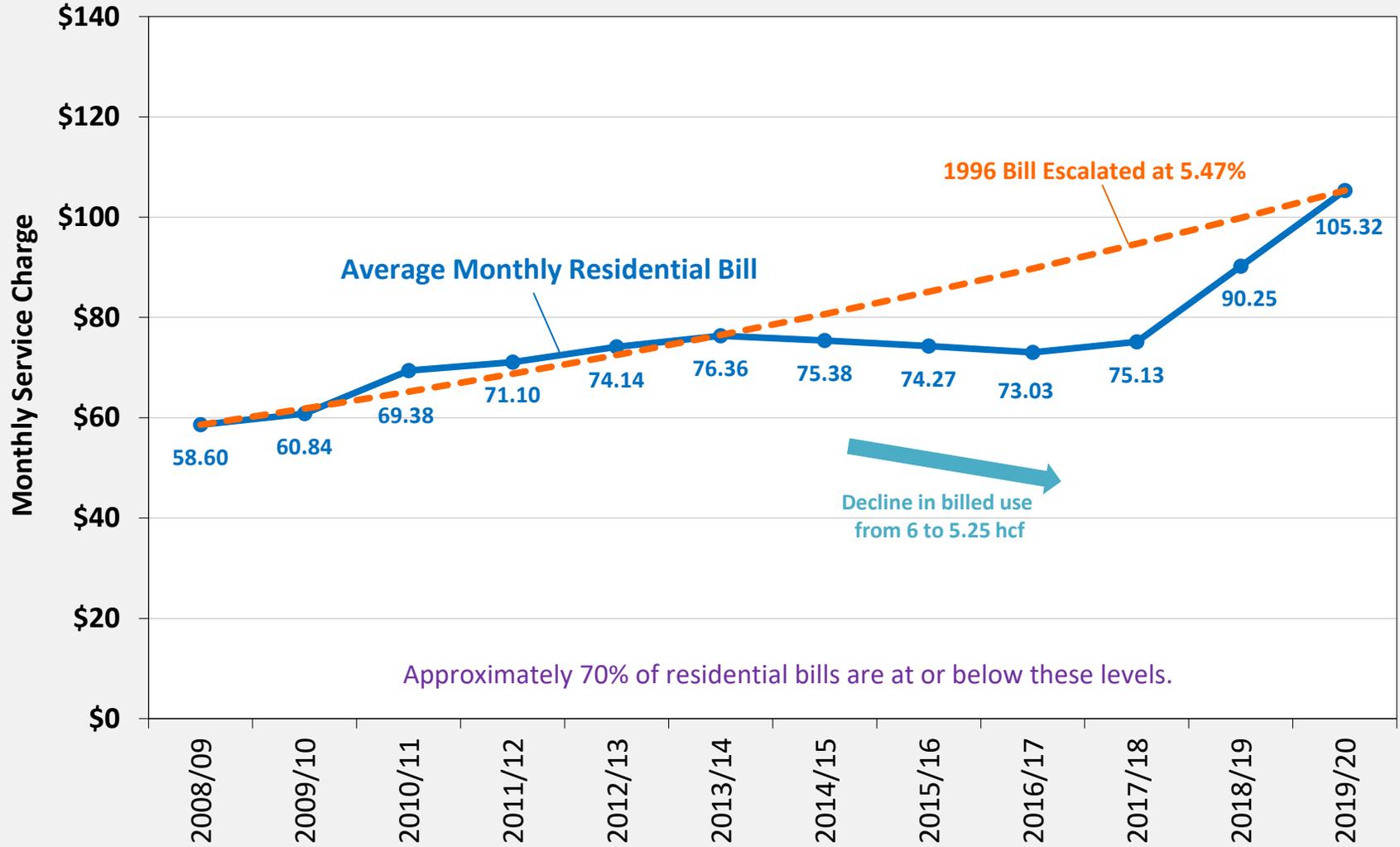
Scenario B+

		Monthly	Current	Projected	
		Use (hcf)	2017/18	2018/19	2019/20
RESIDENTIAL BILLS					
<u>Monthly Charges</u>					
Minimum	50% of bills	4.0	\$57.24	\$68.76	\$80.24
Average Bill	70% at or below	5.25	75.13	90.25	105.32
Med-High	Top 10%	7.5	107.33	128.93	150.45
High	Top 5%	9.0	128.79	154.71	180.54
<u>Annual Charges</u>					
Minimum	50% of bills	4.0	\$686.88	\$825.12	\$962.88
Average Bill	70% at or below	5.25	901.53	1,082.97	1,263.78
Med-High	Top 10%	7.5	1,287.90	1,547.10	1,805.40
High	Top 5%	9.0	1,545.48	1,856.52	2,166.48

Scenario B+

Montara Water & Sanitary District

Historical & Projected Monthly Sewer Charges for a Home with Average Use

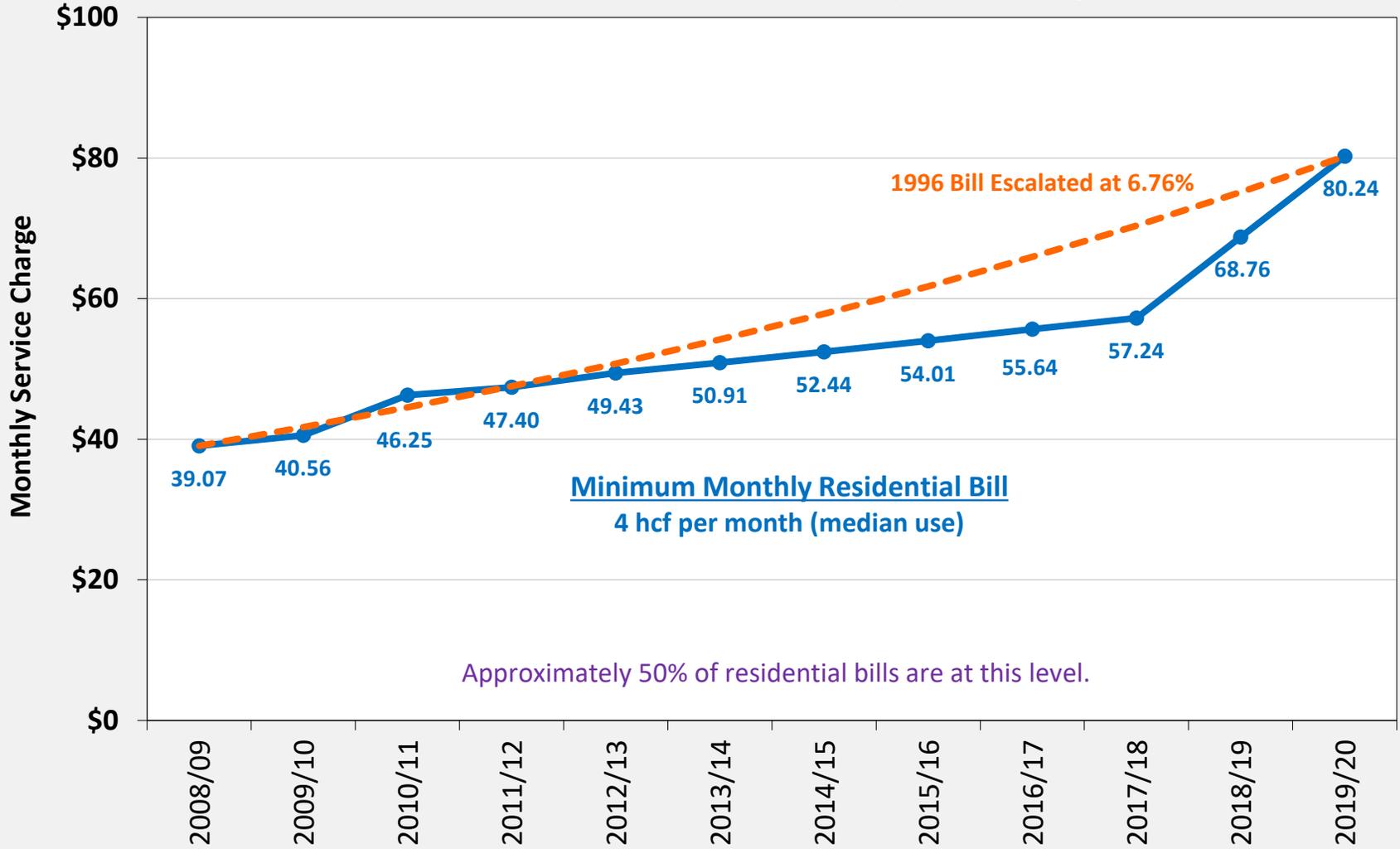


Approximately 70% of residential bills are at or below these levels.

Scenario B+

Montara Water & Sanitary District

Historical & Projected Minimum Monthly Sewer Charges



Sewer Authority Mid-Coastside
SAM

Capital Improvement Program (CIP)

May 3, 2018

Objectives of the Program



1. Respond to regulatory and safety concerns
2. Maintain and replace existing assets
3. Protect public health and environment
4. Embrace a policy of sustainability for the responsible use of existing resources

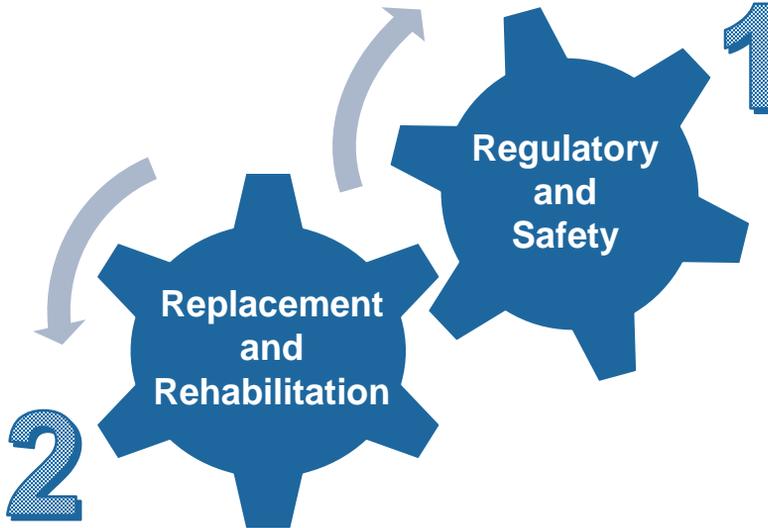


Key Drivers

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Key Drivers



Key Drivers



1. Regulatory and Safety



- Projects to ensure District remains in full regulatory and safety compliance
- Improve facilities for safety reasons
- Reduce emission of pollutants to the environment
- Meet future regulatory requirements



2. Replacement and Rehabilitation



- Projects related to aging infrastructure and replacement requirements of the District
- Provide for ongoing or future renovation activities
- Initiate preventive maintenance



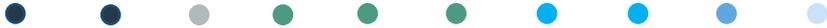
3. Sustainability / Energy / Optimization



- Optimize existing processes for energy use
- Increase energy efficiency
- Maintain and improve on sustainability of the plant
- Lower maintenance costs

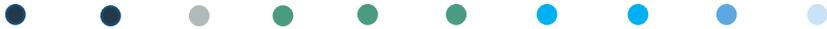


Probability of Failure



Rate of occurrence:	Once in 10 years	Once in 5-10 years	Once in 3-5 years	Once in 1-3 years	Less than once/yr.
Probability of failure rating:	0.5	2.5	5.0	7.5	10.0

Consequence of Failure



Three criteria were considered:

1. *Impact on the WWTP effluent quality*
2. *Impact on the WWTP treatment capacity*
3. *Ability to return the equipment to service (including staff)*

Consequence of Failure



Criteria	Relative Weight	Anticipated Consequences		
Effluent quality	33%	none	Mid-term Non-compliance	Immediate Non-compliance
Treatment capacity	33%	none	No more redundancy or peak capacity <15 MGD	Failed process or average capacity <4 MGD
Ability to return to service	34%	Immediate repair replacement possible	Repair possible before treatment is impacted	No contingency plan preparedness uncertain
Criteria rating:		1 = negligible	5 = low	10 = severe
Consequence rating:		Sum of the three weighted criteria ratings		

Determining Risk Score



Risk Score = Probability of Failure Rating x Consequence Rating

Example:

Asset	Probability of Failure Rating	Consequence of failure			Consequence of Failure Rating	Risk Score
		Quality	Capacity	Service-ability		
		33%	33%	34%		
Belt filter press	10	5	10	10	8.4	84

$$\text{Risk Score} = 10 \times (5 \times 0.333 + 10 \times 0.333 + 10 \times 0.344) = 84$$

Assessment Results

- 5 year capital improvement plan
- \$22.0 million in projects
- Update each year
- Proactive funding
- Risk reduction

SEWER AUTHORITY MID-COASTSIDE
 INFRASTRUCTURE PLAN FY2017-2022
 PRIORITY LEVEL 1 – REGULATORY AND SAFETY PROJECTS

Project: 1.2 Fortola Pump Station – Replace pumps 1 and 2 with chopper pumps

Priority: Regulatory and Safety

This project provides for the replacement of pumps 1 and 2 at the Fortola Pump Station. The existing pumps have exceeded their useful life and are requiring more frequent maintenance. The performance of the pumps is greatly reduced due to clogging from rags and other debris. Chopper pumps are specifically designed to moderate fibrous materials such as string and rags that would otherwise cause the pump to seize and stop pumping.



Project: 1.2 Fortola Pump Station – Replace pumps 1 and 2 with chopper pumps

CIP Total Cost: \$400,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 1 because it presents an ongoing maintenance issue that is dangerous to SAM staff to perform. The pumps have also exceeded their useful lives and require considerable effort to maintain their reliability which is essential for the IFS system.

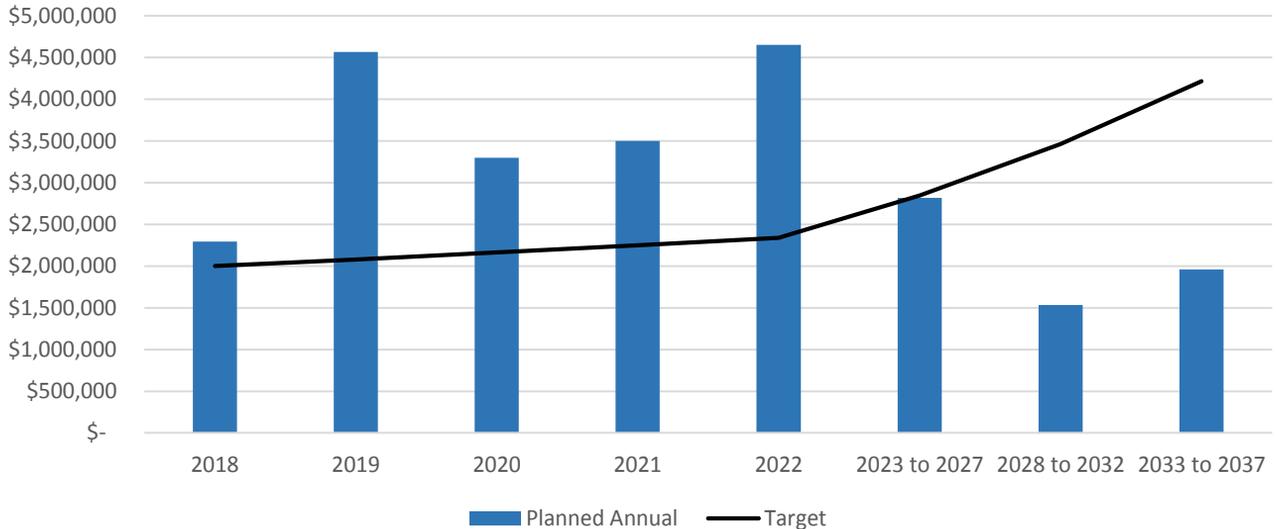
Annual Cost Distribution and Schedule					
CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
\$400,000	200,000			200,000	

March 2017

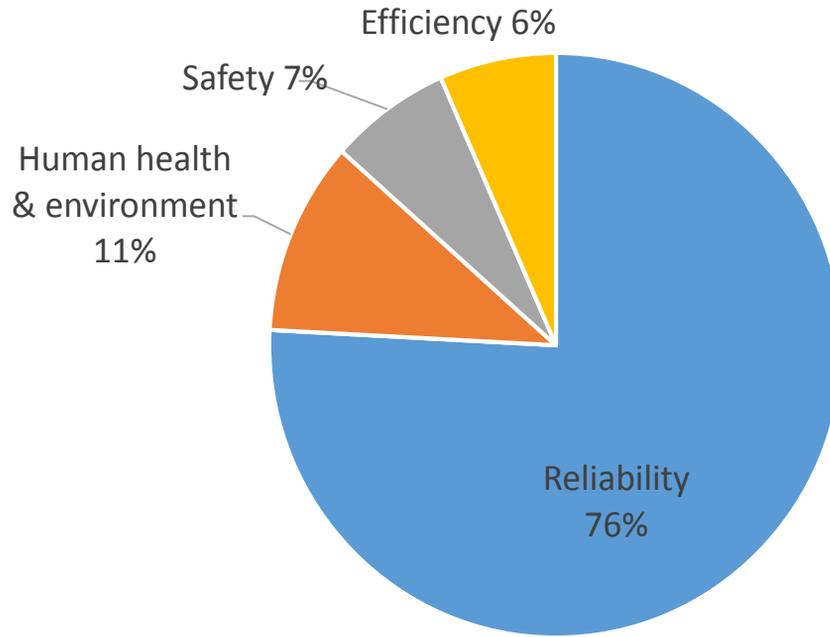
13

Summary – total annual spending

\$35.8 million over 20 years

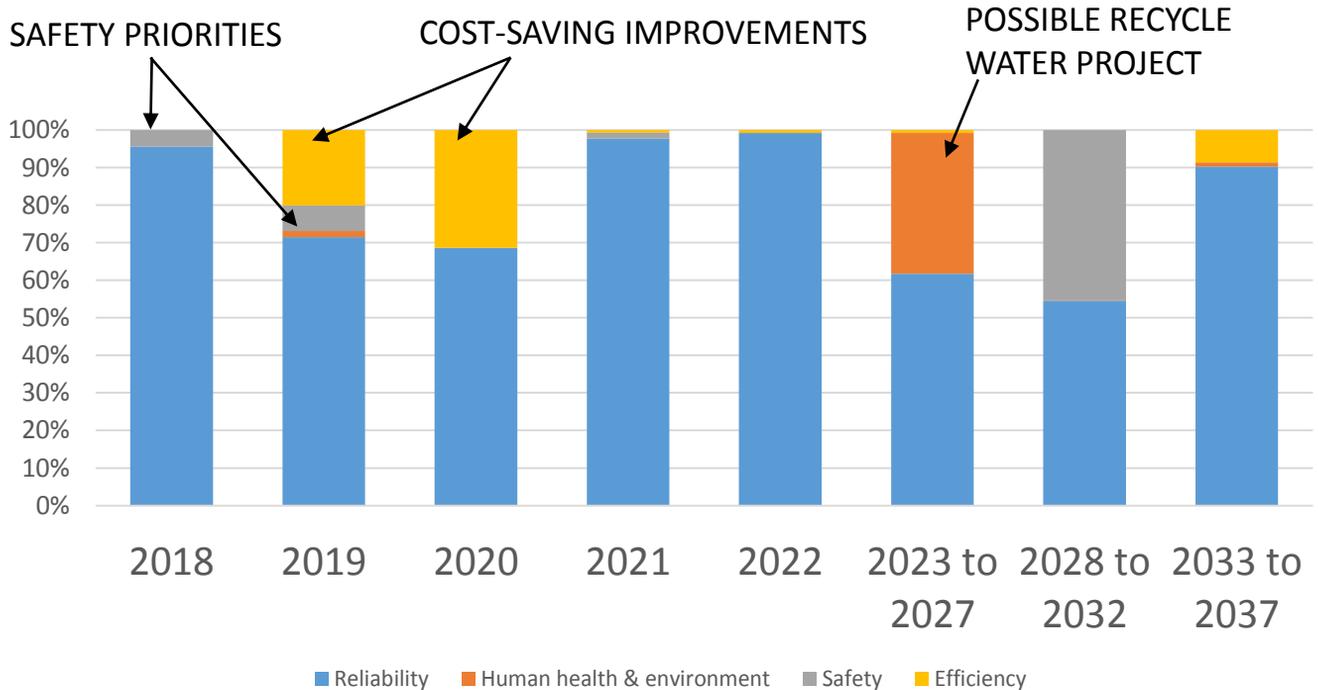


Spending by Objective

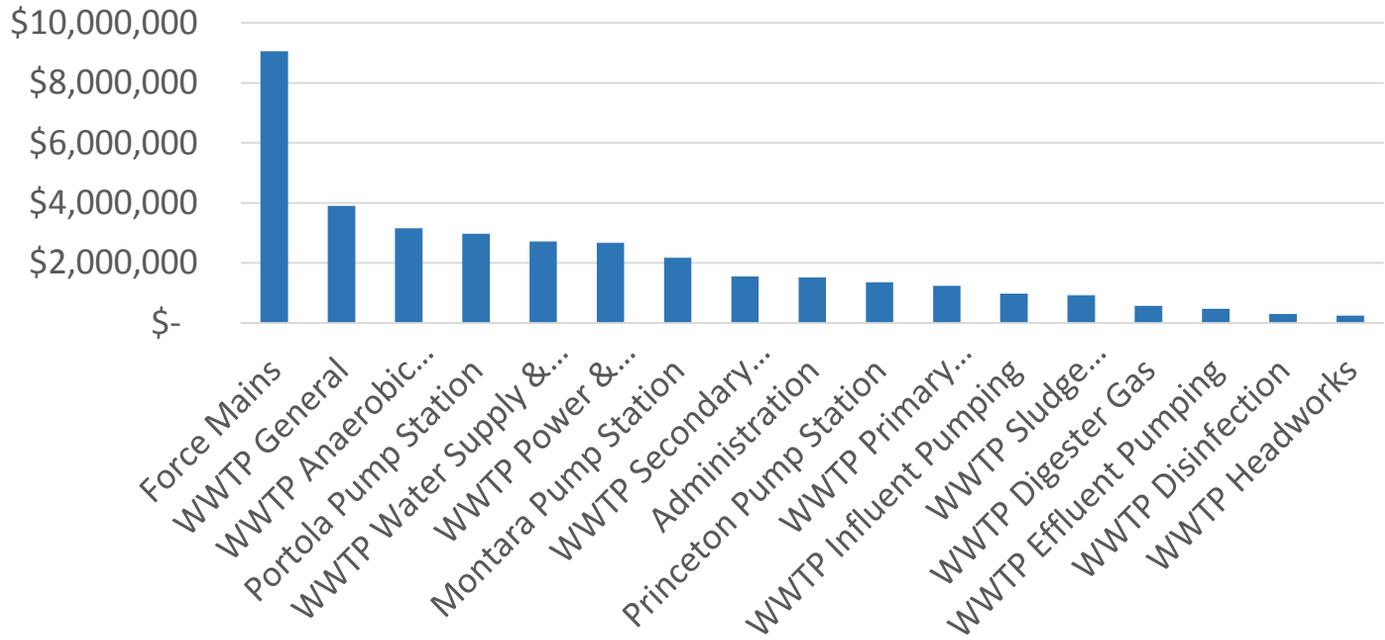


**\$35.8 million
over 20 years**

Spending by Objective



Spending by Category



SEWER AUTHORITY MID-COASTSIDE

DRAFT
20-Year Capital
Improvement Plan

April 2018



Sewer Authority Mid-Coastside
SAM

Executive Summary

SAM’s facilities require improvements to address system renewal and replacement needs, ensure safety of all staff, protect public health and environment, continue to maintain and improve system reliability, and ensure continuous compliance with all applicable regulations. This Capital Improvement Plan (CIP) comprises the collection of projects that may be necessary over the next 20 years to continue to provide wastewater treatment for the communities of City of Half Moon Bay, El Granada, Miramar, Montara, Moss Beach, and Princeton by the Sea. The intent of this plan is to provide a long-term framework for capital expenditures that can be updated and implemented approximately every 5 years. The total estimated expenditure to implement the CIP is \$35.8 million (2018 dollars) over 20 years. Figure ES-1 shows a summary of the annual outlay of capital projects over this period.

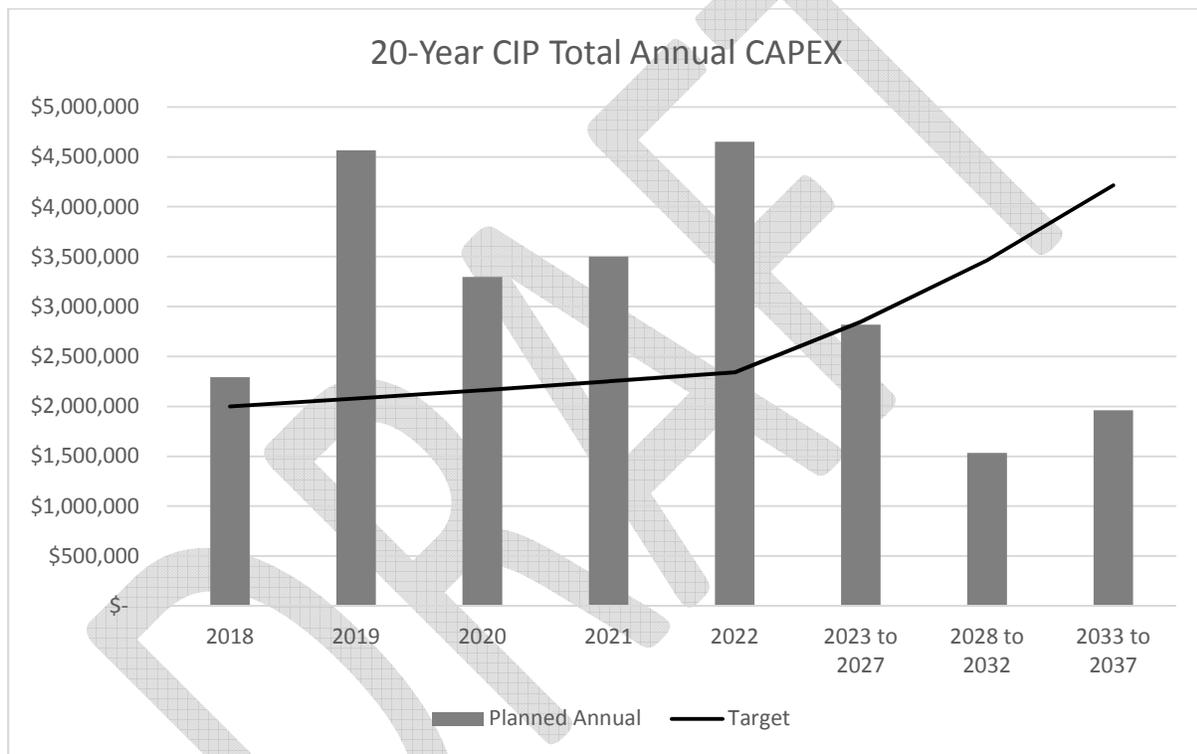


Figure ES-1: Annual CIP Capital Expenditure 2018 to 2037, adjusted for inflation (4%)

Methodology

The project list in this CIP was generated by combining several sources of information and assessing SAM’s needs for continued, uninterrupted, operation. All assets owned by SAM were considered, including the treatment plant (WWTP), pump stations, buildings, vehicles, and force mains. The following sources of information were used, in the manner described below:

- 2017 Infrastructure Plan – The projects defined and prioritized in this 5-year plan were carried over into the 20-year CIP.

- 2007 Asset list compiled by former general manager Tony Pullin – This extensive list contained over 1,100 assets along with their acquisition date. It was filtered and used to identify the current age of major assets.
- Meetings with WWTP operators and staff – Two meetings were held with the staff and operators of the WWTP and pump stations to go through each potential project, identify additional needs, and prioritize repairs and replacements.

A draft list of approximately 100 potential repair/replacement projects were identified prior to the meetings with SAM staff. These were scheduled based on the priorities in the 2017 Infrastructure Plan and by comparing standard useful life estimates against asset ages through the 20-year planning period. Cost estimates were developed using past purchase prices of equipment and engineering judgement. Costs were estimated in 2018 dollars and inflated at the rate of 4% per year.

The draft list of projects was distributed to SAM staff and management for review. Two meetings were held to discuss each project on the list and revise their scope, cost, and timing, as needed. SAM staff provided additional resources on the age and value of assets when appropriate. Discussions with SAM staff led to the prioritization of projects that are required to ensure safety and to improve the operating efficiency of SAM's facilities. Attachment 4 contains the full project list with each asset's current age, expected useful life, reasoning for resulting prioritization, and reference number for projects carried over from the 2017 5-Year Infrastructure Plan.

[Review of 5-Year Infrastructure Plan Methodology](#)

Critical assets and resources were identified and assessed for current conditions and expected performance against their estimated remaining useful life. Hazards and resulting vulnerabilities to these assets were then ranked in terms of how their respective occurrence or failure could impact the functionality of the treatment plant. Each hazard's consequence was ranked against the expected likelihood of occurrence, or risk, for SAM.

Addressing and avoiding these consequences led to a list of projects for inclusion in the 5-year plan. These projects were divided into three categories, in order of priority for implementation:

Category 1 – Regulatory and Safety: This category focuses on projects that aim to ensure that SAM remains in full regulatory and safety compliance with all applicable regulations. These projects typically cover a wide variety of subjects to improve facilities for safety reasons, to reduce emissions of pollutants to the environment, and to meet future regulatory requirements.

Category 2 – Replacement and Rehabilitation: This category focuses on projects related to maintaining existing aging infrastructure and the replacement requirements of SAM. Replacement projects focus on equipment that has exceeded its useful life, have previous history of failure, or are obsolete making it difficult or impossible to obtain replacement parts. The goals are to provide for ongoing or future renovation activities. The projects in this category typically include mechanical equipment replacement, piping renovations and replacement, electrical (including switch gear/distribution) and instrumentation replacement, upgrades, and modernization.

Category 3 – Sustainability/Energy/Optimization: This category focuses on projects that optimize existing processes, or energy efficiency, and sustainability of the treatment plant, the Intertie Pipeline System (IPS), and other facilities. The goals are to continue upgrading and improving the treatment

plant’s existing infrastructure and systems to optimize and reduce energy use, lower maintenance costs, and prevent major failures.

Within each category, projects were ranked based on their overall risk score and scheduled within the 5-year planning horizon. The full methodology and resulting 5-year plan project list can be found in Attachment 5.

CIP Project Summary

The draft project list has been categorized for organization, into each of the three pump stations; the force mains; administration/buildings; general WWTP; and the processes or subcategories of the WWTP. Figure ES-2 provides the total planned expenditures, in 2018 dollars, for each of the categories of projects.

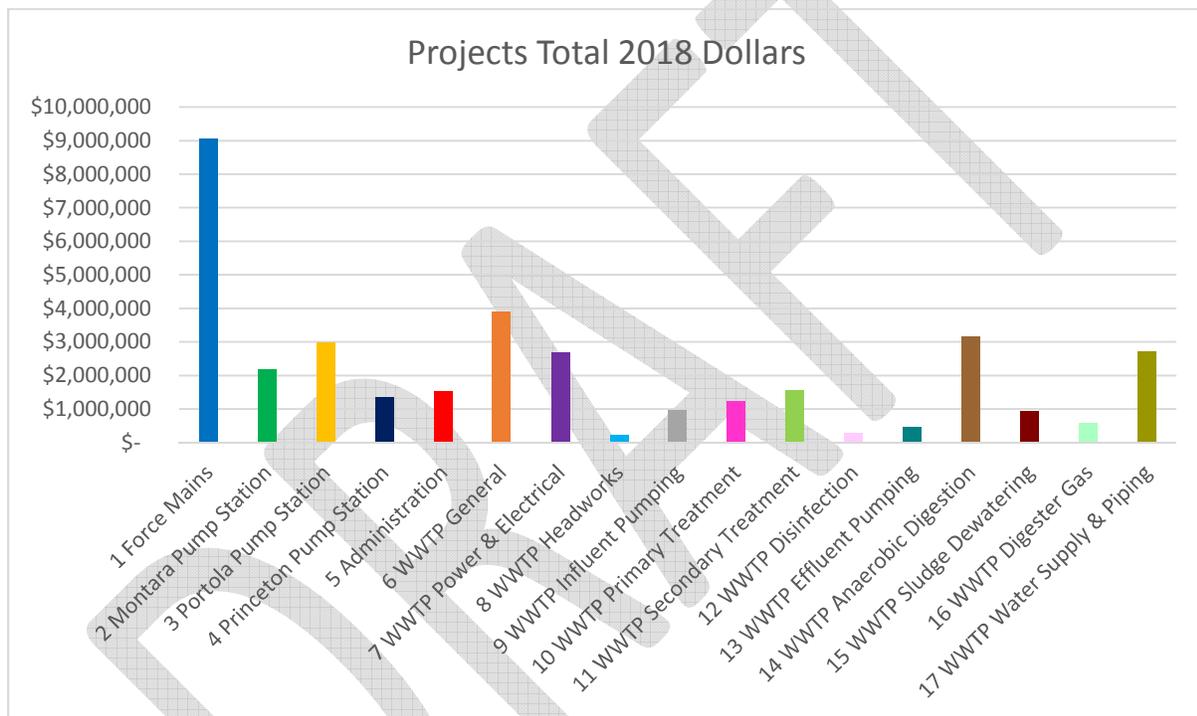


Figure ES-2: Sum total of CIP project estimated costs

The Force Mains category includes the replacement of some or all of the Granada Force Main (ongoing), Princeton Force Main, and Montara Force Main. These projects are significant expenditures but also critical for public health and environment, safety, and regulatory compliance.

The WWTP Overall category contains two projects to improve plant safety and operating efficiency. These studies may result in additional project recommendations or may lead SAM to reprioritize projects on the draft list. SAM has been planning to implement a recycled water program for several years; this project is included in the CIP and planned for 2023 or later.

Figure ES-3 shows the breakdown of total annual CAPEX by category, adjusted for inflation.

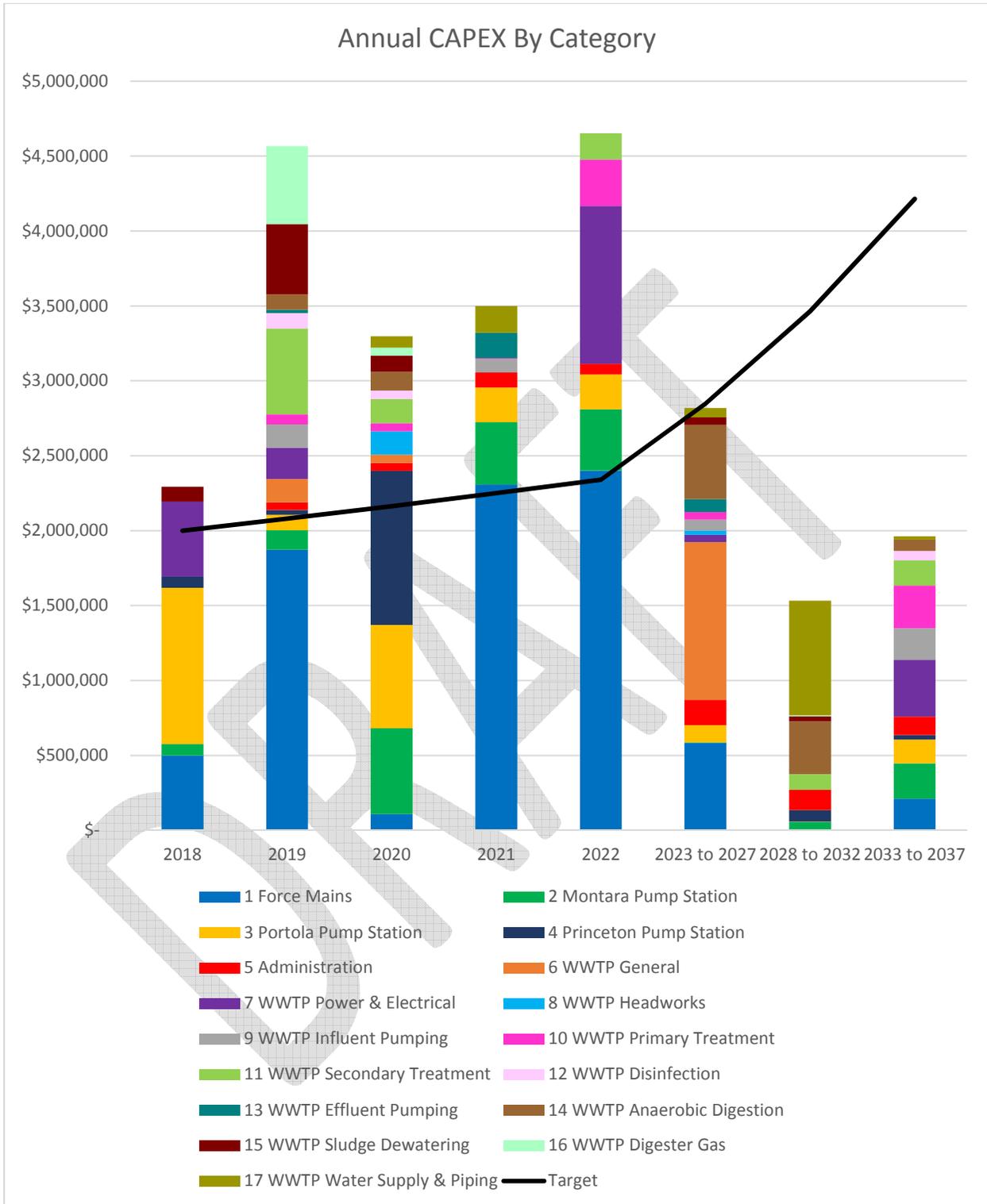


Figure ES-3: Annual CIP Capital Expenditure 2018 to 2037, by project category, adjusted for inflation (4%)

Attachments

Attachment 1 – Project summary showing the total planned expenditure, by year and project category. Costs for each year are adjusted for inflation (4%).

Attachment 2 – Series of tables with 2018 dollars cost estimates and costs adjusted for inflation, for each project category.

Attachment 3 – Project expenditure list organized by year. Note that many projects have multiple years of implementation, therefore repeat in this table.

Attachment 4 – Full project list for reference, in order of project number, with costs listed and adjusted for inflation.

Attachment 5 – 2017 5-Year Infrastructure Plan

DRAFT

Attachment 1 – Project Summary Table

Project Summary

Category	Total Sum 2018 Dollars	Annual Costs Adjusted for 4% Inflation							
		2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
1 Force Mains	\$ 9,054,000	\$ 500,000	\$ 1,872,000	\$ 108,160	\$ 2,307,471	\$ 2,399,769	\$ 583,937	\$ -	\$ 210,685
2 Montara Pump Station	\$ 2,180,000	\$ 75,000	\$ 130,000	\$ 573,248	\$ 416,200	\$ 409,450	\$ 2,847	\$ 55,414	\$ 235,967
3 Portola Pump Station	\$ 2,970,000	\$ 1,042,500	\$ 104,000	\$ 689,520	\$ 230,597	\$ 233,972	\$ 115,288	\$ 1,732	\$ 158,014
4 Princeton Pump Station	\$ 1,355,000	\$ 75,000	\$ 31,200	\$ 1,027,520	\$ -	\$ -	\$ -	\$ 77,925	\$ 31,603
5 Administration	\$ 1,520,000	\$ -	\$ 52,000	\$ 54,080	\$ 101,238	\$ 70,192	\$ 167,951	\$ 135,071	\$ 122,197
6 WWTP General	\$ 3,900,000	\$ -	\$ 156,000	\$ 54,080	\$ -	\$ -	\$ 1,053,251	\$ -	\$ -
7 WWTP Power & Electrical	\$ 2,675,000	\$ 500,000	\$ 208,000	\$ -	\$ -	\$ 1,052,873	\$ 49,816	\$ -	\$ 379,233
8 WWTP Headworks	\$ 245,000	\$ -	\$ -	\$ 156,832	\$ -	\$ -	\$ 28,466	\$ -	\$ -
9 WWTP Influent Pumping	\$ 980,000	\$ -	\$ 156,000	\$ -	\$ 89,989	\$ -	\$ 71,166	\$ -	\$ 210,685
10 WWTP Primary Treatment	\$ 1,240,000	\$ -	\$ 67,600	\$ 54,080	\$ 5,648	\$ 310,013	\$ 51,239	\$ -	\$ 284,425
11 WWTP Secondary Treatment	\$ 1,550,000	\$ -	\$ 572,000	\$ 162,240	\$ -	\$ 175,479	\$ -	\$ 103,901	\$ 168,548
12 WWTP Disinfection	\$ 300,000	\$ -	\$ 104,000	\$ 54,080	\$ -	\$ -	\$ -	\$ -	\$ 63,205
13 WWTP Effluent Pumping	\$ 470,000	\$ -	\$ 20,800	\$ -	\$ 168,730	\$ -	\$ 85,399	\$ -	\$ -
14 WWTP Anaerobic Digestion	\$ 3,154,000	\$ -	\$ 104,000	\$ 125,466	\$ -	\$ -	\$ 495,597	\$ 351,877	\$ 76,268
15 WWTP Sludge Dewatering	\$ 930,000	\$ 100,000	\$ 468,000	\$ 108,160	\$ -	\$ -	\$ 51,239	\$ 34,634	\$ -
16 WWTP Digester Gas	\$ 570,000	\$ -	\$ 520,000	\$ 54,080	\$ -	\$ -	\$ -	\$ 6,927	\$ -
17 WWTP Water Supply & Piping	\$ 2,710,000	\$ -	\$ -	\$ 75,712	\$ 179,978	\$ -	\$ 62,626	\$ 765,401	\$ 21,068
Planned Annual	\$ 1,790,150	\$ 2,292,500	\$ 4,565,600	\$ 3,297,258	\$ 3,499,850	\$ 4,651,747	\$ 2,818,822	\$ 1,532,880	\$ 1,961,898
<i>Target</i>	\$ 2,000,000	\$ 2,000,000	\$ 2,080,000	\$ 2,163,200	\$ 2,249,728	\$ 2,339,717	\$ 2,846,624	\$ 3,463,353	\$ 4,213,698

Attachment 2 – Detailed Project Tables

Project Category: 1 Force Mains

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 452,700	\$ 500,000	\$ 1,872,000	\$ 108,160	\$ 2,307,471	\$ 2,399,769	\$ 583,937	\$ -

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
1.01	Granada Force Main	Replace deteriorated sections	\$ 1,000,000	\$ 500,000							\$ 500,000
1.02	Princeton Force Main	Replace deteriorated sections	\$ 1,800,000		\$ 1,800,000						
1.03	Montara Force Main	Conduct condition assessment	\$ 100,000			\$ 100,000					
1.04	Montara Force Main	Replace pipeline	\$ 6,153,999				\$ 2,051,333	\$ 2,051,333	\$ 2,051,333		

Escalated Costs

escalation rate

4%

discount rate

4%

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
1.01	Granada Force Main	Replace deteriorated sections	\$ 1,000,000	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,053,425
1.02	Princeton Force Main	Replace deteriorated sections	\$ 1,800,000	\$ -	\$ 1,872,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.03	Montara Force Main	Conduct condition assessment	\$ 100,000	\$ -	\$ -	\$ 108,160	\$ -	\$ -	\$ -	\$ -	\$ -
1.04	Montara Force Main	Replace pipeline	\$ 6,153,999	\$ -	\$ -	\$ -	\$ 2,307,471	\$ 2,399,769	\$ 2,919,686	\$ -	\$ -
	Total Annual CAPEX		\$ 452,699.95	\$ 500,000	\$ 1,872,000	\$ 108,160	\$ 2,307,471	\$ 2,399,769	\$ 583,937	\$ -	\$ 210,685

Project Category: 2 Montara Pump Station

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 109,000	\$ 75,000	\$ 130,000	\$ 573,248	\$ 416,200	\$ 409,450	\$ 2,847	\$ 55,414

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
2.01	Electrical & Emergency Power	Repair damaged exterior electrical conduits	\$ 125,000			\$ 75,000					\$ 50,000
2.02	Electrical & Emergency Power	Replace automatic transfer switch and external power connection	\$ 150,000	\$ 75,000							\$ 75,000
2.03	Electrical & Emergency Power	Replace emergency generator	\$ 450,000			\$ 225,000					\$ 225,000
2.04	Electrical & Emergency Power	Repair/replace front door and generator room door frames	\$ 80,000				\$ 40,000				\$ 40,000
2.05	Pumps	Replace pumps 1 & 2	\$ 400,000				\$ 200,000	\$ 200,000			
2.06	Pumps	Replace chopper pump 3	\$ 150,000								\$ 150,000
2.07	Pumps	Install grit chamber	\$ 125,000		\$ 125,000						
2.08	Pumps	Rehabilitate pump station bypass system	\$ 200,000			\$ 200,000					
2.09	Metering & Controls	Replace PLC	\$ 20,000				\$ 10,000				\$ 10,000
2.10	Metering & Controls	Replace flowmeter	\$ 300,000					\$ 150,000		\$ 150,000	
2.11	Chemical	Evaluate chemical storage tank and metering pumps, potentially remove storage and replace with tablet system	\$ 20,000				\$ 20,000				
2.12	Storage	Routine maintenance of 400,000 gal Walker tank, fencing, and gates	\$ 60,000			\$ 30,000			\$ 10,000	\$ 10,000	\$ 10,000
2.13	Building and Support	Install proper hatches	\$ 50,000				\$ 50,000				
2.14	Building and Support	Fix roof and demo old chemical building	\$ 50,000				\$ 50,000				

Project Category: 2 Montara Pump Station

Escalated Costs
 escalation rate
 discount rate

4%
 4%

	<i>n</i>		<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>9</i>	<i>14</i>	<i>19</i>	
	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
2.01	Electrical & Emergency Power	Repair damaged exterior electrical conduits	\$ 125,000	\$ -	\$ -	\$ 81,120	\$ -	\$ -	\$ -	\$ -	\$ 105,342
2.02	Electrical & Emergency Power	Replace automatic transfer switch and external power connection	\$ 150,000	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 158,014
2.03	Electrical & Emergency Power	Replace emergency generator	\$ 450,000	\$ -	\$ -	\$ 243,360	\$ -	\$ -	\$ -	\$ -	\$ 474,041
2.04	Electrical & Emergency Power	Repair/replace front door and generator room door frames	\$ 80,000	\$ -	\$ -	\$ -	\$ 44,995	\$ -	\$ -	\$ -	\$ 84,274
2.05	Pumps	Replace pumps 1 & 2	\$ 400,000	\$ -	\$ -	\$ -	\$ 224,973	\$ 233,972	\$ -	\$ -	\$ -
2.06	Pumps	Replace chopper pump 3	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 316,027
2.07	Pumps	Install grit chamber	\$ 125,000	\$ -	\$ 130,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.08	Pumps	Rehabilitate pump station bypass system	\$ 200,000	\$ -	\$ -	\$ 216,320	\$ -	\$ -	\$ -	\$ -	\$ -
2.09	Metering & Controls	Replace PLC	\$ 20,000	\$ -	\$ -	\$ -	\$ 11,249	\$ -	\$ -	\$ -	\$ 21,068
2.10	Metering & Controls	Replace flowmeter	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ 175,479	\$ -	\$ 259,751	\$ -
2.11	Chemical	Evaluate chemical storage tank and metering pumps, potentially remove storage and replace with tablet system	\$ 20,000	\$ -	\$ -	\$ -	\$ 22,497	\$ -	\$ -	\$ -	\$ -
2.12	Storage	Routine maintenance of 400,000 gal Walker tank, fencing, and gates	\$ 60,000	\$ -	\$ -	\$ 32,448	\$ -	\$ -	\$ 14,233	\$ 17,317	\$ 21,068
2.13	Building and Support	Install proper hatches	\$ 50,000	\$ -	\$ -	\$ -	\$ 56,243	\$ -	\$ -	\$ -	\$ -
2.14	Building and Support	Fix roof and demo old chemical building	\$ 50,000	\$ -	\$ -	\$ -	\$ 56,243	\$ -	\$ -	\$ -	\$ -
Total Annual CAPEX			\$ 109,000	\$ 75,000	\$ 130,000	\$ 573,248	\$ 416,200	\$ 409,450	\$ 2,847	\$ 55,414	\$ 235,967

Project Category: 3 Portola Pump Station

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 148,500	\$ 1,042,500	\$ 104,000	\$ 689,520	\$ 230,597	\$ 233,972	\$ 115,288	\$ 1,732

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
3.01	Storage	Replace surge tank	\$ 75,000	\$ 75,000							
3.02	Storage	Expand wet weather storage	\$ 690,000	\$ 690,000							
3.03	Building & Support	Install proper hatches	\$ 50,000		\$ 50,000						
3.04	Building & Support	Rehabilitate deteriorated concrete in wet well	\$ 110,000			\$ 10,000	\$ 100,000				
3.05	Electrical & Emergency Power	Replace automatic transfer switch and external power connection	\$ 150,000	\$ 75,000							\$ 75,000
3.06	Electrical & Emergency Power	Replace emergency generator	\$ 450,000			\$ 225,000					\$ 225,000
3.07	Pumps	Rehabilitate pump station bypass system	\$ 200,000			\$ 200,000					
3.08	Pumps	Replace pumps 1 & 2 with chopper pumps	\$ 405,000	\$ 202,500		\$ 202,500					
3.09	Pumps	Replace pumps 3 & 4	\$ 400,000						\$ 400,000		
3.10	Chemical	Evaluate condition of fresh water tank and appurtenances	\$ 10,000				\$ 5,000				\$ 5,000
3.11	Chemical	Evaluate chemical storage, strategy, and odor control system	\$ 30,000					\$ 30,000			
3.12	Chemical	Recondition odor control system	\$ 110,000		\$ 50,000				\$ 5,000	\$ 5,000	\$ 50,000
3.13	Metering & Controls	Replace flowmeter	\$ 150,000					\$ 150,000			
3.14	Metering & Controls	Replace PLC and level transducer	\$ 40,000					\$ 20,000			\$ 20,000
3.15	Building & Support	Water proofing and drainage rehabilitation	\$ 100,000				\$ 100,000				

Project Category: 3 Portola Pump Station

Escalated Costs
 escalation rate
 discount rate

4%
 4%

	<i>n</i>		<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>9</i>	<i>14</i>	<i>19</i>	
	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
3.01	Storage	Replace surge tank	\$ 75,000	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.02	Storage	Expand wet weather storage	\$ 690,000	\$ 690,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.03	Building & Support	Install proper hatches	\$ 50,000	\$ -	\$ 52,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.04	Building & Support	Rehabilitate deteriorated concrete in wet well	\$ 110,000	\$ -	\$ -	\$ 10,816	\$ 112,486	\$ -	\$ -	\$ -	\$ -
3.05	Electrical & Emergency Power	Replace automatic transfer switch and external power connection	\$ 150,000	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 158,014
3.06	Electrical & Emergency Power	Replace emergency generator	\$ 450,000	\$ -	\$ -	\$ 243,360	\$ -	\$ -	\$ -	\$ -	\$ 474,041
3.07	Pumps	Rehilitate pump station bypass system	\$ 200,000	\$ -	\$ -	\$ 216,320	\$ -	\$ -	\$ -	\$ -	\$ -
3.08	Pumps	Replace pumps 1 & 2 with chopper pumps	\$ 405,000	\$ 202,500	\$ -	\$ 219,024	\$ -	\$ -	\$ -	\$ -	\$ -
3.09	Pumps	Replace pumps 3 & 4	\$ 400,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 569,325	\$ -	\$ -
3.10	Chemical	Evaluate condition of fresh water tank and appurtenances	\$ 10,000	\$ -	\$ -	\$ -	\$ 5,624	\$ -	\$ -	\$ -	\$ 10,534
3.11	Chemical	Evaluate chemical storage, strategy, and odor control system	\$ 30,000	\$ -	\$ -	\$ -	\$ -	\$ 35,096	\$ -	\$ -	\$ -
3.12	Chemical	Recondition odor control system	\$ 110,000	\$ -	\$ 52,000	\$ -	\$ -	\$ -	\$ 7,117	\$ 8,658	\$ 105,342
3.13	Metering & Controls	Replace flowmeter	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ 175,479	\$ -	\$ -	\$ -
3.14	Metering & Controls	Replace PLC and level transducer	\$ 40,000	\$ -	\$ -	\$ -	\$ -	\$ 23,397	\$ -	\$ -	\$ 42,137
3.15	Building & Support	Water proofing and drainage rehabilitation	\$ 100,000	\$ -	\$ -	\$ -	\$ 112,486	\$ -	\$ -	\$ -	\$ -
Total Annual CAPEX			\$ 148,500	\$ 1,042,500	\$ 104,000	\$ 689,520	\$ 230,597	\$ 233,972	\$ 115,288	\$ 1,732	\$ 158,014

Project Category: 4 Princeton Pump Station

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 67,750	\$ 75,000	\$ 31,200	\$ 1,027,520	\$ -	\$ -	\$ -	\$ 77,925

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
4.01	Electrical & Emergency Power	Replace automatic transfer switch	\$ 150,000	\$ 75,000							\$ 75,000
4.02	Electrical & Emergency Power	Replace emergency generator	\$ 225,000							\$ 225,000	
4.03	Pumps	Feasibility study of alternatives to improve pump station	\$ 30,000		\$ 30,000						
4.04	Pumps	Replace with Package Pump Station	\$ 700,000			\$ 700,000					
4.05	Pumps	Rehabilitate pump station bypass system	\$ 200,000			\$ 200,000					
4.06	Building & Support	Assess and repair rainwater entering MCC room	\$ 50,000			\$ 50,000					

Escalated Costs

escalation rate

4%

discount rate

4%

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
4.01	Electrical & Emergency Power	Replace automatic transfer switch	\$ 150,000	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 158,014
4.02	Electrical & Emergency Power	Replace emergency generator	\$ 225,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 389,627	\$ -
4.03	Pumps	Feasibility study of alternatives to improve pump station	\$ 30,000	\$ -	\$ 31,200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.04	Pumps	Replace with Package Pump Station	\$ 700,000	\$ -	\$ -	\$ 757,120	\$ -	\$ -	\$ -	\$ -	\$ -
4.05	Pumps	Rehabilitate pump station bypass system	\$ 200,000	\$ -	\$ -	\$ 216,320	\$ -	\$ -	\$ -	\$ -	\$ -
4.06	Building & Support	Assess and repair rainwater entering MCC room	\$ 50,000	\$ -	\$ -	\$ 54,080	\$ -	\$ -	\$ -	\$ -	\$ -
Total Annual CAPEX			\$ 67,750	\$ 75,000	\$ 31,200	\$ 1,027,520	\$ -	\$ -	\$ -	\$ 77,925	\$ 31,603

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 76,000	\$ -	\$ 52,000	\$ 54,080	\$ 101,238	\$ 70,192	\$ 167,951	\$ 135,071

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
5.01	Administration Building	Routine building maintenance	\$ 200,000			\$ 50,000			\$ 50,000	\$ 50,000	\$ 50,000
5.02	Digester Control Building	Routine building maintenance	\$ 80,000				\$ 20,000		\$ 20,000	\$ 20,000	\$ 20,000
5.03	Effluent Pump Station Building	Routine building maintenance	\$ 80,000				\$ 20,000		\$ 20,000	\$ 20,000	\$ 20,000
5.04	Mechanical Building #1	Routine building maintenance	\$ 80,000					\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
5.05	Mechanical Building #2	Routine building maintenance	\$ 80,000					\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
5.06	Maintenance Building	Routine building maintenance	\$ 80,000					\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
5.07	SCADA	Upgrade SCADA software	\$ 150,000						\$ 50,000	\$ 50,000	\$ 50,000
5.08	SCADA	Replace server	\$ 60,000						\$ 20,000	\$ 20,000	\$ 20,000
5.09	SCADA	Replace computer stations	\$ 60,000						\$ 20,000	\$ 20,000	\$ 20,000
5.10	Vehicles	Rehab/replace vehicle fleet	\$ 650,000		\$ 50,000		\$ 50,000		\$ 350,000	\$ 150,000	\$ 50,000

Escalated Costs
escalation rate
discount rate

4%
4%

<i>n</i>			<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>9</i>	<i>14</i>	<i>19</i>	
Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037	
5.01	Administration Building	Routine building maintenance	\$ 200,000	\$ -	\$ -	\$ 54,080	\$ -	\$ -	\$ 71,166	\$ 86,584	\$ 105,342
5.02	Digester Control Building	Routine building maintenance	\$ 80,000	\$ -	\$ -	\$ -	\$ 22,497	\$ -	\$ 28,466	\$ 34,634	\$ 42,137
5.03	Effluent Pump Station Building	Routine building maintenance	\$ 80,000	\$ -	\$ -	\$ -	\$ 22,497	\$ -	\$ 28,466	\$ 34,634	\$ 42,137
5.04	Mechanical Building #1	Routine building maintenance	\$ 80,000	\$ -	\$ -	\$ -	\$ -	\$ 23,397	\$ 28,466	\$ 34,634	\$ 42,137
5.05	Mechanical Building #2	Routine building maintenance	\$ 80,000	\$ -	\$ -	\$ -	\$ -	\$ 23,397	\$ 28,466	\$ 34,634	\$ 42,137
5.06	Maintenance Building	Routine building maintenance	\$ 80,000	\$ -	\$ -	\$ -	\$ -	\$ 23,397	\$ 28,466	\$ 34,634	\$ 42,137
5.07	SCADA	Upgrade SCADA software	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 71,166	\$ 86,584	\$ 105,342
5.08	SCADA	Replace server	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28,466	\$ 34,634	\$ 42,137
5.09	SCADA	Replace computer stations	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28,466	\$ 34,634	\$ 42,137
5.10	Vehicles	Rehab/replace vehicle fleet	\$ 650,000	\$ -	\$ 52,000	\$ -	\$ 56,243	\$ -	\$ 498,159	\$ 259,751	\$ 105,342
Total Annual CAPEX		\$ 76,000	\$ -	\$ 52,000	\$ 54,080	\$ 101,238	\$ 70,192	\$ 167,951	\$ 135,071	\$ 122,197	

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 195,000	\$ -	\$ 156,000	\$ 54,080	\$ -	\$ -	\$ 1,053,251	\$ -

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
6.01	Efficiency	Evaluate broad range of plant optimization options	\$ 50,000			\$ 50,000					
6.02	Recycle Water	Execute recycled water plan	\$ 3,700,000						\$ 3,700,000		
6.03	Safety	Complete comprehensive safety assessment and implement critical improvements	\$ 150,000		\$ 150,000						

Escalated Costs

escalation rate

4%

discount rate

4%

	Category	Project	Total 2018 Dollars	⁰ 2018	¹ 2019	² 2020	³ 2021	⁴ 2022	⁹ 2023 to 2027	¹⁴ 2028 to 2032	¹⁹ 2033 to 2037
6.01	Efficiency	Evaluate broad range of plant optimization options	\$ 50,000	\$ -	\$ -	\$ 54,080	\$ -	\$ -	\$ -	\$ -	\$ -
6.02	Recycle Water	Execute recycled water plan	\$ 3,700,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,266,254	\$ -	\$ -
6.03	Safety	Complete comprehensive safety assessment and implement critical improvements	\$ 150,000	\$ -	\$ 156,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Annual CAPEX			\$ 195,000	\$ -	\$ 156,000	\$ 54,080	\$ -	\$ -	\$ 1,053,251	\$ -	\$ -

Project Category: 7 WWTP Power & Electrical

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 133,750	\$ 500,000	\$ 208,000	\$ -	\$ -	\$ 1,052,873	\$ 49,816	\$ -

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
7.01	Electrical & Emergency Power	Replace electrical switchgear	\$ 500,000	\$ 500,000							
7.02	Electrical & Emergency Power	Replace emergency generator	\$ 1,800,000					\$ 900,000			\$ 900,000
7.03	Electrical & Emergency Power	Replace automatic transfer switch	\$ 75,000						\$ 75,000		
7.04	Electrical & Emergency Power	Replace line power utility breaker	\$ 100,000		\$ 100,000						
7.05	Electrical & Emergency Power	Replace emergency generator breaker	\$ 100,000		\$ 100,000						
7.06	Electrical & Emergency Power	Replace generator diesel fuel tank	\$ 100,000						\$ 100,000		

Escalated Costs

escalation rate

4%

discount rate

4%

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19

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
7.01	Electrical & Emergency Power	Replace electrical switchgear	\$ 500,000	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7.02	Electrical & Emergency Power	Replace emergency generator	\$ 1,800,000	\$ -	\$ -	\$ -	\$ -	\$ 1,052,873	\$ -	\$ -	\$ 1,896,164
7.03	Electrical & Emergency Power	Replace automatic transfer switch	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 106,748	\$ -	\$ -
7.04	Electrical & Emergency Power	Replace line power utility breaker	\$ 100,000	\$ -	\$ 104,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7.05	Electrical & Emergency Power	Replace emergency generator breaker	\$ 100,000	\$ -	\$ 104,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7.06	Electrical & Emergency Power	Replace generator diesel fuel tank	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 142,331	\$ -	\$ -
Total Annual CAPEX			\$ 133,750	\$ 500,000	\$ 208,000	\$ -	\$ -	\$ 1,052,873	\$ 49,816	\$ -	\$ 379,233

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 12,250	\$ -	\$ -	\$ 156,832	\$ -	\$ -	\$ 28,466	\$ -

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
8.01	HeadWorks	Replace screenings screw conveyor at headworks	\$ 125,000			\$ 125,000					
8.02	HeadWorks	Rehabilitate/replace manual bar screen	\$ 20,000			\$ 20,000					
8.03	Headworks	Replace automatic bar screen drives	\$ 100,000						\$ 100,000		

Escalated Costs

escalation rate

4%

discount rate

4%

	Category	Project	Total 2018 Dollars	ⁿ	⁰	¹	²	³	⁴	⁹	¹⁴	¹⁹
				2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037	
8.01	HeadWorks	Replace screenings screw conveyor at headworks	\$ 125,000	\$ -	\$ -	\$ 135,200	\$ -	\$ -	\$ -	\$ -	\$ -	
8.02	HeadWorks	Rehabilitate/replace manual bar screen	\$ 20,000	\$ -	\$ -	\$ 21,632	\$ -	\$ -	\$ -	\$ -	\$ -	
8.03	Headworks	Replace automatic bar screen drives	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 142,331	\$ -	\$ -	
Total Annual CAPEX			\$ 12,250	\$ -	\$ -	\$ 156,832	\$ -	\$ -	\$ 28,466	\$ -	\$ -	

Project Category: 9 WWTP Influent Pumping

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 49,000	\$ -	\$ 156,000	\$ -	\$ 89,989	\$ -	\$ 71,166	\$ -

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
9.01	Influent Pumping	Replace influent pumps	\$ 250,000						\$ 250,000		
9.02	Influent Pumping	Rehabilitate/replace influent wet well	\$ 500,000								\$ 500,000
9.03	Influent Pumping	Replace electrical wires and conduits to all influent pumps	\$ 100,000		\$ 100,000						
9.04	Influent Pumping	Improve influent pumping operation by adding check valves, HOA, and VFDs where needed	\$ 50,000		\$ 50,000						
9.05	Influent Pumping	Influent wet well inspection and repair	\$ 80,000				\$ 80,000				

Escalated Costs

escalation rate

4%

discount rate

4%

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	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
9.01	Influent Pumping	Replace influent pumps	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 355,828	\$ -	\$ -
9.02	Influent Pumping	Rehabilitate/replace influent wet well	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,053,425
9.03	Influent Pumping	Replace electrical wires and conduits to all influent pumps	\$ 100,000	\$ -	\$ 104,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9.04	Influent Pumping	Improve influent pumping operation by adding check valves, HOA, and VFDs where needed	\$ 50,000	\$ -	\$ 52,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9.05	Influent Pumping	Influent wet well inspection and repair	\$ 80,000	\$ -	\$ -	\$ -	\$ 89,989	\$ -	\$ -	\$ -	\$ -
Total Annual CAPEX			\$ 49,000	\$ -	\$ 156,000	\$ -	\$ 89,989	\$ -	\$ 71,166	\$ -	\$ 210,685

Project Category: 10 WWTP Primary Treatment

Escalated Costs
 escalation rate
 discount rate

4%
 4%

<i>n</i>			<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>9</i>	<i>14</i>	<i>19</i>
Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
10.01	Primary Treatment	Replace grit chamber gates at splitter box	\$ 15,000	\$ -	\$ 15,600	\$ -	\$ -	\$ -	\$ -	\$ -
10.02	Primary Treatment	Rehabilitate skimmer troughs	\$ 105,021	\$ -	\$ 52,000	\$ 54,080	\$ 5,648	\$ -	\$ -	\$ -
10.03	Primary Treatment	Upgrade/replace grit blowers, as needed	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ 87,739	\$ -	\$ 158,014
10.04	Primary Treatment	Replace chain & flights, collector gear reducer, and weirs in primary clarifier	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ 175,479	\$ -	\$ -
10.05	Primary Treatment	Replace primary scum pump	\$ 40,000	\$ -	\$ -	\$ -	\$ -	\$ 46,794	\$ -	\$ -
10.06	Primary Treatment	Replace grit pumps and appurtenances	\$ 90,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 128,098	\$ -
10.07	Primary Treatment	Replace primary sludge pumps	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 71,166	\$ -
10.08	Primary Treatment	Replace grit washer	\$ 40,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 56,932	\$ -
10.09	Primary Treatment	Rehabilitate grit chambers	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 210,685
10.1	Primary Treatment	Rehabilitate primary clarifier tanks	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,053,425
Total Annual CAPEX		\$ 62,001	\$ -	\$ 67,600	\$ 54,080	\$ 5,648	\$ 310,013	\$ 51,239	\$ -	\$ 284,425

Project Category: 11 WWTP Secondary Treatment

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 77,500	\$ -	\$ 572,000	\$ 162,240	\$ -	\$ 175,479	\$ -	\$ 103,901

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
11.01	Secondary Treatment	Rehabilitate backup aeration basin	\$ 300,000		\$ 150,000	\$ 150,000					
11.02	Secondary Treatment	Replace aeration blowers and assess feasibility of connecting grit air to process air supply	\$ 800,000		\$ 400,000						\$ 400,000
11.03	Secondary Treatment	Replace/rehabilitate secondary clarifier drive mechanism	\$ 150,000					\$ 150,000			
11.04	Secondary Treatment	Replace RAS pumps	\$ 200,000							\$ 200,000	
11.05	Secondary Treatment	Replace WAS pumps	\$ 100,000							\$ 100,000	

Escalated Costs

escalation rate

4%

discount rate

4%

n

0

1

2

3

4

9

14

19

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
11.01	Secondary Treatment	Rehabilitate backup aeration basin	\$ 300,000	\$ -	\$ 156,000	\$ 162,240	\$ -	\$ -	\$ -	\$ -	\$ -
11.02	Secondary Treatment	Replace aeration blowers and assess feasibility of connecting grit air to process air supply	\$ 800,000	\$ -	\$ 416,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 842,740
11.03	Secondary Treatment	Replace/rehabilitate secondary clarifier drive mechanism	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ 175,479	\$ -	\$ -	\$ -
11.04	Secondary Treatment	Replace RAS pumps	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 346,335	\$ -
11.05	Secondary Treatment	Replace WAS pumps	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 173,168	\$ -
	Total Annual CAPEX		\$ 77,500	\$ -	\$ 572,000	\$ 162,240	\$ -	\$ 175,479	\$ -	\$ 103,901	\$ 168,548

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 15,000	\$ -	\$ 104,000	\$ 54,080	\$ -	\$ -	\$ -	\$ -

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
12.01	Disinfection	Perform disinfection alternatives analysis	\$ 50,000			\$ 50,000					
12.02	Disinfection	Replace chemical metering pumps	\$ 150,000								\$ 150,000
12.03	Disinfection	Install shade canopy for chemical storage and pump	\$ 50,000		\$ 50,000						
12.04	Disinfection	Fix chlorine injection issues	\$ 50,000		\$ 50,000						

Escalated Costs

escalation rate

4%

discount rate

4%

	Category	Project	Total 2018 Dollars	ⁿ 2018	⁰ 2019	¹ 2020	² 2021	³ 2022	⁴ 2023 to 2027	⁹ 2028 to 2032	¹⁴ 2033 to 2037
12.01	Disinfection	Perform disinfection alternatives analysis	\$ 50,000	\$ -	\$ -	\$ 54,080	\$ -	\$ -	\$ -	\$ -	\$ -
12.02	Disinfection	Replace chemical metering pumps	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 316,027
12.03	Disinfection	Install shade canopy for chemical storage and pump	\$ 50,000	\$ -	\$ 52,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12.04	Disinfection	Fix chlorine injection issues	\$ 50,000	\$ -	\$ 52,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Annual CAPEX			\$ 15,000	\$ -	\$ 104,000	\$ 54,080	\$ -	\$ -	\$ -	\$ -	\$ 63,205

Project Category: 13 WWTP Effluent Pumping

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 23,500	\$ -	\$ 20,800	\$ -	\$ 168,730	\$ -	\$ 85,399	\$ -

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
13.01	Effluent Pumping	Develop emergency plan for pump outage and develop plan for pump replacements	\$ 20,000		\$ 20,000						
13.02	Effluent Pumping	Replace effluent pumps	\$ 450,000				\$ 150,000		\$ 300,000		

Escalated Costs

escalation rate

4%

discount rate

4%

	Category	Project	Total 2018 Dollars	ⁿ 2018	⁰ 2019	¹ 2020	² 2021	³ 2022	⁴ 2023 to 2027	⁹ 2028 to 2032	¹⁴ 2033 to 2037
13.01	Effluent Pumping	Develop emergency plan for pump outage and develop plan for pump replacements	\$ 20,000	\$ -	\$ 20,800	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13.02	Effluent Pumping	Replace effluent pumps	\$ 450,000	\$ -	\$ -	\$ -	\$ 168,730	\$ -	\$ 426,994	\$ -	\$ -
Total Annual CAPEX			\$ 23,500	\$ -	\$ 20,800	\$ -	\$ 168,730	\$ -	\$ 85,399	\$ -	\$ -

Project Category: 14 WWTP Anaerobic Digestion

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 157,700	\$ -	\$ 104,000	\$ 125,466	\$ -	\$ -	\$ 495,597	\$ 351,877

*Unescalated Costs**2018 Dollars Estimates*

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
14.01	Anaerobic Digestion	Install VFDs on sludge transfer pumps 1 and 2	\$ 100,000			\$ 100,000					
14.02	Anaerobic Digestion	Replace sludge mixing, recirculation, and transfer pumps	\$ 150,000						\$ 150,000		
14.03	Anaerobic Digestion	Install stainless Steel Heat Exchanger and Shell	\$ 100,000		\$ 100,000						
14.04	Anaerobic Digestion	New burner system for Boilers	\$ 55,000						\$ 55,000		
14.05	Anaerobic Digestion	Rehabilitate/replace sludge holding tank	\$ 500,000						\$ 500,000		
14.06	Anaerobic Digestion	Rehabilitate/replace digesters	\$ 2,000,000						\$ 1,000,000	\$ 1,000,000	
14.07	Anaerobic Digestion	Assess beneficial sludge reuse	\$ 20,000						\$ 20,000		
14.08	Anaerobic Digestion	Replace hot water boilers	\$ 125,000								\$ 125,000
14.09	Anaerobic Digestion	Replace boiler circulation pumps	\$ 20,000								\$ 20,000
14.10	Anaerobic Digestion	Replace heat exchanger circulation pumps	\$ 20,000								\$ 20,000
	Anaerobic Digestion	Replace gas blowers	\$ 64,000			\$ 16,000			\$ 16,000	\$ 16,000	\$ 16,000

Project Category: 14 WWTP Anaerobic Digestion

Escalated Costs
escalation rate
discount rate

4%
4%

<i>n</i>			<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>9</i>	<i>14</i>	<i>19</i>
Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
14.01	Anaerobic Digestion Install VFDs on sludge transfer pumps 1 and 2	\$ 100,000	\$ -	\$ -	\$ 108,160	\$ -	\$ -	\$ -	\$ -	\$ -
14.02	Anaerobic Digestion Replace sludge mixing, recirculation, and transfer pumps	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 213,497	\$ -	\$ -
14.03	Anaerobic Digestion Install stainless Steel Heat Exchanger and Shell	\$ 100,000	\$ -	\$ 104,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14.04	Anaerobic Digestion New burner system for Boilers	\$ 55,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 78,282	\$ -	\$ -
14.05	Anaerobic Digestion Rehabilitate/replace sludge holding tank	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 711,656	\$ -	\$ -
14.06	Anaerobic Digestion Rehabilitate/replace digesters	\$ 2,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,423,312	\$ 1,731,676	\$ -
14.07	Anaerobic Digestion Assess beneficial sludge reuse	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28,466	\$ -	\$ -
14.08	Anaerobic Digestion Replace hot water boilers	\$ 125,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 263,356
14.09	Anaerobic Digestion Replace boiler circulation pumps	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 42,137
14.10	Anaerobic Digestion Replace heat exchanger circulation pumps	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 42,137
	Anaerobic Digestion Replace gas blowers	\$ 64,000	\$ -	\$ -	\$ 17,306	\$ -	\$ -	\$ 22,773	\$ 27,707	\$ 33,710
Total Annual CAPEX		\$ 157,700	\$ -	\$ 104,000	\$ 125,466	\$ -	\$ -	\$ 495,597	\$ 351,877	\$ 76,268

Project Category: 15 WWTP Sludge Dewatering

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 46,500	\$ 100,000	\$ 468,000	\$ 108,160	\$ -	\$ -	\$ 51,239	\$ 34,634

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
15.01	Sludge Dewatering	Rehabilitate sludge dewatering bldg: crane, rollup door, floor etc.	\$ 150,000		\$ 150,000						
15.02	Sludge Dewatering	Purchase critical spare parts for BFP/main conveyor and prepare emergency plan	\$ 100,000			\$ 100,000					
15.03	Sludge Dewatering	Replace Forced air ventilation with appropriate exhaust system in Press Room	\$ 100,000	\$ 100,000							
15.04	Sludge Dewatering	Install WAS gravity thickener and address storage shortage as needed	\$ 300,000		\$ 300,000						
15.05	Sludge Dewatering	Refurbish belt filter press	\$ 180,000						\$ 180,000		
15.06	Sludge Dewatering	Replace belt filter press feed pumps, hydraulic pump, and spray pumps	\$ 100,000							\$ 100,000	

Project Category: 15 WWTP Sludge Dewatering

Escalated Costs
 escalation rate
 discount rate

4%
 4%

<i>n</i>		<i>0</i> <i>1</i> <i>2</i> <i>3</i> <i>4</i> <i>9</i> <i>14</i> <i>19</i>								
Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
15.01	Sludge Dewatering Rehabilitate sludge dewatering bldg: crane, rollup door, floor etc.	\$ 150,000	\$ -	\$ 156,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15.02	Sludge Dewatering Purchase critical spare parts for BFP/main conveyor and prepare emergency plan	\$ 100,000	\$ -	\$ -	\$ 108,160	\$ -	\$ -	\$ -	\$ -	\$ -
15.03	Sludge Dewatering Replace Forced air ventilation with appropriate exhaust system in Press Room	\$ 100,000	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15.04	Sludge Dewatering Install WAS gravity thickener and address storage shortage as needed	\$ 300,000	\$ -	\$ 312,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15.05	Sludge Dewatering Refurbish belt filter press	\$ 180,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 256,196	\$ -	\$ -
15.06	Sludge Dewatering Replace belt filter press feed pumps, hydraulic pump, and spray pumps	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 173,168	\$ -
Total Annual CAPEX		\$ 46,500	\$ 100,000	\$ 468,000	\$ 108,160	\$ -	\$ -	\$ 51,239	\$ 34,634	\$ -

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 28,500	\$ -	\$ 520,000	\$ 54,080	\$ -	\$ -	\$ -	\$ 6,927

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
16.01	Digester Gas System	Replace digester gas flare and accessories	\$ 500,000		\$ 500,000						
16.02	Digester Gas System	Replace digester gas valves and blowers	\$ 40,000			\$ 20,000				\$ 20,000	
16.03	Digester Gas System	Assess beneficial digester gas reuse and options for improvement	\$ 30,000			\$ 30,000					

Escalated Costs

escalation rate

4%

discount rate

4%

	Category	Project	Total 2018 Dollars	ⁿ	⁰	¹	²	³	⁴	⁹	¹⁴	¹⁹
				2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037	
16.01	Digester Gas System	Replace digester gas flare and accessories	\$ 500,000	\$ -	\$ 520,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
16.02	Digester Gas System	Replace digester gas valves and blowers	\$ 40,000	\$ -	\$ -	\$ 21,632	\$ -	\$ -	\$ -	\$ -	\$ 34,634	\$ -
16.03	Digester Gas System	Assess beneficial digester gas reuse and options for improvement	\$ 30,000	\$ -	\$ -	\$ 32,448	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Annual CAPEX			\$ 28,500	\$ -	\$ 520,000	\$ 54,080	\$ -	\$ -	\$ -	\$ 6,927	\$ -	\$ -

Project Category: 17 WWTP Water Supply & Piping

Total Annual CAPEX	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
		\$ 135,500	\$ -	\$ -	\$ 75,712	\$ 179,978	\$ -	\$ 62,626	\$ 765,401

Unescalated Costs

2018 Dollars Estimates

	Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
17.01	Water Supply and Piping Systems	Replace air gap tank	\$ 10,000						\$ 10,000		
17.02	Water Supply and Piping Systems	Replace No. 1 and No. 2 water pumps and tanks	\$ 160,000						\$ 160,000		
17.03	Water Supply and Piping Systems	Replace No. 3 water pumps	\$ 320,000				\$ 160,000			\$ 160,000	
17.04	Water Supply and Piping Systems	Replace galvanized piping throughout plant	\$ 200,000			\$ 50,000			\$ 50,000	\$ 50,000	\$ 50,000
17.05	Water Supply and Piping Systems	Address water loss issue from municipal supply line	\$ 20,000			\$ 20,000					
17.06	Water Supply and Piping Systems	Reroute high pressure fire and domestic line to safer location away from private properties	\$ 2,000,000							\$ 2,000,000	

Project Category: 17 WWTP Water Supply & Piping

Escalated Costs
 escalation rate
 discount rate

4%
 4%

<i>n</i>		<i>0</i> <i>1</i> <i>2</i> <i>3</i> <i>4</i> <i>9</i> <i>14</i> <i>19</i>								
Category	Project	Total 2018 Dollars	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
17.01	Water Supply and Piping Systems Replace air gap tank	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,233	\$ -	\$ -
17.02	Water Supply and Piping Systems Replace No. 1 and No. 2 water pumps and tanks	\$ 160,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 227,730	\$ -	\$ -
17.03	Water Supply and Piping Systems Replace No. 3 water pumps	\$ 320,000	\$ -	\$ -	\$ -	\$ 179,978	\$ -	\$ -	\$ 277,068	\$ -
17.04	Water Supply and Piping Systems Replace galvanized piping throughout plant	\$ 200,000	\$ -	\$ -	\$ 54,080	\$ -	\$ -	\$ 71,166	\$ 86,584	\$ 105,342
17.05	Water Supply and Piping Systems Address water loss issue from municipal supply line	\$ 20,000	\$ -	\$ -	\$ 21,632	\$ -	\$ -	\$ -	\$ -	\$ -
17.06	Water Supply and Piping Systems Reroute high pressure fire and domestic line to safer location away from private properties	\$ 2,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,463,353	\$ -
Total Annual CAPEX		\$ 135,500	\$ -	\$ -	\$ 75,712	\$ 179,978	\$ -	\$ 62,626	\$ 765,401	\$ 21,068

Attachment 3 – Project Expenditure Schedule

Project Schedule

Year	Project Number	Project Category		Project	Cost with Inflation
2018	1.01	Force Mains	Granada Force Main	Replace deteriorated sections	\$ 500,000
	2.02	Montara Pump Station	Electrical & Emergency Power	Replace automatic transfer switch and external power connection	\$ 75,000
	3.01	Portola Pump Station	Storage	Replace surge tank	\$ 75,000
	3.02	Portola Pump Station	Storage	Expand wet weather storage	\$ 690,000
	3.05	Portola Pump Station	Electrical & Emergency Power	Replace automatic transfer switch and external power connection	\$ 75,000
	3.08	Portola Pump Station	Pumps	Replace pumps 1 & 2 with chopper pumps	\$ 202,500
	4.01	Princeton Pump Station	Electrical & Emergency Power	Replace automatic transfer switch	\$ 75,000
	7.01	WWTP	Electrical & Emergency Power	Replace electrical switchgear	\$ 500,000
	15.03	WWTP	Sludge Dewatering	Replace Forced air ventilation with appropriate exhaust system in Press Room	\$ 100,000

Project Schedule

Year	Project Number	Project Category		Project	Cost with Inflation
2019	1.02	Force Mains	Princeton Force Main	Replace deteriorated sections	\$ 1,872,000
	2.07	Montara Pump Station	Pumps	Install grit chamber	\$ 130,000
	3.03	Portola Pump Station	Building & Support	Install proper hatches	\$ 52,000
	3.03	WWTP	Safety	Complete comprehensive safety assessment and implement critical improvements	\$ 156,000
	3.12	Portola Pump Station	Chemical	Recondition odor control system	\$ 52,000
	4.03	Princeton Pump Station	Pumps	Feasibility study of alternatives to improve pump station	\$ 31,200
	5.10	Admin	Vehicles	Rehab/replace vehicle fleet	\$ 52,000
	7.04	WWTP	Electrical & Emergency Power	Replace line power utility breaker	\$ 104,000
	7.05	WWTP	Electrical & Emergency Power	Replace emergency generator breaker	\$ 104,000
	9.03	WWTP	Influent Pumping	Replace electrical wires and conduits to all influent pumps	\$ 104,000
	9.04	WWTP	Influent Pumping	Improve influent pumping operation by adding check valves, HOA, and VFDs where needed	\$ 52,000
	10.01	WWTP	Primary Treatment	Replace grit chamber gates at splitter box	\$ 15,600
	10.02	WWTP	Primary Treatment	Rehabilitate skimmer troughs	\$ 52,000
	11.01	WWTP	Secondary Treatment	Rehabilitate backup aeration basin	\$ 156,000
	11.02	WWTP	Secondary Treatment	Replace aeration blowers and assess feasibility of connecting grit air to process air supply	\$ 416,000
	12.03	WWTP	Disinfection	Install shade canopy for chemical storage and pump	\$ 52,000
	12.04	WWTP	Disinfection	Fix chlorine injection issues	\$ 52,000
	13.01	WWTP	Effluent Pumping	Develop emergency plan for pump outage and develop plan for pump replacements	\$ 20,800
14.03	WWTP	Anaerobic Digestion	Install stainless Steel Heat Exchanger and Shell	\$ 104,000	
15.01	WWTP	Sludge Dewatering	Rehabilitate sludge dewatering bldg: crane, rollup door, floor etc.	\$ 156,000	
15.04	WWTP	Sludge Dewatering	Install WAS gravity thickener and address storage shortage as needed	\$ 312,000	
16.01	WWTP	Digester Gas System	Replace digester gas flare and accessories	\$ 520,000	

Project Schedule

Year	Project Number	Project Category		Project	Cost with Inflation
2020	1.03	Force Mains	Montara Force Main	Conduct condition assessment	\$ 108,160
	2.01	Montara Pump Station	Electrical & Emergency Power	Repair damaged exterior electrical conduits	\$ 81,120
	2.03	Montara Pump Station	Electrical & Emergency Power	Replace emergency generator	\$ 243,360
	2.08	Montara Pump Station	Pumps	Rehhabitate pump station bypass system	\$ 216,320
	2.12	Montara Pump Station	Storage	Routine maintenance of 400,000 gal Walker tank, fencing, and gates	\$ 32,448
	3.04	Portola Pump Station	Building & Support	Rehabilitate deteriorated concrete in wet well	\$ 10,816
	3.06	Portola Pump Station	Electrical & Emergency Power	Replace emergency generator	\$ 243,360
	3.07	Portola Pump Station	Pumps	Rehhabitate pump station bypass system	\$ 216,320
	3.08	Portola Pump Station	Pumps	Replace pumps 1 & 2 with chopper pumps	\$ 219,024
	4.04	Princeton Pump Station	Pumps	Replace with Package Pump Station	\$ 757,120
	4.05	Princeton Pump Station	Pumps	Rehhabitate pump station bypass system	\$ 216,320
	4.06	Princeton Pump Station	Building & Support	Assess and repair rainwater entering MCC room	\$ 54,080
	5.01	Admin	Administration Building	Routine building maintenance	\$ 54,080
	6.01	WWTP	Efficiency	Evaluate broad range of plant optimization options	\$ 54,080
	8.01	WWTP	HeadWorks	Replace screenings screw conveyor at headworks	\$ 135,200
	8.02	WWTP	HeadWorks	Rehabilitate/replace manual bar screen	\$ 21,632
	10.02	WWTP	Primary Treatment	Rehabilitate skimmer troughs	\$ 54,080
	11.01	WWTP	Secondary Treatment	Rehabilitate backup aeration basin	\$ 162,240
	12.01	WWTP	Disinfection	Perform disinfection alternatives analysis	\$ 54,080
	14.01	WWTP	Anaerobic Digestion	Install VFDs on sludge transfer pumps 1 and 2	\$ 108,160
15.02	WWTP	Sludge Dewatering	Purchase critical spare parts for BFP/main conveyor and prepare emergency plan	\$ 108,160	
16.02	WWTP	Digester Gas System	Replace digester gas valves and blowers	\$ 21,632	
16.03	WWTP	Digester Gas System	Assess beneficial digester gas reuse and options for improvement	\$ 32,448	
17.04	WWTP	Water Supply and Piping Systems	Replace galvanized piping throughout plant	\$ 54,080	
17.05	WWTP	Water Supply and Piping Systems	Address water loss issue from municipal supply line	\$ 21,632	

Project Schedule

Year	Project Number	Project Category		Project	Cost with Inflation
2021	1.04	Force Mains	Montara Force Main	Replace pipeline	\$ 2,307,471
	2.04	Montara Pump Station	Electrical & Emergency Power	Repair/replace front door and generator room door frames	\$ 44,995
	2.05	Montara Pump Station	Pumps	Replace pumps 1 & 2	\$ 224,973
	2.09	Montara Pump Station	Metering & Controls	Replace PLC	\$ 11,249
	2.11	Montara Pump Station	Chemical	Evaluate chemical storage tank and metering pumps, potentially remove storage and replace with tablet system	\$ 22,497
	2.13	Montara Pump Station	Building and Support	Install proper hatches	\$ 56,243
	2.14	Montara Pump Station	Building and Support	Fix roof and demo old chemical building	\$ 56,243
	3.04	Portola Pump Station	Building & Support	Rehabilitate deteriorated concrete in wet well	\$ 112,486
	3.10	Portola Pump Station	Chemical	Evaluate condition of fresh water tank and appurtenances	\$ 5,624
	3.15	Portola Pump Station	Building & Support	Water proofing and drainage rehabilitation	\$ 112,486
	5.02	Admin	Digester Control Building	Routine building maintenance	\$ 22,497
	5.03	Admin	Effluent Pump Station Building	Routine building maintenance	\$ 22,497
	5.10	Admin	Vehicles	Rehab/replace vehicle fleet	\$ 56,243
	9.05	WWTP	Influent Pumping	Influent wet well inspection and repair	\$ 89,989
	10.02	WWTP	Primary Treatment	Rehabilitate skimmer troughs	\$ 5,648
13.02	WWTP	Effluent Pumping	Replace effluent pumps	\$ 168,730	
17.03	WWTP	Water Supply and Piping Systems	Replace No. 3 water pumps	\$ 179,978	

Project Schedule

Year	Project Number	Project Category		Project	Cost with Inflation
2022	1.04	Force Mains	Montara Force Main	Replace pipeline	\$ 2,399,769
	2.05	Montara Pump Station	Pumps	Replace pumps 1 & 2	\$ 233,972
	2.10	Montara Pump Station	Metering & Controls	Replace flowmeter	\$ 175,479
	3.11	Portola Pump Station	Chemical	Evaluate chemical storage, strategy, and odor control system	\$ 35,096
	3.13	Portola Pump Station	Metering & Controls	Replace flowmeter	\$ 175,479
	3.14	Portola Pump Station	Metering & Controls	Replace PLC and level transducer	\$ 23,397
	5.04	Admin	Mechanical Building #1	Routine building maintenance	\$ 23,397
	5.05	Admin	Mechanical Building #2	Routine building maintenance	\$ 23,397
	5.06	Admin	Maintenance Building	Routine building maintenance	\$ 23,397
	7.02	WWTP	Electrical & Emergency Power	Replace emergency generator	\$ 1,052,873
	10.03	WWTP	Primary Treatment	Upgrade/replace grit blowers, as needed	\$ 87,739
	10.04	WWTP	Primary Treatment	Replace chain & flights, collector gear reducer, and weirs in primary clarifier	\$ 175,479
	10.05	WWTP	Primary Treatment	Replace primary scum pump	\$ 46,794
11.03	WWTP	Secondary Treatment	Replace/rehabilitate secondary clarifier drive mechanism	\$ 175,479	

Year	Project Number	Project Category		Project	Cost with Inflation
2023-2027	1.04	Force Mains	Montara Force Main	Replace pipeline	\$ 2,919,686
	2.12	Montara Pump Station	Storage	Routine maintenance of 400,000 gal Walker tank, fencing, and gates	\$ 14,233
	3.09	Portola Pump Station	Pumps	Replace pumps 3 & 4	\$ 569,325
	3.12	Portola Pump Station	Chemical	Recondition odor control system	\$ 7,117
	5.01	Admin	Administration Building	Routine building maintenance	\$ 71,166
	5.02	Admin	Digester Control Building	Routine building maintenance	\$ 28,466
	5.03	Admin	Effluent Pump Station Building	Routine building maintenance	\$ 28,466
	5.04	Admin	Mechanical Building #1	Routine building maintenance	\$ 28,466
	5.05	Admin	Mechanical Building #2	Routine building maintenance	\$ 28,466
	5.06	Admin	Maintenance Building	Routine building maintenance	\$ 28,466
	5.07	Admin	SCADA	Upgrade SCADA software	\$ 71,166
	5.08	Admin	SCADA	Replace server	\$ 28,466
	5.09	Admin	SCADA	Replace computer stations	\$ 28,466
	5.10	Admin	Vehicles	Rehab/replace vehicle fleet	\$ 498,159
	6.02	WWTP	Recycle Water	Execute recycled water plan	\$ 5,266,254
	7.03	WWTP	Electrical & Emergency Power	Replace automatic transfer switch	\$ 106,748
	7.06	WWTP	Electrical & Emergency Power	Replace generator diesel fuel tank	\$ 142,331
	8.03	WWTP	Headworks	Replace automatic bar screen drives	\$ 142,331
	9.01	WWTP	Influent Pumping	Replace influent pumps	\$ 355,828
	10.06	WWTP	Primary Treatment	Replace grit pumps and appurtenances	\$ 128,098
	10.07	WWTP	Primary Treatment	Replace primary sludge pumps	\$ 71,166
	10.08	WWTP	Primary Treatment	Replace grit washer	\$ 56,932
	13.02	WWTP	Effluent Pumping	Replace effluent pumps	\$ 426,994
	14.02	WWTP	Anaerobic Digestion	Replace sludge mixing, recirculation, and transfer pumps	\$ 213,497
	14.04	WWTP	Anaerobic Digestion	New burner system for Boilers	\$ 78,282
	14.05	WWTP	Anaerobic Digestion	Rehabilitate/replace sludge holding tank	\$ 711,656
	14.06	WWTP	Anaerobic Digestion	Rehabilitate/replace digesters	\$ 1,423,312
	14.07	WWTP	Anaerobic Digestion	Assess beneficial sludge reuse	\$ 28,466
	15.05	WWTP	Sludge Dewatering	Refurbish belt filter press	\$ 256,196
	17.01	WWTP	Water Supply and Piping Systems	Replace air gap tank	\$ 14,233
17.02	WWTP	Water Supply and Piping Systems	Replace No. 1 and No. 2 water pumps and tanks	\$ 227,730	
17.04	WWTP	Water Supply and Piping Systems	Replace galvanized piping throughout plant	\$ 71,166	

Year	Project Number	Project Category		Project	Cost with Inflation
2028 to 2032	2.10	Montara Pump Station	Metering & Controls	Replace flowmeter	\$ 259,751
	2.12	Montara Pump Station	Storage	Routine maintenance of 400,000 gal Walker tank, fencing, and gates	\$ 17,317
	3.12	Portola Pump Station	Chemical	Recondition odor control system	\$ 8,658
	4.02	Princeton Pump Station	Electrical & Emergency Power	Replace emergency generator	\$ 389,627
	5.01	Admin	Administration Building	Routine building maintenance	\$ 86,584
	5.02	Admin	Digester Control Building	Routine building maintenance	\$ 34,634
	5.03	Admin	Effluent Pump Station Building	Routine building maintenance	\$ 34,634
	5.04	Admin	Mechanical Building #1	Routine building maintenance	\$ 34,634
	5.05	Admin	Mechanical Building #2	Routine building maintenance	\$ 34,634
	5.06	Admin	Maintenance Building	Routine building maintenance	\$ 34,634
	5.07	Admin	SCADA	Upgrade SCADA software	\$ 86,584
	5.08	Admin	SCADA	Replace server	\$ 34,634
	5.09	Admin	SCADA	Replace computer stations	\$ 34,634
	5.10	Admin	Vehicles	Rehab/replace vehicle fleet	\$ 259,751
	11.04	WWTP	Secondary Treatment	Replace RAS pumps	\$ 346,335
	11.05	WWTP	Secondary Treatment	Replace WAS pumps	\$ 173,168
	14.06	WWTP	Anaerobic Digestion	Rehabilitate/replace digesters	\$ 1,731,676
	15.06	WWTP	Sludge Dewatering	Replace belt filter press feed pumps, hydraulic pump, and spray pumps	\$ 173,168
	16.02	WWTP	Digester Gas System	Replace digester gas valves and blowers	\$ 34,634
	17.03	WWTP	Water Supply and Piping Systems	Replace No. 3 water pumps	\$ 277,068
17.04	WWTP	Water Supply and Piping Systems	Replace galvanized piping throughout plant	\$ 86,584	
17.06	WWTP	Water Supply and Piping Systems	Reroute high pressure fire and domestic line to safer location away from private properties	\$ 3,463,353	

Year	Project Number	Project Category		Project	Cost with Inflation
2033 to 2037	1.01	Force Mains	Granada Force Main	Replace deteriorated sections	\$ 1,053,425
	2.01	Montara Pump Station	Electrical & Emergency Power	Repair damaged exterior electrical conduits	\$ 105,342
	2.02	Montara Pump Station	Electrical & Emergency Power	Replace automatic transfer switch and external power connection	\$ 158,014
	2.03	Montara Pump Station	Electrical & Emergency Power	Replace emergency generator	\$ 474,041
	2.04	Montara Pump Station	Electrical & Emergency Power	Repair/replace front door and generator room door frames	\$ 84,274
	2.06	Montara Pump Station	Pumps	Replace chopper pump 3	\$ 316,027
	2.09	Montara Pump Station	Metering & Controls	Replace PLC	\$ 21,068
	2.12	Montara Pump Station	Storage	Routine maintenance of 400,000 gal Walker tank, fencing, and gates	\$ 21,068
	3.05	Portola Pump Station	Electrical & Emergency Power	Replace automatic transfer switch and external power connection	\$ 158,014
	3.06	Portola Pump Station	Electrical & Emergency Power	Replace emergency generator	\$ 474,041
	3.10	Portola Pump Station	Chemical	Evaluate condition of fresh water tank and appurtenances	\$ 10,534
	3.12	Portola Pump Station	Chemical	Recondition odor control system	\$ 105,342
	3.14	Portola Pump Station	Metering & Controls	Replace PLC and level transducer	\$ 42,137
	4.01	Princeton Pump Station	Electrical & Emergency Power	Replace automatic transfer switch	\$ 158,014
	5.01	Admin	Administration Building	Routine building maintenance	\$ 105,342
	5.02	Admin	Digester Control Building	Routine building maintenance	\$ 42,137
	5.03	Admin	Effluent Pump Station Building	Routine building maintenance	\$ 42,137
	5.04	Admin	Mechanical Building #1	Routine building maintenance	\$ 42,137
	5.05	Admin	Mechanical Building #2	Routine building maintenance	\$ 42,137
	5.06	Admin	Maintenance Building	Routine building maintenance	\$ 42,137
	5.07	Admin	SCADA	Upgrade SCADA software	\$ 105,342
	5.08	Admin	SCADA	Replace server	\$ 42,137
	5.09	Admin	SCADA	Replace computer stations	\$ 42,137
	5.10	Admin	Vehicles	Rehab/replace vehicle fleet	\$ 105,342
	7.02	WWTP	Electrical & Emergency Power	Replace emergency generator	\$ 1,896,164
	9.02	WWTP	Influent Pumping	Rehabilitate/replace influent wet well	\$ 1,053,425
	10.03	WWTP	Primary Treatment	Upgrade/replace grit blowers, as needed	\$ 158,014
	10.09	WWTP	Primary Treatment	Rehabilitate grit chambers	\$ 210,685
	10.10	WWTP	Primary Treatment	Rehabilitate primary clarifier tanks	\$ 1,053,425
	11.02	WWTP	Secondary Treatment	Replace aeration blowers and assess feasibility of connecting grit air to process air supply	\$ 842,740
12.02	WWTP	Disinfection	Replace chemical metering pumps	\$ 316,027	
14.08	WWTP	Anaerobic Digestion	Replace hot water boilers	\$ 263,356	
14.09	WWTP	Anaerobic Digestion	Replace boiler circulation pumps	\$ 42,137	
14.10	WWTP	Anaerobic Digestion	Replace heat exchanger circulation pumps	\$ 42,137	

Project Schedule

Year	Project Number	Project Category		Project	Cost with Inflation
	17.04	WWTP	Water Supply and Piping Systems	Replace galvanized piping throughout plant	\$ 105,342

Attachment 4 – Full Project List

	Project Number	Category		Project	Asset Age (years)	Asset Useful Life (years)	Project Reasoning	2017 5-Year Infrastructure Plan Project Number	Benefit	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
	1.01	Force Mains	Granada Force Main	Replace deteriorated sections	34	15	Known vulnerability to breaks, resulting in regulatory violations, human health risks, and environmental damage	2.1 (majority complete)	Reliability	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,053,425
	1.02	Force Mains	Princeton Force Main	Replace deteriorated sections	34	15	Known vulnerability to breaks, resulting in regulatory violations, human health risks, and environmental damage		Reliability	\$ -	\$ 1,872,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	1.03	Force Mains	Montara Force Main	Conduct condition assessment	34	15	Condition assessment has never been performed		Reliability	\$ -	\$ -	\$ 108,160	\$ -	\$ -	\$ -	\$ -	\$ -
	1.04	Force Mains	Montara Force Main	Replace pipeline	34	15	Extent of work depends on condition assessment		Reliability	\$ -	\$ -	\$ -	\$ 2,307,471	\$ 2,399,769	\$ 2,919,686	\$ -	\$ -
	2.01	Montara Pump Station	Electrical & Emergency Power	Repair damaged exterior electrical conduits	34	15	Damaged asset and known vulnerability	2.17	Reliability	\$ -	\$ -	\$ 81,120	\$ -	\$ -	\$ -	\$ -	\$ 105,342
	2.02	Montara Pump Station	Electrical & Emergency Power	Replace automatic transfer switch and external power connection	34	15	Asset past useful life and known vulnerability; critical to emergency operations	1.5	Reliability	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 158,014
	2.03	Montara Pump Station	Electrical & Emergency Power	Replace emergency generator	34	15	Asset past useful life and known vulnerability; critical to emergency operations	2.5	Reliability	\$ -	\$ -	\$ 243,360	\$ -	\$ -	\$ -	\$ -	\$ 474,041
	2.04	Montara Pump Station	Electrical & Emergency Power	Repair/replace front door and generator room door frames	34	15	Damaged asset and known vulnerability	2.20	Reliability	\$ -	\$ -	\$ -	\$ 44,995	\$ -	\$ -	\$ -	\$ 84,274
	2.05	Montara Pump Station	Pumps	Replace pumps 1 & 2	34	20	Asset past useful life and critical to normal operations	3.5	Reliability	\$ -	\$ -	\$ -	\$ 224,973	\$ 233,972	\$ -	\$ -	\$ -
	2.06	Montara Pump Station	Pumps	Replace chopper pump 3	34	20	Planned replacement when asset reaches end of useful life		Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 316,027
	2.07	Montara Pump Station	Pumps	Install grit chamber	NA	50	Upgrade to protect pumps and increase efficiency of pump station	3.2	Efficiency	\$ -	\$ 130,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	2.08	Montara Pump Station	Pumps	Rehabilitate pump station bypass system	NA	TBD	Missing functionality critical to emergency operation and routine maintenance		Reliability	\$ -	\$ -	\$ 216,320	\$ -	\$ -	\$ -	\$ -	\$ -
	2.09	Montara Pump Station	Metering & Controls	Replace PLC	34	10	Planned replacement when asset reaches end of useful life		Reliability	\$ -	\$ -	\$ -	\$ 11,249	\$ -	\$ -	\$ -	\$ 21,068
	2.10	Montara Pump Station	Metering & Controls	Replace flowmeter	34	10	Planned replacement when asset reaches end of useful life	2.26	Reliability	\$ -	\$ -	\$ -	\$ -	\$ 175,479	\$ -	\$ 259,751	\$ -
	2.11	Montara Pump Station	Chemical	Evaluate chemical storage tank and metering pumps, potentially remove storage and replace with tablet system	31	20	Potential cost savings and safety improvements	2.27	Efficiency	\$ -	\$ -	\$ -	\$ 22,497	\$ -	\$ -	\$ -	\$ -
	2.12	Montara Pump Station	Storage	Routine maintenance of 400,000 gal Walker tank, fencing, and gates	34	50	Routine maintenance to secure facility and prevent breakdown and vandalism		Reliability	\$ -	\$ -	\$ 32,448	\$ -	\$ -	\$ 14,233	\$ 17,317	\$ 21,068
	2.13	Montara Pump Station	Building and Support	Install proper hatches	NA	NA	Known safety vulnerability		Safety	\$ -	\$ -	\$ -	\$ 56,243	\$ -	\$ -	\$ -	\$ -

	Project Number	Category		Project	Asset Age (years)	Asset Useful Life (years)	Project Reasoning	2017 5-Year Infrastructure Plan Project Number	Benefit	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
	2.14	Montara Pump Station	Building and Support	Fix roof and demo old chemical building	31	50	Damaged asset and known vulnerability		Reliability	\$ -	\$ -	\$ -	\$ 56,243	\$ -	\$ -	\$ -	\$ -
	3.01	Portola Pump Station	Storage	Replace surge tank	35	20	Damaged asset and known vulnerability	1.3	Reliability	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	3.02	Portola Pump Station	Storage	Expand wet weather storage	NA	50	Improve operations and prevent catastrophic failure due to storm damages		Reliability	\$ 690,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	3.03	Portola Pump Station	Building & Support	Install proper hatches	35	20	Known safety vulnerability	1.8	Safety	\$ -	\$ 52,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	3.04	Portola Pump Station	Building & Support	Rehabilitate deteriorated concrete in wet well	34	50	Damaged asset and known vulnerability	2.11	Reliability	\$ -	\$ -	\$ 10,816	\$ 112,486	\$ -	\$ -	\$ -	\$ -
	3.05	Portola Pump Station	Electrical & Emergency Power	Replace automatic transfer switch and external power connection	35	15	Asset past useful life and known vulnerability; critical to emergency operations	1.5	Reliability	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 158,014
	3.06	Portola Pump Station	Electrical & Emergency Power	Replace emergency generator	34	15	Asset past useful life and known vulnerability; critical to emergency operations	2.4	Reliability	\$ -	\$ -	\$ 243,360	\$ -	\$ -	\$ -	\$ -	\$ 474,041
	3.07	Portola Pump Station	Pumps	Rehabilitate pump station bypass system	NA	15	Missing functionality critical to emergency operation and routine maintenance		Reliability	\$ -	\$ -	\$ 216,320	\$ -	\$ -	\$ -	\$ -	\$ -
	3.08	Portola Pump Station	Pumps	Replace pumps 1 & 2 with chopper pumps	19	20	Asset past useful life and critical to normal operations; improve efficiency	1.2	Reliability	\$ 202,500	\$ -	\$ 219,024	\$ -	\$ -	\$ -	\$ -	\$ -
	3.09	Portola Pump Station	Pumps	Replace pumps 3 & 4	35	20	Planned replacement when asset reaches end of useful life		Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 569,325	\$ -	\$ -
	3.10	Portola Pump Station	Chemical	Evaluate condition of fresh water tank and appurtenances	35	15	Asset evaluation	2.21	Reliability	\$ -	\$ -	\$ -	\$ 5,624	\$ -	\$ -	\$ -	\$ 10,534
	3.11	Portola Pump Station	Chemical	Evaluate chemical storage, strategy, and odor control system	15	15	Asset evaluation		Efficiency	\$ -	\$ -	\$ -	\$ -	\$ 35,096	\$ -	\$ -	\$ -
	3.12	Portola Pump Station	Chemical	Recondition odor control system	15	15	Routine maintenance for proper functionality	2.19	Human health & environment	\$ -	\$ 52,000	\$ -	\$ -	\$ -	\$ 7,117	\$ 8,658	\$ 105,342
	3.13	Portola Pump Station	Metering & Controls	Replace flowmeter	34	20	Planned replacement when asset reaches end of useful life	2.25	Reliability	\$ -	\$ -	\$ -	\$ -	\$ 175,479	\$ -	\$ -	\$ -
	3.14	Portola Pump Station	Metering & Controls	Replace PLC and level transducer	19	15	Planned replacement when asset reaches end of useful life		Reliability	\$ -	\$ -	\$ -	\$ -	\$ 23,397	\$ -	\$ -	\$ 42,137
	3.15	Portola Pump Station	Building & Support	Water proofing and drainage rehabilitation	35	20	Known vulnerability to further damage		Reliability	\$ -	\$ -	\$ -	\$ 112,486	\$ -	\$ -	\$ -	\$ -
	4.01	Princeton Pump Station	Electrical & Emergency Power	Replace automatic transfer switch	35	15	Asset past useful life and known vulnerability; critical to emergency operations	1.5	Reliability	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 158,014
	4.02	Princeton Pump Station	Electrical & Emergency Power	Replace emergency generator	35	15	Asset past useful life and known vulnerability; critical to emergency operations		Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 389,627	\$ -

Project Number	Category		Project	Asset Age (years)	Asset Useful Life (years)	Project Reasoning	2017 5-Year Infrastructure Plan Project Number	Benefit	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
4.03	Princeton Pump Station	Pumps	Feasibility study of alternatives to improve pump station	35	NA	Evaluation to improve operations, efficiency, and reliability		Efficiency	\$ -	\$ 31,200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.04	Princeton Pump Station	Pumps	Replace with Package Pump Station	35	30	Solution depends on outcome of feasibility study	1.4	Efficiency	\$ -	\$ -	\$ 757,120	\$ -	\$ -	\$ -	\$ -	\$ -
4.05	Princeton Pump Station	Pumps	Rehabilitate pump station bypass system	NA	NA	Missing functionality critical to emergency operation and routine maintenance		Reliability	\$ -	\$ -	\$ 216,320	\$ -	\$ -	\$ -	\$ -	\$ -
4.06	Princeton Pump Station	Building & Support	Assess and repair rainwater entering MCC room	35	15	Damaged asset and known vulnerability	1.1	Reliability	\$ -	\$ -	\$ 54,080	\$ -	\$ -	\$ -	\$ -	\$ -
5.01	Admin	Administration Building	Routine building maintenance	35	varies	Routine or preventative maintenance		Reliability	\$ -	\$ -	\$ 54,080	\$ -	\$ -	\$ 71,166	\$ 86,584	\$ 105,342
5.02	Admin	Digester Control Building	Routine building maintenance	35	varies	Routine or preventative maintenance		Reliability	\$ -	\$ -	\$ -	\$ 22,497	\$ -	\$ 28,466	\$ 34,634	\$ 42,137
5.03	Admin	Effluent Pump Station Building	Routine building maintenance	35	varies	Routine or preventative maintenance		Reliability	\$ -	\$ -	\$ -	\$ 22,497	\$ -	\$ 28,466	\$ 34,634	\$ 42,137
5.04	Admin	Mechanical Building #1	Routine building maintenance	35	varies	Routine or preventative maintenance		Reliability	\$ -	\$ -	\$ -	\$ -	\$ 23,397	\$ 28,466	\$ 34,634	\$ 42,137
5.05	Admin	Mechanical Building #2	Routine building maintenance	35	varies	Routine or preventative maintenance		Reliability	\$ -	\$ -	\$ -	\$ -	\$ 23,397	\$ 28,466	\$ 34,634	\$ 42,137
5.06	Admin	Maintenance Building	Routine building maintenance	35	varies	Routine or preventative maintenance		Reliability	\$ -	\$ -	\$ -	\$ -	\$ 23,397	\$ 28,466	\$ 34,634	\$ 42,137
5.07	Admin	SCADA	Upgrade SCADA software	1	5	Planned replacement when asset reaches end of useful life		Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 71,166	\$ 86,584	\$ 105,342
5.08	Admin	SCADA	Replace server	13	5	Planned replacement when asset reaches end of useful life		Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28,466	\$ 34,634	\$ 42,137
5.09	Admin	SCADA	Replace computer stations	varies	5	Planned replacement when asset reaches end of useful life		Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28,466	\$ 34,634	\$ 42,137
5.10	Admin	Vehicles	Rehab/replace vehicle fleet	varies	10	Planned replacement when asset reaches end of useful life		Reliability	\$ -	\$ 52,000	\$ -	\$ 56,243	\$ -	\$ 498,159	\$ 259,751	\$ 105,342
6.01	WWTP General	Efficiency	Evaluate broad range of plant optimization options	NA	NA	Evaluation to improve operations, efficiency, and reliability		Efficiency	\$ -	\$ -	\$ 54,080	\$ -	\$ -	\$ -	\$ -	\$ -
6.02	WWTP General	Recycle Water	Execute recycled water plan	NA	NA	Implementation depends on outcome of plant optimization study and possible regulatory changes		Human health & environment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,266,254	\$ -	\$ -
6.03	WWTP General	Safety	Complete comprehensive safety assessment and implement critical improvements	NA	NA	Evaluation to identify safety improvements		Safety	\$ -	\$ 156,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7.01	WWTP	Electrical & Emergency Power	Replace electrical switchgear	20	15	Damaged asset and known vulnerability	1.7	Reliability	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7.02	WWTP	Electrical & Emergency Power	Replace emergency generator	19	15	Asset past useful life and known vulnerability; critical to emergency operations	2.6	Reliability	\$ -	\$ -	\$ -	\$ -	\$ 1,052,873	\$ -	\$ -	\$ 1,896,164
7.03	WWTP	Electrical & Emergency Power	Replace automatic transfer switch	35	35	Asset past useful life and known vulnerability; critical to emergency operations		Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 106,748	\$ -	\$ -

Project Number	Category	Project	Asset Age (years)	Asset Useful Life (years)	Project Reasoning	2017 5-Year Infrastructure Plan Project Number	Benefit	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037	
7.04	WWTP	Electrical & Emergency Power	Replace line power utility breaker	19	15	Asset past useful life and known vulnerability; critical to normal operations		Reliability	\$ -	\$ 104,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7.05	WWTP	Electrical & Emergency Power	Replace emergency generator breaker	19	15	Asset past useful life and known vulnerability; critical to emergency operations		Reliability	\$ -	\$ 104,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7.06	WWTP	Electrical & Emergency Power	Replace generator diesel fuel tank	19	20	Asset past useful life and known vulnerability; critical to emergency operations		Reliability	\$ -	\$ -	\$ -	\$ -	\$ 142,331	\$ -	\$ -	\$ -
8.01	WWTP	HeadWorks	Replace screenings screw conveyor at headworks	18	20	Damaged asset and known vulnerability	2.15	Reliability	\$ -	\$ -	\$ 135,200	\$ -	\$ -	\$ -	\$ -	\$ -
8.02	WWTP	HeadWorks	Rehabilitate/replace manual bar screen	19	25	Asset nearing end of useful life; preventative maintenance		Reliability	\$ -	\$ -	\$ 21,632	\$ -	\$ -	\$ -	\$ -	\$ -
8.03	WWTP	Headworks	Replace automatic bar screen drives			Planned replacement when asset reaches end of useful life		Reliability	\$ -	\$ -	\$ -	\$ -	\$ 142,331	\$ -	\$ -	\$ -
9.01	WWTP	Influent Pumping	Replace influent pumps	34	20	Asset past useful life but in good working condition; planned rehabilitation when asset reaches end of useful life	2.7	Reliability	\$ -	\$ -	\$ -	\$ -	\$ 355,828	\$ -	\$ -	\$ -
9.02	WWTP	Influent Pumping	Rehabilitate/replace influent wet well	35	50	Planned rehabilitation when asset reaches end of useful life; large project would need full influent bypass system to complete		Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,053,425	\$ -
9.03	WWTP	Influent Pumping	Replace electrical wires and conduits to all influent pumps	34	20	Damaged asset and known vulnerability		Safety	\$ -	\$ 104,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9.04	WWTP	Influent Pumping	Improve influent pumping operation by adding check valves, HOA, and VFDs where needed	34	20	Known inefficiencies in operation and safety		Efficiency	\$ -	\$ 52,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9.05	WWTP	Influent Pumping	Influent wet well inspection and repair	34	50	Interim repairs as needed to avoid costly damage; influent wet well has not been inspected in 30+ years		Reliability	\$ -	\$ -	\$ -	\$ 89,989	\$ -	\$ -	\$ -	\$ -
10.01	WWTP	Primary Treatment	Replace grit chamber gates at splitter box	34	20	Damaged asset and known vulnerability		Reliability	\$ -	\$ 15,600	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10.02	WWTP	Primary Treatment	Rehabilitate skimmer troughs	35	20	Damaged asset and known vulnerability		Reliability	\$ -	\$ 52,000	\$ 54,080	\$ 5,648	\$ -	\$ -	\$ -	\$ -
10.03	WWTP	Primary Treatment	Upgrade/replace grit blowers, as needed	34	15	Asset past useful life but in good working condition; planned rehabilitation when asset reaches end of useful life	3.6	Reliability	\$ -	\$ -	\$ -	\$ -	\$ 87,739	\$ -	\$ -	\$ 158,014
10.04	WWTP	Primary Treatment	Replace chain & flights, collector gear reducer, and weirs in primary clarifier	21	20	Asset past useful life but in good working condition; planned rehabilitation when asset reaches end of useful life	2.12	Reliability	\$ -	\$ -	\$ -	\$ -	\$ 175,479	\$ -	\$ -	\$ -
10.05	WWTP	Primary Treatment	Replace primary scum pump	35	20	Asset nearing end of useful life; planned replacement		Reliability	\$ -	\$ -	\$ -	\$ -	\$ 46,794	\$ -	\$ -	\$ -
10.06	WWTP	Primary Treatment	Replace grit pumps and appurtenances	34	20	Asset past useful life but in good working condition; planned rehabilitation when asset reaches end of useful life	2.10	Reliability	\$ -	\$ -	\$ -	\$ -	\$ 128,098	\$ -	\$ -	\$ -
10.07	WWTP	Primary Treatment	Replace primary sludge pumps	34	40	Planned rehabilitation when asset reaches end of useful life	2.9	Reliability	\$ -	\$ -	\$ -	\$ -	\$ 71,166	\$ -	\$ -	\$ -

	Project Number	Category		Project	Asset Age (years)	Asset Useful Life (years)	Project Reasoning	2017 5-Year Infrastructure Plan Project Number	Benefit	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
	10.08	WWTP	Primary Treatment	Replace grit washer	17	20	Planned rehabilitation when asset reaches end of useful life	2.18	Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 56,932	\$ -	\$ -
	10.09	WWTP	Primary Treatment	Rehabilitate grit chambers	35	50	Planned rehabilitation when asset reaches end of useful life		Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 210,685
	10.10	WWTP	Primary Treatment	Rehabilitate primary clarifier tanks	21-35	50	Planned rehabilitation when asset reaches end of useful life		Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,053,425
	11.01	WWTP	Secondary Treatment	Rehabilitate backup aeration basin	NA	50	Known lack of redundancy and vulnerability to bypass	3.7	Reliability	\$ -	\$ 156,000	\$ 162,240	\$ -	\$ -	\$ -	\$ -	\$ -
	11.02	WWTP	Secondary Treatment	Replace aeration blowers and assess feasibility of connecting grit air to process air supply	34	15	Asset past useful life and replacement will reduce energy costs	3.3	Efficiency	\$ -	\$ 416,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 842,740
	11.03	WWTP	Secondary Treatment	Replace/rehabilitate secondary clarifier drive mechanism	19	20	Planned replacement when asset reaches end of useful life	2.14	Reliability	\$ -	\$ -	\$ -	\$ -	\$ 175,479	\$ -	\$ -	\$ -
	11.04	WWTP	Secondary Treatment	Replace RAS pumps	20	20	Asset nearing past useful life but in good working condition; planned rehabilitation when asset reaches end of useful life		Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 346,335	\$ -
	11.05	WWTP	Secondary Treatment	Replace WAS pumps	20	20	Asset nearing past useful life but in good working condition; planned rehabilitation when asset reaches end of useful life		Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 173,168	\$ -
	12.01	WWTP	Disinfection	Perform disinfection alternatives analysis	NA	NA	Evaluation to identify cost savings	2.24	Efficiency	\$ -	\$ -	\$ 54,080	\$ -	\$ -	\$ -	\$ -	\$ -
	12.02	WWTP	Disinfection	Replace chemical metering pumps	0	20	Planned replacement when asset reaches end of useful life	1.9 (done in 2018)	Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 316,027
	12.03	WWTP	Disinfection	Install shade canopy for chemical storage and pump	NA	50	Known vulnerability; necessary upgrade to protect assets and prolong useful life		Reliability	\$ -	\$ 52,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	12.04	WWTP	Disinfection	Fix chlorine injection issues	35	20	Damaged asset and known vulnerability		Reliability	\$ -	\$ 52,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	13.01	WWTP	Effluent Pumping	Develop emergency plan for pump outage and develop plan for pump replacements	34	20	Pumps are past end of useful life and known vulnerability because spare parts are no longer available; immediate flooding and widespread damage would result from failure		Human health & environment	\$ -	\$ 20,800	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	13.02	WWTP	Effluent Pumping	Replace effluent pumps	34	20	Execute replacement plan	2.8	Reliability	\$ -	\$ -	\$ -	\$ 168,730	\$ -	\$ 426,994	\$ -	\$ -
	14.01	WWTP	Anaerobic Digestion	Install VFDs on sludge transfer pumps 1 and 2	NA	20	Known inefficiency; VFDs would reduce sludge pumping and reduce energy usage		Efficiency	\$ -	\$ -	\$ 108,160	\$ -	\$ -	\$ -	\$ -	\$ -
	14.02	WWTP	Anaerobic Digestion	Replace sludge mixing, recirculation, and transfer pumps	20	20	Asset nearing past useful life but in good working condition; planned rehabilitation when asset reaches end of useful life	2.13	Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 213,497	\$ -	\$ -
	14.03	WWTP	Anaerobic Digestion	Install stainless Steel Heat Exchanger and Shell	19	20	Known vulnerability; the existing equipment is nearing past its useful life and is outdated	2.2	Efficiency	\$ -	\$ 104,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	14.04	WWTP	Anaerobic Digestion	New burner system for Boilers	20	25	Planned rehabilitation when asset reaches end of useful life	2.3	Efficiency	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 78,282	\$ -	\$ -

Project Number	Category	Project	Asset Age (years)	Asset Useful Life (years)	Project Reasoning	2017 5-Year Infrastructure Plan Project Number	Benefit	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
14.05	WWTP	Anaerobic Digestion	Rehabilitate/replace sludge holding tank	20	25	Planned rehabilitation when asset reaches end of useful life	Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 711,656	\$ -	\$ -
14.06	WWTP	Anaerobic Digestion	Rehabilitate/replace digesters	20	25	Planned rehabilitation when asset reaches end of useful life	Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,423,312	\$ 1,731,676	\$ -
14.07	WWTP	Anaerobic Digestion	Assess beneficial sludge reuse	NA	NA	Evaluate options for sludge reuse	Efficiency	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28,466	\$ -	\$ -
14.08	WWTP	Anaerobic Digestion	Replace hot water boilers	20	25	Planned rehabilitation when asset reaches end of useful life	Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 263,356
14.09	WWTP	Anaerobic Digestion	Replace boiler circulation pumps	20	20	Asset nearing past useful life but in good working condition; planned rehabilitation when asset reaches end of useful life	Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 42,137
14.10	WWTP	Anaerobic Digestion	Replace heat exchanger circulation pumps	20	20	Asset nearing past useful life but in good working condition; planned rehabilitation when asset reaches end of useful life	Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 42,137
15.01	WWTP	Sludge Dewatering	Rehabilitate sludge dewatering bldg: crane, rollup door, floor etc.	30-35	various	Known vulnerability; necessary upgrade to protect assets and prolong useful life	2.16	Reliability	\$ -	\$ 156,000	\$ -	\$ -	\$ -	\$ -	\$ -
15.02	WWTP	Sludge Dewatering	Purchase critical spare parts for BFP/main conveyor and prepare emergency plan	20	20	Known vulnerability; necessary to plan for mechanical failures as asset reaches end of useful life	1.6	Reliability	\$ -	\$ -	\$ 108,160	\$ -	\$ -	\$ -	\$ -
15.03	WWTP	Sludge Dewatering	Replace Forced air ventilation with appropriate exhaust system in Press Room	NA	20	Known health and safety concern for plant workers	1.10	Safety	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15.04	WWTP	Sludge Dewatering	Install WAS gravity thickener and address storage shortage as needed	NA	20	Potential cost savings and process improvements; potential for prolonging useful life of other sludge dewatering assets	3.1	Efficiency	\$ -	\$ 312,000	\$ -	\$ -	\$ -	\$ -	\$ -
15.05	WWTP	Sludge Dewatering	Refurbish belt filter press	20	20	Asset nearing past useful life but in good working condition; planned rehabilitation when asset reaches end of useful life	Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 256,196	\$ -	\$ -
15.06	WWTP	Sludge Dewatering	Replace belt filter press feed pumps, hydraulic pump, and spray pumps	20	20	Asset nearing past useful life but in good working condition; planned rehabilitation when asset reaches end of useful life	Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 173,168	\$ -
16.01	WWTP	Digester Gas System	Replace digester gas flare and accessories	20	20	Asset past useful life and known vulnerability of failure	Reliability	\$ -	\$ 520,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
16.02	WWTP	Digester Gas System	Replace digester gas valves and blowers	20	20	Asset past useful life and known vulnerability of failure	Reliability	\$ -	\$ -	\$ 21,632	\$ -	\$ -	\$ -	\$ 34,634	\$ -
16.03	WWTP	Digester Gas System	Assess beneficial digester gas reuse and options for improvement	NA	NA	Evaluation to identify cost savings	3.4	Efficiency	\$ -	\$ -	\$ 32,448	\$ -	\$ -	\$ -	\$ -
17.01	WWTP	Water Supply and Piping Systems	Replace air gap tank	35	40	Planned rehabilitation when asset reaches end of useful life	Reliability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,233	\$ -	\$ -
17.02	WWTP	Water Supply and Piping Systems	Replace No. 1 and No. 2 water pumps and tanks	35	20	Asset past useful life but in good working condition; planned rehabilitation when asset reaches end of useful life	2.23	Reliability	\$ -	\$ -	\$ -	\$ -	\$ 227,730	\$ -	\$ -

	Project Number	Category		Project	Asset Age (years)	Asset Useful Life (years)	Project Reasoning	2017 5-Year Infrastructure Plan Project Number	Benefit	2018	2019	2020	2021	2022	2023 to 2027	2028 to 2032	2033 to 2037
	17.03	WWTP	Water Supply and Piping Systems	Replace No. 3 water pumps	35	20	Asset past useful life but in good working condition; planned rehabilitation when asset reaches end of useful life	2.22	Reliability	\$ -	\$ -	\$ -	\$ 179,978	\$ -	\$ -	\$ 277,068	\$ -
	17.04	WWTP	Water Supply and Piping Systems	Replace galvanized piping throughout plant	35	40	Known vulnerability to corrosion and failure		Reliability	\$ -	\$ -	\$ 54,080	\$ -	\$ -	\$ 71,166	\$ 86,584	\$ 105,342
	17.05	WWTP	Water Supply and Piping Systems	Address water loss issue from municipal supply line	NA	NA	Unknown location and cause of leaks or other unaccounted for water on water bill		Efficiency	\$ -	\$ -	\$ 21,632	\$ -	\$ -	\$ -	\$ -	\$ -
	17.06	WWTP	Water Supply and Piping Systems	Reroute high pressure fire and domestic line to safer location away from private properties	NA	NA	Potential mitigation of safety issue; high pressure water line owned by SAM runs below residential properties		Safety	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,463,353	\$ -

Attachment 5 – 2017 5-Year Infrastructure Plan

Sewer Authority Mid-Coastside

PROPOSED INFRASTRUCTURE PLAN: FY17/18 – FY21/22



March 2017

Board of Directors

Kathryn Slater-Carter – Chair

Deborah Ruddock

Deborah Penrose

Leonard Woren – Vice Chair

Scott Boyd

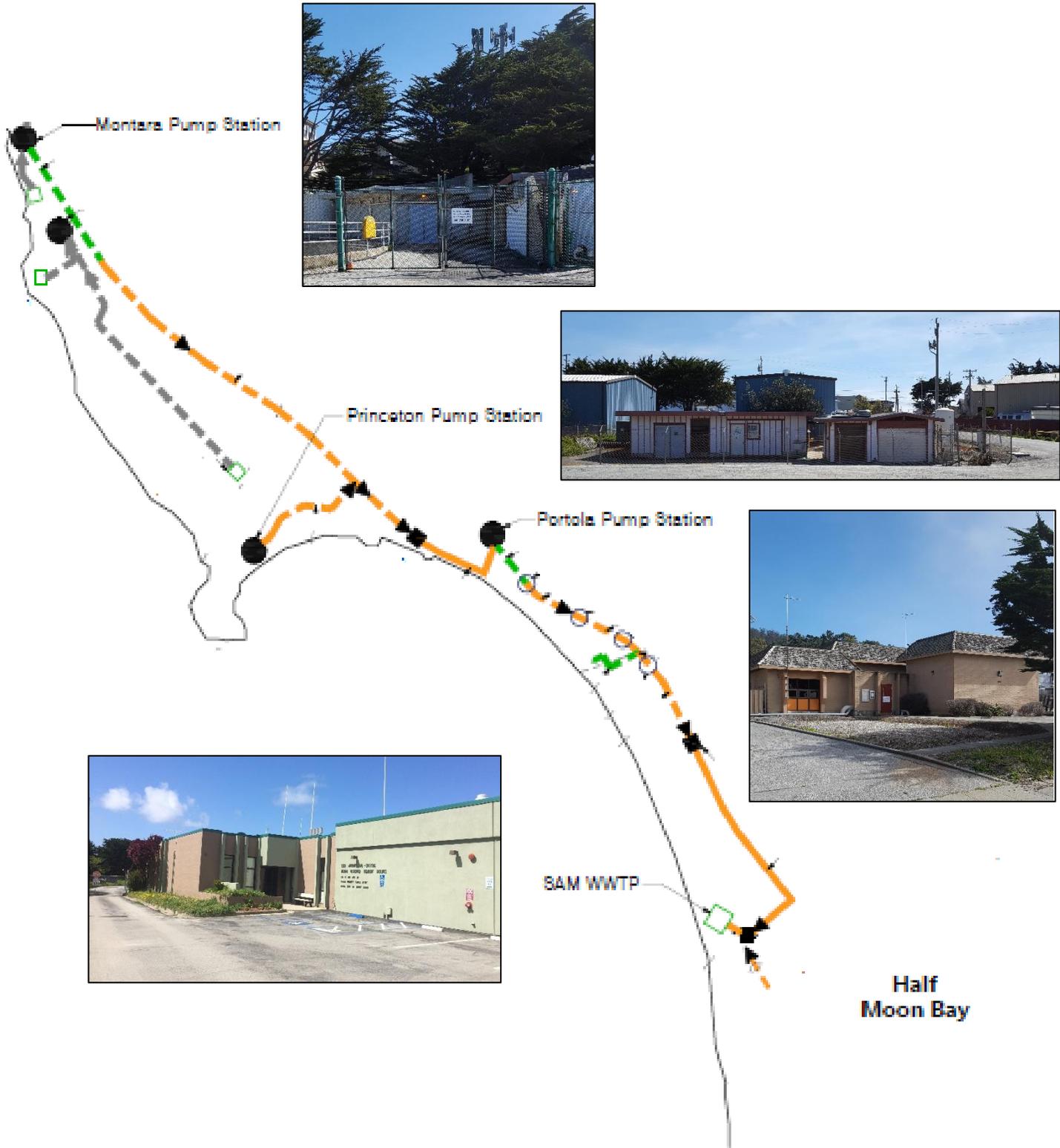
Ric Lohman

General Manager

Beverli Marshall

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022



SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

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I. INTRODUCTION

SAM's facilities require improvements to address system renewal and replacement needs, continue to maintain and improve system reliability, and ensure continuous compliance with all applicable regulations. These potential improvements make up SAM's Infrastructure Plan and include the rehabilitation of the existing infrastructure, implementation of repair and replacement projects, and preventive maintenance projects.

Staff proposes the prioritization criteria that serve as the foundation for SAM's Infrastructure Plan decision-making process to ensure a relevant implementation schedule and adequate funding for the improvements. The criteria provide a method to rate the relative importance of a particular project based upon factors such as protection of public health, employee safety, legal and regulatory requirements, and funding constraints. These criteria establish which projects should be implemented in any given year and over the Infrastructure planning horizon.

The proposed Infrastructure Plan is designed to meet the following goals:

- Respond to regulatory and safety concerns
- Maintain and replace existing aging assets
- Protect public health and environment
- Embrace a policy of sustainability for the responsible use of existing resources

II. PRIORITIZATION CRITERIA

The prioritization criteria proposed by staff are presented in Table 1, categorized into three priority levels, listed from most to least critical for implementation: (1) Regulatory and Safety, (2) Replacement and Rehabilitation, and (3) Sustainability/Energy/Optimization.

Priority Level	Criticality	Description
1 REGULATORY AND SAFETY	<i>Must do</i> SAM has little or no control to defer	This category focuses on projects that aim to ensure that SAM remains in full regulatory and safety compliance with all applicable regulations. These projects typically cover a wide variety of subjects to improve facilities for safety reasons, to reduce emissions of pollutants to the environment, and to meet future regulatory requirements.

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<p>2 REPLACEMENT AND REHABILITATION</p>	<p style="text-align: center;"><i>Must be done</i></p> <p>SAM has moderate level of control over the timing of implementation</p>	<p>This category focuses on projects related to maintaining existing aging infrastructure and the replacement requirements of SAM. Replacement projects focus on equipment that has exceeded its useful life, have previous history of failure, or are obsolete making it difficult or impossible to obtain replacement parts. The goals are to provide for ongoing or future renovation activities. The projects in this category typically include mechanical equipment replacement, piping renovations and replacement, electrical (including switch gear/distribution) and instrumentation replacement, upgrades, and modernization.</p>
<p>3 SUSTAINABILITY/ENERGY/ OPTIMIZATION</p>	<p style="text-align: center;"><i>Should be done</i></p> <p>SAM has significant level of control over the timing of implementation</p>	<p>This category focuses on projects that optimize existing processes, or energy efficiency, and sustainability of the treatment plant, the Intertie Pipeline System (IPS), and other facilities. The goals are to continue upgrading and improving the treatment plant’s existing infrastructure and systems to optimize and reduce energy use, lower maintenance costs, and prevent major failures.</p>

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III. METHODOLOGY

The Wastewater Treatment Plant (WWTP), pump stations, and IPS vulnerability assessment was conducted using an approach that aligns with the methodologies recommended by the Environmental Protection Agency (EPA) for the vulnerability and risk assessment of the wastewater treatment infrastructure. Critical assets and resources were identified and assessed for current conditions and expected performance against their estimated remaining useful life. Hazards and resulting vulnerabilities to these assets were then ranked in terms of how their respective occurrence or failure could impact the functionality of the treatment plant. Each hazard's consequence was ranked against the expected likelihood of occurrence, or risk, for SAM.

Asset Inventory:

Asset characterization is the process by which SAM's assets are evaluated and chosen based on each asset's criticality to the overall service of the WWTP and the pump stations. The purpose of asset characterization is to determine the assets that, if compromised by failure, could result in prolonged or widespread interruption of the service, degradation, injuries, fatalities, detrimental economic impact to SAM or the community, or any combination thereof.

Risk Level:

The hazard risk level (Risk) is defined as the probability of equipment failure (Probability) multiplied by the consequence of equipment failure (Consequence).

$$\text{Risk} = \text{Probability} * \text{Consequence}$$

The probability of equipment failure is rated based on its age and staff experience and is rated as follows:

Rate of Occurrence of Equipment Failure	Once every 10 years	Once every 5 to 10 years	Once every 3 to 5 years	Once every 1 to 3 years	< Once a year
Probability of Equipment Failure Rating	0.5	2.5	5	7.5	10

Three criteria were considered when evaluating the consequence of the external hazard:

- The impact on the WWTP effluent quality
- The impact on the WWTP treatment capacity including existing levels of redundancy; and
- The ability to return the piece of equipment to service. This covers staff and resource preparedness.

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Each of the three criteria is given a relative weight based on percentage (i.e. 33%, 33%, and 34%). The anticipated consequence of failure are rated: 1 – negligible, 5 – low, and 10 – severe. The consequence of failure for each project is determined individually and rated 1, 5, or 10. A project’s overall rating is calculated as the weighted average of these three ratings. The risk score is then determined by multiplying the consequence of failure overall rating and the probability of failure.

Table 3. Consequence of Equipment Failure				
Criterion	Relative Weight	Anticipated Consequences		
Impact on Effluent quality	33%	None	Mid-term effluent quality non-compliance	Immediate effluent quality non-compliance
Impact on Treatment Capacity	33%	None	No more redundancy or peak capacity <15MGD	Failed process or average capacity <4MGD
Ability to Return Equipment to Service	34%	Immediate repair/replacement possible	Repair possible before treatment is impacted	No contingency plan; preparedness uncertain
Criterion Rating		Rating = 1 (Negligible)	Rating = 5 (Low)	Rating = 10 (Severe)
Consequence rating		Weighted average of the three criterion ratings		

Once the risk levels for all projects are determined they are sorted from high to low. Projects with high scores present high risk and therefore should be addressed first. The various risk levels for the three priority level projects are listed in Appendix A.

IV. PROJECT COST DISTRIBUTION AND FISCAL YEAR SCHEDULE

Table 4 contains all of the currently identified projects in numerical order based on their risk scores from high to low within the three priority levels. Budget level cost estimates for addressing the projects are shown in 2017 dollars and the recommended time frame for implementing the projects over the next 5 years is also presented.

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Table 4. Total Project Cost Distribution and Fiscal Year Schedule								
				Implementation Year				
	No.	Project Description	Cost	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
Priority level 1 Projects	1.1	Assess and repair rainwater entering Princeton PS MCC room	50,000	50,000				
	1.2	Portola PS: Replace pumps 1 & 2 w/ chopper pumps	400,000	200,000			200,000	
	1.3	Portola PS: Replace surge tank	75,000	75,000				
	1.4	Replace Princeton PS with Package Pump Station	700,000	700,000				
	1.5	Replace ATS at Princeton PS, Montara PS and Portola PS	225,000	75,000	75,000	75,000		
	1.6	Purchase critical spare parts for BFP/main conveyor and prepare emergency plan	100,000		100,000			
	1.7	Replace electrical switchgear at WWTP	500,000		10,000	250,000	240,000	
	1.8	Install proper hatches at Portola PS	50,000		50,000			
	1.9	Chemical metering pumps at WWTP	150,000	75,000	75,000			
	1.10	Replace Forced air ventilation with appropriate exhaust system in Press Room	100,000		100,000			
	1.11	New longer conveyor for bin area	150,000		150,000			
Priority Level 2 Projects	2.1	Granada FM: Replace remaining deteriorated sections	3,300,000	1,500,000	1,800,000			
	2.2	Stainless Steel Heat Exchanger and Shell	100,000	100,000				
	2.3	New burner system for Boilers	55,000	55,000				
	2.4	Portola PS: Replace emergency generator	225,000		225,000			
	2.5	Montara PS: Replace emergency generator	225,000			225,000		
	2.6	Replace WWTP generator	900,000				900,000	
	2.7	Replace WWTP influent pumps	250,000		125,000	125,000		

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2.8	Replace WWTP effluent pumps	300,000		150,000	150,000		
2.9	Primary sludge pumps 1,2 and 3	50,000		50,000			
2.10	Grit pumps 1,2 and appurtenances	90,000				90,000	
2.11	Portola PS: Rehabilitate deteriorated concrete in wetwell	50,000			10,000	40,000	
2.12	Replace chain & flights and collector gear reducer in primary clarifier	150,000					150,000
2.13	Replace sludge mixing(1 pump), recirculation (1 pump), and transfer pumps(2 pumps)	150,000					150,000
2.14	Replace secondary clarifier drive mechanism	100,000					100,000
2.15	Replace screening conveyor at headworks (motor , support, gear box and brushes)	125,000					125,000
2.16	Rehabilitate sludge dewatering bldg.: crane, rollup door, etc.	60,000		60,000			
2.17	Repair damaged exterior electrical conduits at Montara PS	75,000				75,000	
2.18	Replace grit washer at WWTP	40,000					40,000
2.19	Portola PS: Recondition odor control system	50,000					50,000
2.20	Repair/replace front door and generator room door frames at Montara PS	40,000				40,000	
2.21	Portola PS: Evaluate condition of fresh water tank and appurtenances	5,000		5,000			
2.22	#3 water system- pumps and tank	80,000			80,000		
2.23	#2 water system- pumps and tank	80,000				80,000	
2.24	Perform disinfection alternatives analysis at WWTP	50,000					50,000

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	2.25	Flowmeter at Portola PS	150,000					150,000
	2.26	Flowmeter at Montara PS	150,000					150,000
	2.27	Evaluate chemical storage tank and metering pumps at Montara PS	5,000		5,000			
Priority Level 3 Projects	3.1	Install WAS gravity thickener at WWTP	300,000	300,000				
	3.2	Install grit chamber at Montara PS	125,000				125,000	
	3.3	Replace aeration blowers at WWTP	400,000		400,000			
	3.4	Study beneficial sludge and digester gas reuse	30,000					30,000
	3.5	Montara PS: Replace pumps 1 & 2	400,000				200,000	200,000
	3.6	Upgrade/replace grit blowers at WWTP	75,000				75,000	
	3.7	Install diffusers, piping, valving and other appurtenances at Aeration Basin # 4	300,000		300,000			
Total			\$10,985,000	\$3,130,000	\$3,380,000	\$1,215,000	\$2,065,000	\$1,195,000

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PRIORITY LEVEL 1 – REGULATORY AND SAFETY PROJECTS

V. PRIORITY LEVEL 1 – PROJECT SHEETS

Priority Level 1 - Regulatory and Safety Projects. These are the highest priority, “must do” capital projects. SAM has little to no control to defer these projects. This category focuses on projects that aim to ensure that SAM remains in full regulatory and safety compliance with all applicable regulations. These projects typically cover a wide variety of subjects to improve facilities for safety reasons, to reduce emission of pollutants to the environment, and to meet future regulatory requirements.

This Infrastructure Plan focuses on the first five years of this timeline. The projects and actions described below would allow SAM to address system deficiencies and continue to operate an efficient and reliable system.

Table 5 contains Regulatory and Safety Projects. A detailed discussion of these projects follows.

Table 5. Priority Level 1 – Regulatory and Safety Projects	
No.	Project Description
1.1	Assess and repair rainwater entering Princeton PS MCC room
1.2	Portola PS: Replace pumps 1 & 2 w/ chopper pumps
1.3	Portola PS: Replace surge tank
1.4	Replace Princeton PS with Package Pump Station
1.5	Replace ATS at Princeton PS, Montara PS and Portola PS
1.6	Purchase critical spare parts for BFP/main conveyor and prepare emergency plan
1.7	Replace electrical switchgear at WWTP
1.8	Install proper hatches at Portola PS
1.9	Chemical metering pumps at WWTP
1.10	Ventilator on Mechanical Building 1 in Press Room
1.11	New longer conveyor for bin area

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PRIORITY LEVEL 1 – REGULATORY AND SAFETY PROJECTS

Project: 1.1 Assess and repair rainwater entering Princeton PS MCC room

Priority: Regulatory and Safety

This project provides for assessing the cause of rainwater entering the east wall of the Princeton Pump Station motor control center (MCC) room and implementing improvements to make the building weathertight. Rain water entering the building from behind the MCC presents a dangerous electrocution hazard for SAM staff.

In early 2017 SAM made improvements to the area in front of the MCC room door to slope the grade away from the door. This is helping the situation, but a permanent solution that includes re-grading around the entire building, new drain inlets, and possibly a sump pump to assure rainwater does not enter the building, is necessary to improve SAM staff safety.



Project: 1.1 Assess and repair rainwater entering Princeton PS MCC room

CIP Total Cost: \$50,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 1 because it presents a dangerous electrocution hazard for SAM staff.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
50,000	50,000				

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PRIORITY LEVEL 1 – REGULATORY AND SAFETY PROJECTS

Project: 1.2 Portola Pump Station – Replace pumps 1 and 2 with chopper pumps

Priority: Regulatory and Safety

This project provides for the replacement of pumps 1 and 2 at the Portola Pump Station. The existing pumps have exceeded their useful life and are requiring more frequent maintenance. The performance of the pumps is greatly reduced due to clogging from rags and other debris. Chopper pumps are specifically designed to macerate fibrous materials such as string and rags that would otherwise cause the pump to seize and stop pumping.



Project: 1.2 Portola Pump Station – Replace pumps 1 and 2 with chopper pumps

CIP Total Cost: \$400,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 1 because it presents an ongoing maintenance task that is dangerous for SAM staff to perform. The pumps have also exceeded their useful lives and require considerable effort to maintain their reliability which is essential for the IPS system.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
400,000	200,000			200,000	

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PRIORITY LEVEL 1 – REGULATORY AND SAFETY PROJECTS

Project: 1.3 Portola Pump Station – Replace surge tank

Priority: Regulatory and Safety

This project provides for the replacement of exiting surge tank at the Portola Pump Station. The surge tank, located behind the pump station, was shut off years ago and is now badly deteriorated, un-level, and exhibiting corrosion. The interior of the tank is suspected to be heavily corroded due to exposure to sewage and sewer gas. The condition of the internal bladder is unknown, but there is a high degree of confidence that its functionality is also compromised.

A properly operating surge tank is essential for the correct hydraulic operation of the Portola Pump Station and the Granada Force Main. Known deterioration of the force main was caused in part by not having the surge tank on-line for many years.



Project: 1.3 Portola Pump Station – Replace surge tank

CIP Total Cost: \$75,000

Project Funding: This project will be funded by SAM’s Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 1 because it essential for the proper hydraulic operation of the Portola Pump Station and the Granada Force Main.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
75,000	75,000				

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 1 – REGULATORY AND SAFETY PROJECTS

Project: 1.4 Replace Princeton Pump Station with a new package pump station

Priority: Regulatory and Safety

This project provides for the replacement of the Princeton Pump Station with a buried package pump station. The existing pump station and sewage pumps have exceeded their expected useful lives and require replacement. The reliability of the pumps is diminishing as they continue to age and replacement parts are more difficult to obtain. The existing configuration of the pump station requires that confined space entry procedures be followed to access the dry-pit pumps, isolation valves, and check valves.



The proposed package pump station would include a new fiberglass wetwell with submersible duplex grinder pumps mounted on rails for ease of routine removal, maintenance, and inspection. The existing wetwell and dry pit pump room would be converted to a holding tank for wet weather storage similar to the Walker tank and Montara Pump Station and the wet weather storage facility on Burnham Strip that serves the Portola Pump Station. The existing MCC and generator system at the Princeton Pump Station will be used to serve the new pump station which would be located in the open parking area outside of the MCC room.

Project: 1.4 Replace Princeton Pump Station with a new package pump station

CIP Total Cost: \$700,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 1 because it poses a safety risk for SAM staff when maintenance is needed on the pumps since the dry-pit is a permit required confined space. The existing equipment has also exceeded its useful life, is heavily worn, and replacement parts are becoming difficult to obtain.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
700,000	700,000				

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 1 – REGULATORY AND SAFETY PROJECTS

Project: 1.5 Princeton PS, Montara PS and Portola PS – Replace ATS

Priority: Regulatory and Safety

This project provides for the replacement of the automatic transfer switch (ATS) at the Princeton Pump Station. The existing ATS is old, has exceeded its useful life, and replacement parts are becoming difficult to obtain. The ATS is an essential asset that must be reliable. In the event of a power loss to the station, the ATS transfers power from the utility grid to the generator so that operation of the pumps and other ancillary equipment may continue.



Project: 1.5 Princeton PS, Montara PS and Portola PS – Replace automatic transfer switch

CIP Total Cost: \$225,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 1 because without a properly functioning ATS the back-up generator cannot power the station in the event of utility power outage. This power outage may result in a sewer system overflow (SSO) if utility power is not restored quickly.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
225,000	75,000	75,000	75,000		

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 1 – REGULATORY AND SAFETY PROJECTS

Project: 1.6 WWTP – Purchase critical spare parts for the belt filter press (BFP) and main sludge conveyor and prepare an emergency plan

Priority: Regulatory and Safety

This project provides for purchasing critical spare parts for the BFP and main sludge conveyor. The reliability of this equipment is essential for proper operation of the plant since sludge cannot be processed and removed from the system for off-site disposal if they are not functioning. Spare parts include belts, bearings, idlers, rollers, and other incidental parts which, obtained otherwise, may incur long lead times.



This project also includes developing a contingency plan in the event of a catastrophic failure of the BFP or main sludge conveyor. This includes having mechanics familiar with the equipment on stand-by to make emergency repairs. The plan will also include contact names and phone numbers for local contractors that can stage backup sludge dewatering equipment (BFP, centrifuge, etc.) quickly on site to dewater sludge temporarily until the SAM's BFP and/or main sludge conveyor is repaired.

Project: 1.6 WWTP – Purchase critical spare parts for the belt filter press (BFP) and main sludge conveyor and prepare an emergency plan

CIP Total Cost: \$100,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 1 because it reduces the risk of the WWTP becoming disabled if digested sludge is not continuously removed from the system for offsite disposal.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
100,000		100,000			

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 1 – REGULATORY AND SAFETY PROJECTS

Project: 1.7 WWTP – Replace electrical switch gear

Priority: Regulatory and Safety

This project provides for the replacement of electrical switch gear in Mechanical Building 1. Much of this equipment was originally installed as part of the WWTP expansion and during subsequent upgrades and modifications. Spare and replacement parts are becoming difficult to obtain as the equipment continues to age. This puts SAM at risk that replacement of switch gear, or switch gear components that run critical equipment, may not be manufactured any longer or will require excessive lead time to obtain as custom items.



Project: 1.7 WWTP – Replace electrical switch gear

CIP Total Cost: \$500,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 1 because it reduces the risk associated with switch gear failure and associated downtime of critical WWTP equipment while replacement components are located and purchased (if they are still being manufactured).

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
500,000		10,000	250,000	240,000	

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 1 – REGULATORY AND SAFETY PROJECTS

Project: 1.8 Portola Pump Station – Install proper hatches at the wetwell

Priority: Regulatory and Safety

This project provides for installation of proper hatches at the Portola Pump Station wetwell. The existing hatches are in disrepair and need to be replaced to prevent SAM staff from injury by accidentally falling through one of the existing unsecure hatches.



Project: 1.8 Portola Pump Station – Install proper hatches at the wetwell

CIP Total Cost: \$50,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 1 because it is dangerous for SAM staff to work in this area where the existing hatches are compromised. Staff may be injured if they accidentally fall through the existing hatch.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
50,000		50,000			

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 1 – REGULATORY AND SAFETY PROJECTS

Project: 1.9 WWTP – Replace chemical metering pumps and provide sun shield

Priority: Regulatory and Safety

This project provides for replacement of the existing sodium hypochlorite and sodium bisulfite metering pumps. The existing pumps and piping have exceeded their useful life and are in poor condition due to prolonged exposure to the natural elements particularly with respect to metal corrosion. The sun has deteriorated the plastic pipes and other ancillary plastic components of the chemical metering pumps that are not ultraviolet (UV) protected.



This project calls for the systematic replacement of the pumps, piping, heat tracing, and other badly deteriorated components in the chemical pump containment area. Existing power distribution and controls will be re-used with the new replacement equipment. To protect the new equipment from the sun and rain, a pre-engineered fabric sun shield will be erected above the containment area walls. The sun shield will also protect SAM staff while they maintain the pumps and equipment in this area.

Project: 1.9 WWTP – Replace chemical metering pumps and provide sun shield

CIP Total Cost: \$150,000

Project Funding: This project will be funded by SAM’s Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 1 because the existing pumps are deteriorated and require replacement with modern more efficient units. These pumps distribute chlorination (sodium hypochlorite) and de-chlorination (sodium bisulfite) chemicals that are essential for meeting SAM’s NPDES permit requirements. Sun-weathered, deteriorated, and brittle plastic valves and ancillary components will also be replaced. The new assets will be protected from future deterioration by a pre-engineered sun shield.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
150,000	75,000	75,000			

SEWER AUTHORITY MID-COASTSIDE

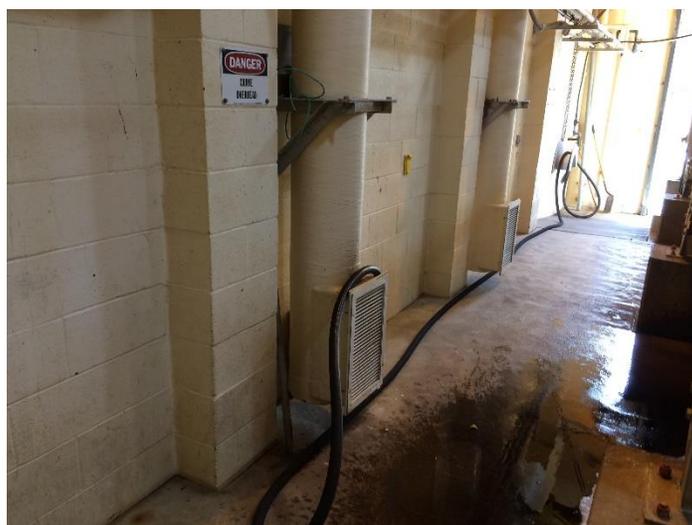
INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 1 – REGULATORY AND SAFETY PROJECTS

Project: 1.10 WWTP – Replace forced air ventilation with appropriate exhaust system in the BFP room

Priority: Regulatory and Safety

This project provides for the replacement of the air handling system in the BFP room of Mechanical Building 1. This high capacity ventilation equipment removes moist corrosive air from the room and replaces it with fresh air so that SAM staff has a safe environment to work inside the building and it protects the equipment from accelerated deterioration due to corrosion.



Project: 1.10 WWTP – Replace forced air ventilation with appropriate exhaust system in the BFP room

CIP Total Cost: \$100,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 1 because it provides for a safe environment for SAM staff to work in the BFP room and prolongs the useful life of the equipment by inhibiting the formation of a corrosive atmosphere.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
100,000		100,000			

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 1 – REGULATORY AND SAFETY PROJECTS

Project: 1.11 WWTP – Install a new long conveyor in the BFP bin area

Priority: Regulatory and Safety

This project provides for the replacement of the bin conveyor belt that serves the BFP. Distribution of sludge evenly across the roll-off container (bin) is difficult to achieve and requires that the bins be periodically moved. This poses a hazard for SAM staff that could be eliminated with a longer conveyor belt more suitable for the bins being used.



Project: 1.11 WWTP – Install a new long conveyor in the BFP bin area

CIP Total Cost: \$150,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 1 because it would allow for more efficient and safe loading of the sludge pickup bins.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
150,000		150,000			

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

VI. PRIORITY LEVEL 2 – PROJECT SHEETS

Priority Level 2 - Replacement and Rehabilitation. These projects provide measurable progress in achieving SAM’s goals, but over which SAM has a moderate level of control over the timing of implementation. This category focuses on projects related to maintaining existing aging infrastructure and the replacement requirements of SAM. Replacement projects focus on equipment that has exceeded its useful life, have previous history of failure, or are obsolete making it difficult or impossible to obtain replacement parts. The goals are to provide for ongoing or future renovation activities. The projects in this category typically include mechanical equipment replacement, piping renovations and replacement, electrical (switch gear/distribution) and instrumentation replacement and upgrades.

Table 6 contains Replacement and Rehabilitation Projects. Descriptions of these projects follow.

Table 6. Priority Level 2 – Replacement and Rehabilitation	
No.	Project Description
2.1	Granada FM: Replace remaining deteriorated sections
2.2	Stainless steel heat exchanger and shell in digester control building
2.3	New burner system for digester boilers
2.4	Portola PS: Replace emergency generator
2.5	Montara PS- Replace emergency generator
2.6	Replace WWTP generator
2.7	Replace WWTP influent pumps
2.8	Replace effluent pumps at WWTP
2.9	Primary sludge pumps 1,2, and 3
2.10	Replace grit pumps 1,2, and appurtenances
2.11	Portola PS: Rehabilitate deteriorated concrete in wetwell
2.12	Replace chain & flights and collector gear reducer in primary clarifier
2.13	Replace sludge mixing(1 pump), recirculation (1 pump), and transfer pumps(2 pumps)
2.14	Replace secondary clarifier drive mechanism
2.15	Replace screening conveyor at headworks(motor , support, gear box and brushes)
2.16	Rehabilitate sludge dewatering 23ldg.: crane, rollup door, etc.
2.17	Repair damaged exterior electrical conduits at Montara Pump Station
2.18	Replace grit washer at WWTP
2.19	Portola PS: Recondition odor control system
2.20	Repair/replace front door and generator room door frames at Montara Pump Station
2.21	Portola PS: Evaluate condition of fresh water tank and appurtenances

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

2.22	#3 water system- pump and tank
2.23	#2 water system- pump and tank
2.24	Perform disinfection alternatives analysis at WWTP
2.25	Flowmeter at Portola Pump Station
2.26	Flowmeter at Montara Pump Station
2.27	Evaluate chemical storage tank and metering pumps at Montara PS

SEWER AUTHORITY MID-COASTSIDE

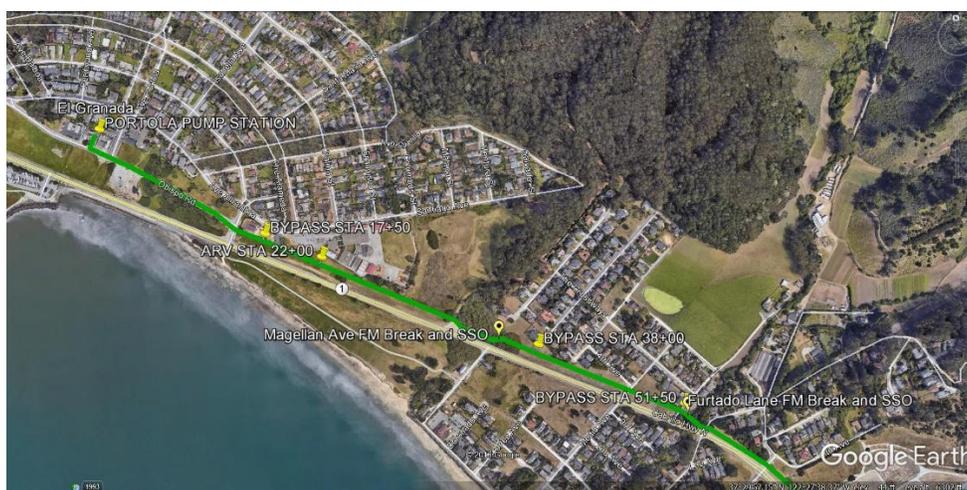
INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.1 Granada Force Main: Replace remaining deteriorated sections

Priority: Replacement and Rehabilitation

This project focuses on the replacement of approximately 7,100 linear feet of 14-inch diameter deteriorated ductile iron pipe with comparable diameter high density polyethylene (HDPE). Portions of the forcemain have been repaired in 2013, but the remaining sections require replacement or leaks will continue to occur as the internal inspection has confirmed the pipe is badly damaged and continuing to exceed its useful life.



Project: 2.1 Granada Force Main: Replace remaining deteriorated sections

CIP Total Cost: \$3,300,000

Project Funding: This project will be funded by SAM’s Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it will replace an asset that has exceeded its useful life and has a history of multiple failures. Protecting the environment and safeguarding the coastal beaches and marine life are paramount priorities for SAM. Fines levied by the regulatory agencies for sewer system overflows would be financially detrimental to SAM.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
\$3,300,000	\$1,500,000	1,800,000			

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.2 WWTP: Stainless steel heat exchanger

Priority: Replacement and Rehabilitation

This project focuses on the replacement of the existing heat exchangers in the digester control building. The shell and the tube bundle are degraded by corrosive liquid and require frequent replacement. These units have exceeded their useful life and would be replaced with more efficient equipment made of Stainless Steel.



Project: 2.2 WWTP: Stainless steel heat exchanger

CIP Total Cost: \$100,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it will replace an asset that has exceeded its useful life and is also a critical component responsible for the proper biological sludge digestion process at the WWTP.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
100,000	100,000				

SEWER AUTHORITY MID-COASTSIDE

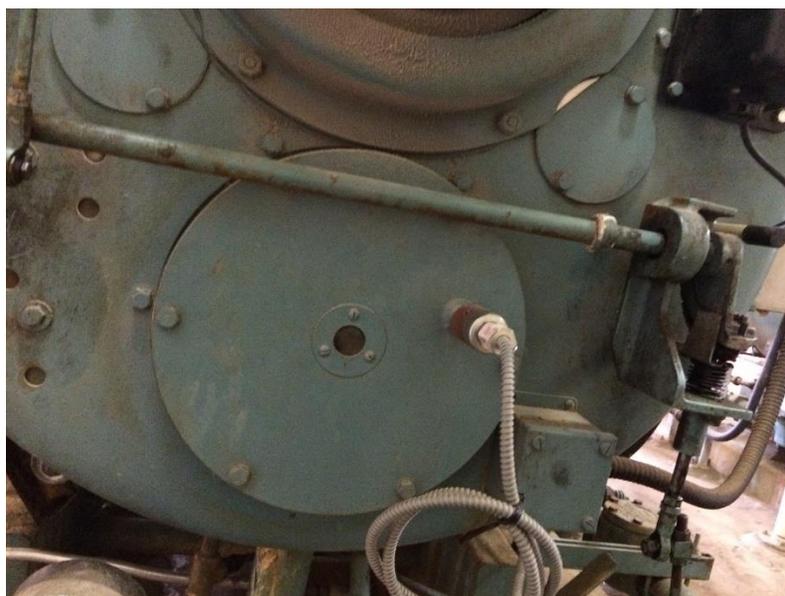
INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.3 WWTP – New burner system for boilers

Priority: Replacement and Rehabilitation

This project involves replacing the burner system on the hot water boilers in the sludge control building. The existing burner is old and has exceeded its useful life and should be replaced with a more efficient and reliable modern system.



Project: 2.3 WWTP – New burner system for boilers

CIP Total Cost: \$55,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it involves replacing an important piece of equipment that maintains proper digester temperatures and provides a means of combusting digester generated methane gas.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
55,000	55,000				

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.4 Portola Pump Station – Replace emergency generator

Priority: Replacement and Rehabilitation

This project involves replacing the emergency generator at the Portola Pump Station. The existing generator is old, has exceeded its useful life, and replacement parts are becoming difficult to obtain. The backup power generator is an essential asset that must be reliable. In the event of a power loss to the Portola Pump Station, the generator provides temporary power so that operation of the pumps and other important ancillary equipment may continue.



Project: 2.4 Portola Pump Station – Replace emergency generator

CIP Total Cost: \$225,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it replaces an important asset that has exceeded its useful life. This generator needs to be maintained in peak stand-by condition in the event of a power failure at the pump station. Although the wet weather storage facility enables the pump station to be off-line for short periods of time, a prolonged power outage, without a reliable and sufficient back-up power supply, will result in an SSO.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
225,000		225,000			

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.5 Montara Pump Station – Replace emergency generator

Priority: Replacement and Rehabilitation

This project involves replacing the emergency generator at the Montara Pump Station. The existing generator is old, has exceeded its useful life, and replacement parts are becoming difficult to obtain. The backup power generator is an essential asset that must be reliable. In the event of a power loss to the Montara Pump Station, the generator provides temporary power so that operation of the pumps and other important ancillary equipment may continue.



Project: 2.5 Montara Pump Station – Replace emergency generator

CIP Total Cost: \$225,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it replaces an important asset that has exceeded its useful life. This generator needs to be maintained in peak stand-by condition in the event of a power failure at the pump station. Although the Walker tank enables the pump station to be off-line for short periods of time, a prolonged power outage, without a reliable and sufficient back-up power supply, will result in an SSO.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
225,000			225,000		

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.6 WWTP – Replace emergency generator

Priority: Replacement and Rehabilitation

This project focuses on replacing the emergency generator at the WWTP. The existing generator is old, has exceeded its useful life, and replacement parts are becoming difficult to obtain. The backup power generator is an essential asset that must be reliable. In the event of a power loss to the WWTP, the generator provides temporary power so that operation of the WWTP may continue.



Project: 2.6 WWTP – Replace emergency generator

CIP Total Cost: \$900,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it replaces an important asset that has exceeded its useful life. This generator needs to be maintained in peak stand-by condition in the event of a power failure at the WWTP. A prolonged power outage, without a reliable and sufficient back-up power supply, will result in significant disruption to the plants, clarification, biological treatment, and disinfection processes that may result in a violation of SAM's NPDES permit requirements.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
900,000				900,000	

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.7 WWTP – Replace influent pumps

Priority: Replacement and Rehabilitation

This project involves replacing influent pumps 1 through 5 (and associated motors) at the WWTP. These pumps are old and approaching the end of their useful lives. Useful life for pumping equipment such as these is 40 years. Pumps 6 through 8 are younger (installed in 1999) do not require replacement at this time.



Project: 2.7 WWTP – Replace influent pumps

CIP Total Cost: \$250,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because these pumps are responsible for conveying all flow into the WWTP and therefore they must be maintained in peak reliable condition at all times.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
250,000		125,000	125,000		

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.8 WWTP – Replace effluent pumps

Priority: Replacement and Rehabilitation

This project involves replacing effluent pumps 1 and 2 (and associated motors) at the WWTP. These pumps are old and approaching the end of their useful lives. The motors have exceeded their useful lives. Useful life for pumping equipment and motors such as these is 40 years and 25 years respectively. Pump 3 and its motor are younger (installed in 1999) and they do not require replacement at this time.



Project: 2.8 WWTP – Replace effluent pumps

CIP Total Cost: \$300,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because these pumps are responsible for conveying all flow out of the WWTP during storm events and high tide when ocean outfall can no longer flow by gravity. Since the WWTP could potentially flood in an event such as this, the pumps must be maintained in peak reliable condition at all times.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
300,000		150,000	150,000		

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.9 WWTP – Replace primary sludge pumps 1, 2, and 3

Priority: Replacement and Rehabilitation

This project involves replacing sludge pumps 1, 2, and 3 (and associated motors) at the WWTP. These pumps are old and approaching the end of their useful lives. The motors have exceeded their useful lives. Useful life for pumping equipment and motors such as these is 40 years and 25 years respectively. Primary sludge pumps 4 and 5 their motors are younger (installed in 1999) and they do not require replacement at this time.



Project: 2.9 WWTP – Replace primary sludge pumps 1, 2, and 3

CIP Total Cost: \$50,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because these pumps are responsible for conveying primary sludge to the digesters. Since the WWTP's biological process relies on continuous removal of primary sludge, the pumps must be maintained in peak reliable condition at all times.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
50,000			50,000		

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.10 WWTP – Replace grit pumps 1 and 2 and appurtenances

Priority: Replacement and Rehabilitation

This project involves replacing grit pumps 1 and 2 (and associated motors) at the WWTP. These pumps are old and approaching the end of their useful lives. The motors have exceeded their useful lives. Useful life for pumping equipment and motors such as these is 40 years and 25 years respectively. Grit pump 3 and its motor are younger (installed in 1999) and it does not require replacement at this time.



Project: 2.10 WWTP – Replace grit pumps 1 and 2 and appurtenances

CIP Total Cost: \$90,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because the grit pumps are responsible for conveying grit from the grit removal channel. Since the WWTP's primary clarifiers and downstream biological process rely on continuous removal of grit from the treatment process, these pumps must be maintained in peak reliable condition at all times.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
90,000				90,000	

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.11 Portola Pump Station – Repair deteriorated concrete in wet well

Priority: Replacement and Rehabilitation

This project involves performing detailed evaluation of the interior concrete surface of the walls and underside of the wetwell roof at the Portola Pump Station. Concrete exposed to sewage in a moist environment is subject to severe and rapid deterioration from sewer gases. Sulfur oxidizing bacteria in the wastewater convert hydrogen sulfide to hydrogen sulfate and combine with water to form sulfuric acid which deteriorates the cementitious bond of the concrete. The condition of the walls and roof will dictate the level of effort required to repair the concrete which may include hydro-blasting, cleaning, and coating with protective cementitious or epoxy coatings.



Project: 2.11 Portola Pump Station – Repair deteriorated concrete in wet well

CIP Total Cost: \$40,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because concrete deterioration could compromise the reliability of the pump station. Sulfuric acid on the concrete surfaces causes them to become soft and aggregates begin to be exposed. Left unrepaired, the rebar will become exposed to the same aggressive process and accelerated corrosion eventually leading to structural failure.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
50,000			10,000	40,000	

SEWER AUTHORITY MID-COASTSIDE

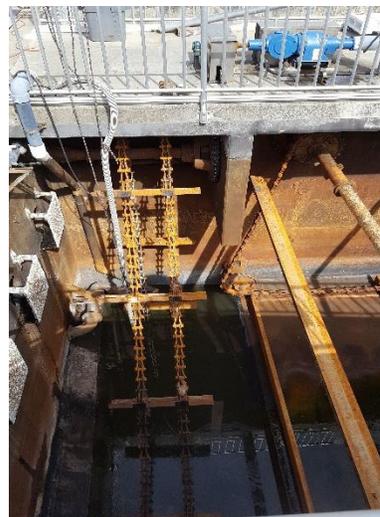
INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.12 WWTP – Replace chain and flights and collector gear reducer in primary clarifier

Priority: Replacement and Rehabilitation

This project involves replacing the sludge chains, flights, and collector gear reducer in primary clarifiers 1, 2, and 3. The existing chain and flights have been in service since the mid to late 1990s. This continuously moving equipment operates in a harsh environment and its useful life is generally only 10 years. Therefore these chains and flights are significantly over due for replacement. The flight drive assemblies including the gear reducer are close to or have exceeded their useful life also.



Project: 2.12 WWTP – Replace chain and flights and collector gear reducer in primary clarifier

CIP Total Cost: \$150,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it is essential to maintain reliable operation of the three primary clarifiers at all times. A chain or gear reducer failure would cause catastrophic problems for the plant's biological process since the primary clarifiers not only process incoming wastewater, but also serve to settle and remove waste activated sludge (WAS) from the system.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
150,000					150,000

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.13 WWTP – Replace sludge mixing pump (1 quantity), sludge recirculation pump (1 quantity), and sludge transfer pumps (2 quantity)

Priority: Replacement and Rehabilitation

This project involves replacing four pumps that support the sludge digestion process. These pumps are nearing the end of their useful lives and need to be replaced with modern and more efficient equipment. Repair and replacement parts for these pumps are becoming difficult to obtain as the pumps continue to age.



Project: 2.13 WWTP – Replace sludge mixing pump (1 quantity), sludge recirculation pump (1 quantity), and sludge transfer pumps (2 quantity)

CIP Total Cost: \$150,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it involves replacing critical pumps that are essential for the continued reliable digestion of the plant's waste sludge. If these pumps are out of service for a prolonged period of time (while replacement parts are ordered and installed) the digestion process will be negatively impacted.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
150,000					150,000

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.14 WWTP – Replace secondary clarifier mechanism

Priority: Replacement and Rehabilitation

This project involves replacing the secondary clarifier drives 1 and 2. The existing drives have been in service since the late 1990s. This continuously moving equipment operates in a harsh environment and they are nearing the end of their useful life.



Project: 2.14 WWTP – Replace secondary clarifier mechanism

CIP Total Cost: \$100,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because the equipment is nearing the end of its useful life. Obtaining replacement parts for this equipment (if still being manufactured) would require significant lead time that will render the plant without a secondary clarifier in the event of a failure.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
100,000					100,000

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.15 WWTP – Replace screenings conveyor at headworks (motor, support, gear box, and brushes)

Priority: Replacement and Rehabilitation

This project involves replacing the screenings conveyor at the headworks including the motor, supports, gear box, and brushes. This continuously operating equipment is located outdoors and subjected to not only the harsh wastewater environment but also the natural elements. The equipment was installed in 1999 with the mechanical bar racks and is nearing the end of its useful life and should be replaced with modern and more efficient components.



Project: 2.15 WWTP – Replace screenings conveyor at headworks (motor, support, gear box, and brushes)

CIP Total Cost: \$125,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it replaces equipment that is nearing the end of its useful life. This equipment is important to the continued reliable operation of the mechanical bar screen that they serve. Together this equipment serves as the first wastewater treatment process.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
125,000					125,000

SEWER AUTHORITY MID-COASTSIDE

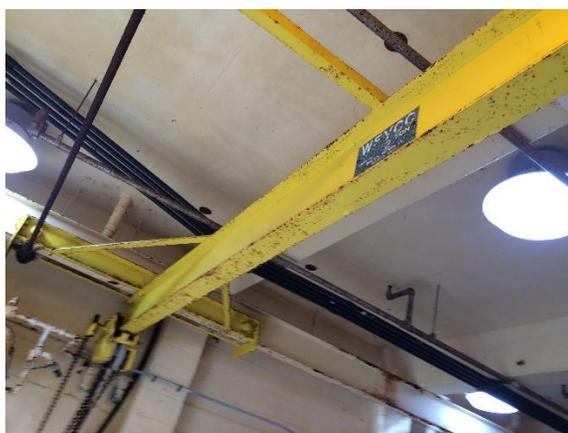
INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.16 WWTP – Rehabilitate sludge dewatering building crane, rollup door, and other deteriorated assets in the Belt Filter Press (BFP) room

Priority: Replacement and Rehabilitation

This project involves rehabilitation of the dewatering building crane which is located in the BFP room. This project also includes repairing and/or replacing the rollup metal door which is exhibiting corrosion of its mechanical gears exposed to the corrosive BFP room environment.



Project: 2.16 WWTP – Rehabilitate sludge dewatering building crane, rollup door, and other deteriorated assets in the BFP room

CIP Total Cost: \$60,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because the crane and rollup door are showing signs of corrosion due to the corrosive atmosphere and should be refurbished so that they are reliably available when needed and they do not present a safety hazard for SAM staff that operate them.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
60,000		60,000			

SEWER AUTHORITY MID-COASTSIDE

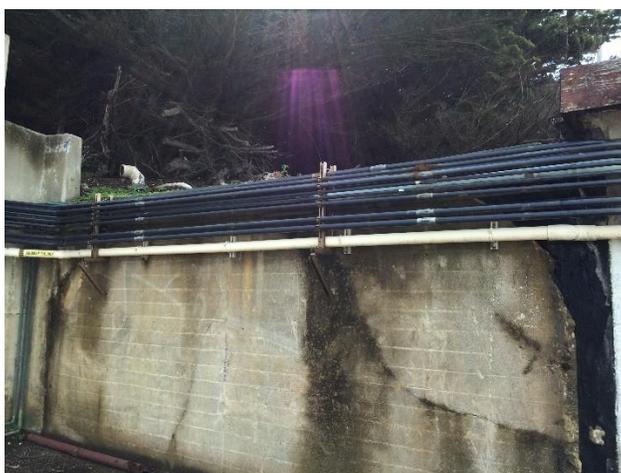
INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.17 Montara Pump Station – Repair deteriorated external electrical conduits

Priority: Replacement and Rehabilitation

This project involves replacing the heavily corroded electrical conduits on the exterior of the Montara Pump Station. The sea salt laden air and moisture along the coast is particularly corrosive to ferrous metals that are not coated or otherwise passivated. The conduits are PVC coated rigid steel and connect the pump station to the emergency generator located in an adjacent building. Instrumentation and control wiring is also run in these conduits.



Project: 2.17 Montara Pump Station – Repair deteriorated external electrical conduits

CIP Total Cost: \$75,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it replaces badly deteriorated electrical conduits that house power distribution, instrumentation, and communication conductors the power and control the backup generator system.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
75,000				75,000	

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.18 WWTP – Replace grit washer

Priority: Replacement and Rehabilitation

This project involves replacing the grit washer at the WWTP. The grit washer has been in service for 17 years and is reaching the end of its useful life and should be replaced. Replacement parts are becoming more difficult to obtain as the equipment continues to age.



Project: 2.18 WWTP – Replace grit washer

CIP Total Cost: \$40,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it replaces equipment that is reaching the end of its useful life. Should the grit washer have a catastrophic failure it would negatively impact the pre-treatment wastewater treatment process and disrupt the grit removal system.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
40,000					40,000

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.19 Portola Pump Station – Recondition odor control system

Priority: Replacement and Rehabilitation

This project involves reconditioning of the odor control system at the Portola Pump Station. The existing system consists of a positive displacement fan that maintains negative pressure on the wetwell. The negative pressure prevents fugitive odors from escaping to the environment. The fan blows the foul air to a biofilter located in front of the pump station. The biofilter is a rectangular shallow bark mulch bed that is moistened periodically by sprinkler heads. Perforated pipes below the bark mulch distribute the foul air throughout the bed. As air rises through the bed hydrogen sulfide and odors are removed by the bacteria and other micro-organisms in the moist bark mulch.

This project involves reconditioning the blower and replacing the bark mulch in the biofilter and refurbishing the sprinkler heads.



Project: 2.19 Portola Pump Station – Recondition odor control system

CIP Total Cost: \$50,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it refurbishes the exhaust fan and replaces the old mulch in the biofilter bed with new product so that the air scrubbing process works efficiently and effectively.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
50,000					50,000

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.20 Montara Pump Station – Repair/replace front door and frame and generator room door and frame

Priority: Replacement and Rehabilitation

This project involves replacing the heavily corroded metal doors and door frames at the Montara Pump Station and the adjacent generator room. The sea salt laden air and moisture along the coast is particularly corrosive to ferrous metals that are not coated or otherwise passivated.



Project: 2.20 Montara Pump Station – Repair/replace front door and frame and generator room door and frame

CIP Total Cost: \$40,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it replaces exterior doors that have exceeded their useful lives and are exhibiting significant corrosion. These doors are important assets as they protect the equipment inside from the elements and prevent non-qualified persons from gaining entry.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
40,000				40,000	

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.21 Portola Pump Station – Evaluate the condition of the fresh water pressurization tank and appurtenances

Priority: Replacement and Rehabilitation

This project involves performing a thorough condition assessment of the fresh water pressurization system at the Portola Pump Station. The system consists of a hydro-pneumatic tank and two pumps that serve the fresh water needs of the facility. The system was installed in 1983 and is nearing the end of its useful life.



Project: 2.21 Portola Pump Station – Evaluate the condition of the fresh water pressurization tank and appurtenances

CIP Total Cost: \$5,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it determines the condition of the existing system and the need for replacing or upgrading components. Although there is no history of problems with the system, a thorough assessment of all its components is prudent to assure future long-term reliability of the system.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
5,000		5,000			

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.22 WWTP – Replace No. 3 water pumps and tank

Priority: Replacement and Rehabilitation

This project involves replacing the No. 3 water pressurization system at the WWTP. The system consists of a hydro-pneumatic tank and two pumps that serve the No. 3 water needs of the WWTP. The pumps were installed in 1983 and are now approaching the end of their useful lives. The motors have exceeded their useful lives. Useful life for pumping equipment and motors such as these is 40 years and 25 years respectively.



Project: 2.22 WWTP – Replace No. 3 water pumps and tank

CIP Total Cost: \$80,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it involves replacing pumps that about to exceed their useful lives. These pumps are responsible for distribution of No. 3 water across the WWTP for a wide variety of important uses and therefore they must be maintained in peak reliable condition at all times.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
80,000			80,000		

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.23 WWTP – Replace No. 2 water pumps and tank

Priority: Replacement and Rehabilitation

This project involves replacing the No. 2 water pressurization system at the WWTP. The system consists of three hydro-pneumatic tanks and three pumps that serve the No. 2 water needs of the WWTP. The pumps were installed in 1983 (1999 for pump 3) and are now approaching the end of their useful lives. The motors to pumps 1 and 2 have exceeded their useful lives. Useful life for pumping equipment and motors such as these is 40 years and 25 years respectively.



Project: 2.23 WWTP – Replace No. 2 water pumps and tank

CIP Total Cost: \$80,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it involves replacing pumps and motors that are about to exceed their useful lives. The hydro-pneumatic tanks will be evaluated to determine if their replacement is warranted. These pumps and tanks are responsible for distribution of No. 2 water across the WWTP for a wide variety of important uses and therefore they must be maintained in peak reliable condition at all times.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
80,000				80,000	

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.24 WWTP – Perform disinfection alternatives analysis

Priority: Replacement and Rehabilitation

This project involves performing a study to evaluate options for replacing the WWTP's disinfection system with an alternative means. Options to be considered include ultraviolet (UV) disinfection.



Project: 2.24 WWTP – Perform disinfection alternatives analysis

CIP Total Cost: \$50,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it may present a viable means of providing disinfection of the plant's effluent in lieu of the current use of sodium hypochlorite. This process change could be less expensive and will eliminate the need for SAM staff to be exposed to chlorine derivatives and associated de-chlorination chemicals (sodium bisulfite).

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
50,000					50,000

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.25 Portola Pump Station – Replace the flowmeter in a vault outside the station

Priority: Replacement and Rehabilitation

This project involves relocating the existing magnetic flow meter on the discharge force main to a location outside the pump station building. The existing meter is located in the vertical position inside the building and concern has been raised that the amount of straight pipe upstream and downstream of the meter may be insufficient for accurately measuring flow. The proposed project would place the meter in a new vault in the driveway of the pump station with sufficient straight pipe upstream and downstream.



Project: 2.25 Portola Pump Station – Replace the flowmeter in a vault outside the station

CIP Total Cost: \$150,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it relocates and/or replaces the existing magnetic flow meter. It is important to accurately measure the wastewater flow at this location as this is the most critical and largest pump station in the IPS system.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
150,000					150,000

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.26 Montara Pump Station – Replace the flowmeter in a vault outside the station

Priority: Replacement and Rehabilitation

This project involves relocating the existing magnetic flow meter on the discharge force main to a location outside the pump station building in the existing pig launching vault. The existing meter is located in the vertical position inside the building and concern has been raised that the amount of straight pipe upstream and downstream of the meter may be insufficient for accurately measuring flow. The proposed project would place the meter in a re-purposed vault in the driveway of the pump station with sufficient straight pipe upstream and downstream.



Project: 2.26 Montara Pump Station – Replace the flowmeter in a vault outside the station

CIP Total Cost: \$150,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it relocates and/or replaces the existing magnetic flow meter. It is important to accurately measure the wastewater flow at this location as this is one of the largest pump station in the IPS system.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
150,000					150,000

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 2 – REPLACEMENT AND REHABILITATION PROJECTS

Project: 2.27 Montara Pump Station – Evaluate chemical storage tank and metering pumps

Priority: Replacement and Rehabilitation

This project involves performing a detailed condition assessment of the chemical storage and metering pump system at the Montara Pump Station.



Project: 2.27 Montara Pump Station – Evaluate chemical storage tank and metering pumps

CIP Total Cost: \$5,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 2 because it may require rehabilitation of the existing storage and pumping system if it is found to be deficient. SAM's stores sodium hypochlorite on site for odor control purposes and the system has leaked in the past which caused damage to the building. It is therefore prudent to carefully examine the existing system for deficiencies and repair them promptly.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
5,000		5,000			

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 3 – SUSTAINABILITY/ENERGY/OPTIMIZATION PROJECTS

VII. PRIORITY LEVEL 3 – PROJECT SHEETS

Projects not meeting the criteria for Priority Level 1 or 2 are ranked as Priority Level 3. These projects are needed, albeit may not yet have defined scopes, schedules, or funding sources. Many factors exist that may promote Level Three projects to Level One or Two such as the release of new regulations and legislation or the availability of funding.

Priority Level 3 - Sustainability/Energy/Optimization Projects. This category focuses on projects that optimize existing processes, or energy efficiency, and sustainability of the treatment plant, IPS, and other facilities. The goals are to continue upgrading and improving the treatment plant's existing infrastructure and systems to optimize to reduce energy use, lower maintenance costs, and prevent major failures.

Table 7 contains Sustainability/Energy/Optimization Projects. A detailed discussion of these projects follows.

Table 7. Priority Level Three – Sustainability/Energy/Optimization Projects	
No.	Description
3.1	Install WAS gravity thickener at WWTP
3.2	Install grit chamber at Montara PS
3.3	Replace aeration blowers at WWTP
3.4	Study beneficial sludge and digester gas reuse
3.5	Montara PS: Replace pumps 1 & 2 w/ chopper pumps
3.6	Upgrade/replace grit blowers at WWTP
3.7	Install diffusers, piping, valving and other appurtenances at Aeration Basin # 4

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 3 – SUSTAINABILITY/ENERGY/OPTIMIZATION PROJECTS

Program: 3.1 Install WAS gravity thickener at the WWTP

Priority: Sustainability/Energy/Optimization

This project involves improving the plant's performance by diverting the waste activated sludge (WAS) from the primary settling tanks and sending it to the anaerobic digesters. To accomplish this WAS will need to be thickened by a new screw press or other means.

Project: 3.1 Install WAS gravity thickener at the WWTP

CIP Total Cost: \$300,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 3 because it is a discretionary project that will benefit the performance of the plant and increase overall efficiency, but is not regulatory driven or a safety concern.

The current practice of sending WAS to the primary settling tanks is unconventional and inefficient. A mechanical thickener would be installed to increase the percent solids of the WAS before it is sent to the digesters. Benefits will include: increased efficiency of the primary clarifiers and secondary aeration system; improved performance of the digesters; and potentially increase digester gas production.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
300,000	300,000				

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 3 – SUSTAINABILITY/ENERGY/OPTIMIZATION PROJECTS

Program: 3.2 Montara Pump Station – Install grit removal chamber

Priority: Sustainability/Energy/Optimization

This project involves installation of a grit chamber at the Montara Pump Station to intercept and collect grit, sand, and rocks that otherwise will collect in the wetwell.

Project: 3.2 Montara Pump Station – Install grit removal chamber

CIP Total Cost: \$125,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 3 because it is a discretionary project that will benefit the performance of the Montara Pump Station, increase reliability of the pumps, and reduce maintenance and danger associated with removing the grit and rocks from the wetwell manually as is done currently.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
125,000				125,000	

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 3 – SUSTAINABILITY/ENERGY/OPTIMIZATION PROJECTS

Program: 3.3 WWTP – Replace aeration blowers

Priority: Sustainability/Energy/Optimization

This project involves replacing the aeration blowers at the WWTP with modern and more efficient blowers. The existing blowers are old and approaching the end of their useful lives. The motors have exceeded their useful lives. Useful life for blowers and motors such as these is 40 years and 25 years respectively.



Project: 3.3 WWTP – Replace aeration blowers

CIP Total Cost: \$400,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 3 because it is a discretionary project that will benefit the performance of the WWTP and save electricity by providing modern and more efficient blowers in the secondary aeration system. This project will replace aging assets that will be expensive to repair in the future as replacement parts are no longer available or difficult to obtain.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
400,000		400,000			

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 3 – SUSTAINABILITY/ENERGY/OPTIMIZATION PROJECTS

Program: 3.4 WWTP – Study beneficial sludge and digester gas re-use

Priority: Sustainability/Energy/Optimization

This project involves conducting a study into the beneficial re-use of sludge and digester gas from the WWTP. Class A sludge has market value as a soil amendment and digester gas (methane) and can be used to run engine-driven electric generators.

Project: 3.4 WWTP – Study beneficial sludge and digester gas re-use

CIP Total Cost: \$30,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 3 because it is a discretionary project that may benefit the performance of the WWTP and provide beneficial re-use of sludge cake as a soil amendment and methane gas as a form of energy.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
30,000					30,000

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 3 – SUSTAINABILITY/ENERGY/OPTIMIZATION PROJECTS

Program: 3.5 Montara Pump Station – Replace pumps 1 and 2

Priority: Sustainability/Energy/Optimization

This project involves replacing pumps No. 1 and No. 2 at the Montara Pump Station with submersible grinder style pump similar to pump No. 3. Pumps No. 1 and No. 2 were installed in 1983 and 1999 respectively and are now approaching the end of their useful lives.



Project: 3.5 Montara Pump Station – Replace pumps 1 and 2

CIP Total Cost: \$400,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 3 because it is a discretionary project that will benefit the performance and reliability of the Montara Pump Station by replacing pumps No. 1 and No. 2 with higher efficiency grinder style pumps.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
400,000				200,000	200,000

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 3 – SUSTAINABILITY/ENERGY/OPTIMIZATION PROJECTS

Program: 3.6 WWTP – Upgrade/replace grit blowers

Priority: Sustainability/Energy/Optimization

This project involves upgrading and replacing the grit blowers at the WWTP with new modern and more efficient blowers. The existing blowers were installed in 1983 and are now approaching the end of their useful lives. The motors have exceeded their useful lives. Useful life for blower and motors such as these is 40 years and 25 years respectively.



Project: 3.6 WWTP – Upgrade/replace grit blowers

CIP Total Cost: \$75,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 3 because it is a discretionary project that will benefit the performance of the WWTP by replacing the grit blowers with more reliable equipment.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
75,000				75,000	

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

PRIORITY LEVEL 3 – SUSTAINABILITY/ENERGY/OPTIMIZATION PROJECTS

Program: 3.7 WWTP – Install diffusers, piping, valving, and other appurtenances in aeration basin No. 4

Priority: Sustainability/Energy/Optimization

This project involves installing diffused aeration equipment in what is currently an empty and unused aeration tank and bringing it online.



Project: 3.7 WWTP – Install diffusers, piping, valving, and other appurtenances in aeration basin No. 4

CIP Total Cost: \$300,000

Project Funding: This project will be funded by SAM's Infrastructure Program

Basis of Priority: This project is ranked as Priority Level 3 because it is a discretionary project that will benefit the performance of the WWTP by providing increased aeration capability.

Annual Cost Distribution and Schedule

CIP Total	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
300,000		300,000			

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

APPENDIX

VIII. APPENDIX

Risk evaluation for Priority Level 1 (Regulatory and Safety) Projects

OVERALL RATING												
Item #	Unit process	Equipment Unit	Equipment (mech., elec., instr..)	Probability of Failure	Consequences of Failure			Overall Rating	Risk Score	Current Age 2017	Est. Useful Life	Remain Useful Life
					Effluent Quality	Treatment Capacity	Serviceability					
					33 %	33 %	34 %					
1	Princeton PS MCC Room	Building	Watertightness of south wall	10	5	10	10	8.4	84	34	40	6
2	Portola PS	Pumps	Pumps 1 & 2	10	5	10	10	8.4	84	18	20	2
3	Portola PS	Surge System	Surge Tank	10	5	10	10	8.4	84	34	20	-14
4	Princeton PS	Complete Pump Station	Princeton PS	10	5	10	10	8.4	84	34	20	-14
5	Princeton PS/Montara PS and Portola PS	ATS	ATS	10	10	10	5	8.3	83	34	15	-19
6	Sludge dewatering	Belt Filter Press	Spare parts for BFP/Main Conveyor	10	5	5	10	6.7	67	19	20	1
7	Electrical	Switchgear at WWTP	Main service switchgear	10	5	1	10	5.4	54	19	20	1
8	Portola PS	Hatch on Wet well	Hatch	5	5	10	10	8.4	42	34	50	16
9	Disinfection	Chemical Metering at WWTP	Pumps	5	10	10	5	8.3	42	18	20	2
10	Sludge dewatering	Ventilator on Mech Bldg 1 in Press Room	Air handling	10	1	1	5	2.4	24	19	20	1
11	Sludge dewatering	New longer conveyor for bin area	Conveyors	0.5	1	1	5	2.4	1	29	20	-9

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

APPENDIX

Risk evaluation for Priority Level 2 (Replacement and Rehabilitation) Projects

OVERALL RATING												
Item #	Unit process	Equipment Unit	Equipment (mech., elec., instr..)	Probability of Failure	Consequences of Failure			Overall Rating	Risk Score	Current Age 2017	Est. Useful Life	Remain Useful Life
					Effluent Quality	Treatment Capacity	Serviceability					
					33%	33%	34%					
1	Force Main	Granada Force Main	Force Main	10	10	10	10	10.0	100	34	25	-9
2	Sludge Digestion	Heat Exchanger	Heat Exchanger and Shell	10	5	10	10	8.4	84	19	20	1
3	Sludge Digestion	Heat Exchanger	Burner System	10	5	10	10	8.4	84	19	20	1
4	Emergency Power	Emergency Generator @ Portola PS	Emergency Generator	7.5	10	10	10	10.0	75	34	15	-19
5	Emergency Power	Emergency Generator @ Montara PS	Emergency Generator	7.5	10	10	10	10.0	75	34	15	-19
6	Emergency Power	Emergency Generator @ WWTP	Emergency Generator	7.5	10	10	10	10.0	75	29	15	-14
7	Influent Pumping	Influent pumps	Influent pumps	10	1	5	10	5.4	54	34	15	-19
8	Effluent Pumping	Effluent Pumps	Pumps	10	1	5	10	5.4	54	34, 34, 18	15	-17, -17, -3
9	Primary Treatment	Primary Sludge Pumps	Pumps 1, 2, 3	10	5	5	5	5.0	50	34, 34, 34	40	6,6, 6
10	Grit Removal	Grit Pumps	Girt pumps 1, 2 & appurt.	10	5	5	5	5.0	50	34, 34, 34	40	6,6, 6
11	Portola PS	Wet well	Wet well - rehab	7.5	5	5	10	6.7	50	34	50	16

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

APPENDIX

			deteriorated concrete									
12	Primary Treatment Process	Primary Clarifier	Chain and flights & collector gear reducer	7.5	5	5	10	6.7	50	21	20	-1
13	Anaerobic Digestion	Sludge mixing, recirculation and transfer	Pumps	10	5	5	5	5.0	50	19	20	1
14	Secondary Clarification	Secondary Clarifier	Drive mechanism	5	5	10	10	8.4	42	19	20	1
15	HeadWorks	Screenings Conveyor	Conveyor	5	5	10	10	8.4	42	18	20	2
16	Sludge Dewatering	Crane	Crane and Roll up door	2.5	10	10	10	10.0	25	34	20	-14
17	Montara PS	Electrical	Exterior electrical Conduits	2.5	10	10	10	10.0	25	34	15	-19
18	Primary Treatment Process	Grit Removal	Grit Washer	2.5	5	10	10	8.4	21	17	20	3
19	Odor Control	Odor Control @ Portola PS	Recondition Odor Control	2.5	5	10	10	8.4	21	15	15	0
20	Emergency Power	Emergency Power Station at Montara	Replace front door and generator door frames	2.5	5	5	5	5.0	13	34	15	-19
21	Fresh water system	Fresh water system at Portola	Fresh Water Tank and Appurtenances	2.5	5	5	5	5.0	13	34	15	-19
22	Water systems	Pumps and Tank	#3 water pump & tank	0.5	5	1	10	5.4	3	34	40	6
23	Water Systems	Pumps and Tank	#2 water pump & tank	0.5	5	1	10	5.4	3	34	40	6
24	Flow measurement at Portola PS	Flow meter	Flow meter	0.5	5	1	10	5.4	3	34	15	-19
25	Flow measurement at Montara PS	Flow meter	Flow meter	0.5	5	1	10	5.4	3	34	15	-19

SEWER AUTHORITY MID-COASTSIDE

INFRASTRUCTURE PLAN FY2017-2022

APPENDIX

Risk evaluation for Priority Level 3 (Sustainability and Energy Savings) Projects

OVERALL RATING												
Item #	Unit process	Equipment Unit	Equipment (mech., elec., instr..)	Probability of Failure	Consequences of Failure			Overall Rating	Risk Score	Current Age 2017	Est. Useful Life	Remain Useful Life
					Effluent Quality	Treatment Capacity	Serviceability					
					33 %	33 %	34 %					
1	Aeration Process	Blowers at WWTP	Blowers	10	10	10	10	10.0	100	34	15	-19
2	Montara PS	Pumps	Pumps 1 and 2	10	1	5	5	3.7	37	34	20	-14
3	Grit Removal	Grit Blower	Blowers	10	1	5	5	3.7	37	34	15	-19



MONTARA WATER & SANITARY
DISTRICT

BOARD OF DIRECTORS MEETING
May 3, 2018

MINUTES

REGULAR SESSION BEGAN AT 7:30 p.m.
CALL TO ORDER
ROLL CALL

Directors Present: Boyd, Slater-Carter, Wilson, Harvey and Huber

Directors Absent: None

Staff Present: General Manager, Clemens Heldmaier
District Clerk, Tracy Beardsley

Others Present: District Counsel, Christine Fitzgerald
District Counsel, David Schricker
District Water Engineer, Tanya Yurovsky
District Sewer Engineer, Pippin Cavagnaro
SRT Principal Engineer, Tim Monahan
Sewer Authority Mid-Coastside (SAM) Engineering &
Construction Contracts Manager, Kishen Prathivadi

PRESIDENT'S STATEMENT –

Director Wilson said that the Agenda was extensive tonight, and wanted to be sure there was time for comments that are necessary. He requested that comments be consolidated, so that the meeting doesn't end too late.

ORAL COMMENTS -

General Manager Heldmaier announced that the Montara Water and Sanitary District now has an AED (Automatic External Debrillator) located in the hallway.

Director Slater-Carter mentioned discussion of the sewer rates from residents on the website Next Door. They had the following questions:

- Why are there differential rates for residences, businesses, etc.?
- Will the rates increase lead to capacity increases?
- Why are MWSD's rates higher than other cities or Districts?

There was also a comment referring to sewer bills as property tax bills, because they are on the same notice from the County.

General Manager Heldmaier: First of all, capacity increases aren't related to the rate increases. In our next Agenda item, we will be discussing the primary reason for the rate increase. I want to be clear that a lot of agencies on the Peninsula have higher rates than we do, even after our rate increase. The reason our sewer rates are higher than other Coastside area is due to our unique geographic situation. Unlike Granada and Half Moon Bay that have similar bowl shaped terrain where sewer gravity drains toward the ocean, we have terrain that requires a lot of pumping. Our ratio, miles to pump station--we just looked at that for San Francisco--I think ours is 200 times higher. We have 13 major pump stations and close to 30 minor ones. The City of Half Moon Bay has 2, and Granada has 1 pump station. The pump stations are costly to maintain. The sewer bills are collected on the tax bill. We could bill them monthly like other agencies do. We simply ask that it be collected on the tax roll, making it a lot easier on us and the customers. We are a public agency, and we need to base our rates on facts. The sewer rate study has different classes based on strength factor, meaning certain categories, for example restaurants, produce higher sewer strength that needs to be treated as compared to offices that don't produce a lot of waste. This means that the restaurant class is much higher than the residential class, and certain classes such as offices are slightly less.

PUBLIC HEARING – None

CONSENT AGENDA

1. Approve Minutes for April 5, 2018
2. Approve Financial Statements for March 2018
3. Approve Warrants for May 1, 2018
4. SAM Flow Report for March 2018
5. Monthly Review of Current Investment Portfolio
6. Connection Permit Applications Received
7. Monthly Water Production Report for March 2018
8. Rain Report
9. Solar Energy Report
10. Monthly Public Agency Retirement Service Report for February 2018

Director Boyd moved to approve the Consent Agenda and Director Slater-Carter seconded the motion. All were in favor and the motion passes 5 - 0

All Directors were in favor and the motion passed unanimously 5 – 0.

OLD BUSINESS – None

NEW BUSINESS -

1. Review and Possible Action of Sewer Authority Mid-Coastside Draft 20 Year Capital Improvement Plan.

General Manager Heldmaier: This is the main reason for raising the sewer rates. The sewer rate study is primarily based on the Sewer Authority Mid-Coastside (SAM) financial needs. It is mostly the centralized treatment plant, SAM, that drives this sewer rate increase. We have capital needs as well—we planned for them well, and anticipated those in the long run. The SAM Board received this 20 year plan at the April 9th meeting, and is looking at 2 million dollars per year over 20 years. We have Kishen Prathivadi with SAM who will be talking about this, and Tim Monahan with SRT, who was also very involved in developing this 20 year Capital Improvement plan (CIP).

Mr. Prathivadi: The 5 year plan was adopted by the SAM Board last year. The methodology used for the 5 year CIP is also adopted for the 20 year CIP. The 20 year CIP was contracted with SRT Consultants, and will be presented by Tim Monahan, and both of us will be available for questions. The objective of this CIP program was primarily to respond to the regulatory and safety concerns, maintain and replace existing assets, protect public health and environment, and to embrace a policy of sustainability for the responsible use of existing resources. The Sewer Authority Mid-Coastside has a wastewater treatment plant that is very old. It was upgraded in the 1990s and after that we have been doing it in parts. So, this encompasses all of SAM's assets which includes the treatment plant, force mains, and the 3 pump stations that SAM owns—the Montara pump station, Portola, and Princeton pump station. The key drivers for the CIP was regulatory and safety, replacement and rehabilitation, and sustainability/energy and optimization. Under the heading of regulatory and safety, projects were chosen to ensure the District remains in full regulatory and safety compliance, improve the existing facility for safety reasons, reduce emission of pollutants to the environment, and to meet future regulatory requirements. In the second driver which was Replacement and Rehabilitation, projects were chosen which were related to aging infrastructure and replacement requirements of the District, provide for on-going or future renovation activities of existing assets and to initiate any preventative maintenance. Finally, it also addresses sustainability, energy savings, or optimization projects where processing were optimized for energy use, improving energy efficiency and maintain and improve the sustainability of the plant and to lower the maintenance costs.

So the modality adopted was primarily risk management, which is finding out risk factors by determining the probability and the impact. So, Probability multiplied by Impact will give you the Risk rating. So for that the Probability of Failure was

chosen, where if the rate of occurrence was once in 10 years, then the score given was .5, and so on and so forth. If it was less than once per year, then the rating chosen was 10. So we listed out all the assets of SAM and went through each asset and determined the Probability and the Consequence of Failure. And for each one of them, we gave them a rating and the item with the highest rating was the highest risk factor, and that is how we arrived at several priorities for the projects. Now, when we look at the Consequence of Failure, there were 3 criteria factors to consider. One is how much of it has an impact on the existing effluent quality, how much of it has an impact on the treatment capacity, and the ability to return the equipment to service, including the staff. Therefore, the Consequence of Failure also had certain ratings as you can see below. Criteria rating was negligible 1, and the severe rating was 10. And for each of these criteria ratings we gave it about 33% for effluent quality, 33% for treatment capacity, and 34% for ability to return to service. I will show an example of how it was worked out in the next few slides. Therefore, the Risk score was calculated primarily by determining the Probability of Failure rating times the Consequence rating. This is an example of how the Risk score was determined: for the belt filter press, the Probability of Failure rating was 10 x Consequence of Failure, which is 5 for quality, 10 for capacity, 10 for serviceability. Therefore the Consequence rating is 8.4 which is $5 \times 0.333 + 10 \times 0.333$, and so forth. The Risk score will be $8.4 \times 10 = 84$. Each of these assets were assessed and given a score, which is in the packet provided. Then a 5 year capital plan was prepared which was prepared and presented to the BOD last year, which is approximately 22 million dollars in projects and it was determined at that time that it will be updated each year. We looked for funding from various sources and how we could bring about reduction on the risk, and then it was determined we should develop a 20 year capital improvement plan so that it brings us the entire view moving forward, and we can review the 20 year CIP every year. That's when SAM should contract it out to SRT Consultants, and I will hand it over to Tim Monahan of SRT to talk about the 20 year CIP.

SRT Principle Engineer, Tim Monahan: As Kishen explained, the first step in this process of developing SAM's CIP plan was developing the 5 year program. That was advanced and expanded upon for a 20 year CIP, looking at all the assets SAM owns, from the Ocean alt Treatment plant, IPS and pump stations.

Director Slater-Carter: Please explain what an IPS is.

Mr. Monahan: The IPS is the Intertie Pipeline system. It is the backbone of SAM's conveyance facilities. From Montara it brings all the flow, wastewater to the treatment plant in Half Moon Bay, and a series of pump stations connect to it to convey the water by pumping. In talking to SAM management and the Board, we realized there has been a lot of deferred maintenance and projects that have not been addressed over the years. We honed in on a spending limit of 2 million dollars a year to try to bring the current facilities that are behind up to acceptable reliable levels of use. What you see here are the projects that we identified and the first four bars, coming from the left to the right represent the dollar values of the projects that we identified in this capital improvement program in the 5-year, 2018, 2019, 2020, 2021, 2022. The other projects further out are grouped in 4 year

increments, as they are further in the future. The black line going across the graph, that is 2 million dollars in today's dollars, and with the interest rate of 4% it increases going to the right into the future. Thus, in the year 2037, 2 million dollars will be worth just over 4 million dollars. So with that, we compared projects in today's dollars to this and applied interest to them. As you can see there are several years between now and 2022 where we have exceeded the 2 million dollar limit. We are working on changing these if need be, but these projects have been identified as critical to maintaining the mission of SAM. The biggest component of this is reliability and that accounts for more than $\frac{3}{4}$ of the projects that were identified. Reliability includes removal, replacement and upgrades in existing equipment that most of it has exceeded its useful life. The occurrence of failure, breaking, or machinery not working properly is increasing as time goes on. These items need to be addressed. Health and Environment accounts for just over 10% of projects that were identified, and these include protecting the environment from sewer spills and alike. Also, worker safety—hand rails, gratings, monitoring equipment at the plant falls into this category. Also, improving efficiency at the plant, replacing older equipment of newer high efficiency motors, pumps, and embarking on projects that would reduce the overall costs of operating the plant and conveying the wastewater. This graph represents spending by different objectives and a lot of them are in the blue category, repair and replacement projects. Most of it was put in over 30 years ago and it served us well, but failures are becoming more and more common. This is spending over the project life—over 20 year CIP, broken down by category. As you can see, there is a very expensive force main category column, this is primarily due to the almost 4 miles of Montara force main that has not been inspected, has not had an occurrence of failure, as in the Granada force main, but that is a critical asset to the communities to the North, and it has been recommended it be inspected because of its 40 years in service. It has never been thoroughly inspected. Should the inspection turn out to be miraculous and was found to be in good shape, that dollar value, 8 million dollars cost would decrease significantly because we wouldn't need to replace or repair, or do anything exotic to keep the pipeline, which is part of the Intertie Pipeline system in function. The other projects are decreasing in capital spending value, and these include replacing aging pumps, equipment, administration issues, upgrading buildings—doing projects that most agencies are doing on a regular basis. This is a busy graph, but it is a different way of representing the projects we have identified under this program. The force main, headworks, pumping projects fall into these different categories under different years. If you look at the year 2021 that is when we are predicting we should look at the Montara Force Main and address the other projects. These projects, their grade scores and estimated value of the capital required to upgrade or replace them is all included in the Board packet. These all refer back to an Excel spreadsheet. If you look at this, the large numbers are for the force mains in 2019, these are secondary treatment. All these projects are identified. We worked with SAM staff to pull together the list of projects, identified and prioritized them by their risk consequence analysis and look at their current dollar value, and what it would take to upgrade or replace them.

Director Slater-Carter: That Excel spreadsheet is available on the SAM website (samscleanwater.org), right?

Mr. Monahan: yes.

Director Wilson: We can also put it on our website. Any Q & A from the Board?

Director Huber: The plant has a much higher capacity than what is being used, is that correct?

Mr. Monahan and Mr. Prathivadi: Yes.

Director Huber: The fact that the plant is greatly over capacity, how does that affect its efficiency and effectiveness?

Mr. Monahan: The plant was designed for an average peak daily flow of 5 million gallons a day. It can handle 15 million peak. On an average day right now, due to the drought, and increases in efficiency, people conserving water, the plant see approximately 1 million gallons a day, dry weather.

Director Huber: so 20% of what..

Mr. Monahan: The size of the plant is critical during the wet weather events. During the storm last year and the year before, we had several exceedances, over 11 million gallons coming through the plant, during rain events. So the capacity is there. Not only is there a lot of infiltration and inflow into the system during the storm events for the three collective agencies, it is critical that that capacity remains available so we don't violate permit.

Director Huber: How does that affect the day-to-day efficiency of the plant? So overcapacity is basically everything is throttled down, working at 20%. Is the plant actually working properly?

Mr. Monahan: We are meeting the Discharge Permit requirements of not to exceed 30mg/liter BOD or 30mg/liter suspended solids—we're well below. Equipment is running at normal efficiencies, we are not over-aerating or over-pumping.

Mr. Prathivadi: Plus we have dual equipment. We have two digesters. So at this point of time, only one digester would be running. We have dual clarifiers. At this point only one will be running. So when the capacity goes up, to say 4-5 mgd (million gallons per day) then we would have both of them running, and that way we would be alternating equipment.

Director Huber: Tim, I think you said that most of the equipment is 30 years or older, and has had a lot of deferred maintenance on it. So, that this capital improvement program is actually a maintenance program, because it is not improving the system--it is bringing it back up to the maintenance level that it should be in the first place. Why don't we just replace everything at once because it is all shot?

Mr. Monahan: That would be very expensive. As you can see, we have identified approximately 40 million dollars worth of work that needs to be done. It is very tough for the member agencies to address all these programs without increasing their rates. A lot of the projects are related to each other. Logistically, it would be possible, but financially, it would be a burden.

Director Huber: We are not talking about financing here, right?

Mr. Prathivadi: We haven't gone into that right now. For now, it is just a plan, and once it is done, for every year we will see how much we need to do. Every year we will review the plan, some risk categories will go up, some down, and some priorities will change. This is just a plan for the entire 20 year, but at the beginning of the year we will see what grants are available for that particular year, see whether those could qualify. Right now, we have not found any grants that...

Mr. Monahan: We are constantly looking for them. The force main project was a large project we are finishing up now. We looked to get money outside for that such as FEMA and other possibilities, but it just didn't qualify, but others might—efficiency programs might and there are a lot of PG&E grants out there.

Director Huber: At the end of the day, we are spending a lot of money, and we don't have much to show for it, because the fact is that the equipment really does need to be replaced right now.

Mr. Monahan: I think the projects that we identified are spaced over time depending upon how old they are, and the consequences if they fail, and if we have a back-up to them. Systematically, we would like to go through and not burden the entire agency with great financial cost, replace selectively and prioritize, get the most dangerous and most critical assets fixed first, then others can be addressed as we go.

Director Wilson: Another way to ask the question is "Are you confident that you have identified the risks in such a way that you have reasonable confidence that you won't have an unforeseen failure based on how you prioritized these projects?"

Mr. Monahan: Anything can happen. But we are confident...we had several workshops with SAM, the operators, the guys on the ground, the guys running the equipment, talked to them, prioritized, showed them how this worked, listened and heard where all the problems are, and that is how that list was developed. We have identified over 1200 assets across SAM's ownership—it was a thorough, exhaustive look at everything they owned and what the consequence and probability of them failing and again, anything can happen. We had the problem with the Bus Duct corrosion earlier this year, which was a calamity that was unforeseen, but we hope to avoid those by having a systematic approach in place to replace assets before they become problems.

Director Wilson: And you feel this plan addresses those issues? I understand that you can't predict all failures. But the electrical failure you had these past few

months...Have you addressed those in such a way that you feel confident enough that the risk of those are at least minimized?

Mr. Monahan: We are confident...it was an exhaustive couple of days of workshops with the guys and we are confident we have captured them.

Mr. Prathivadi: That is precisely the reason we evaluated each project and gave them 3 different criteria, otherwise one could have gone by just the age of the infrastructure and said that these have already gone past their useful life, and that needs to be replaced first. But we did not do that. We went by the rate of criteria and how it would affect the treatment plant, like what I showed in my presentation. And based on that, we determined the priorities for replacement in each year.

Mr. Monahan: This is a methodology that is used by agencies across the country, recognized by the EPA, and again, in some cases we came up with some projects that had the exact same score, so at that point, we had to take a subjective look at them and say which one should we bump up one point or bump down.

Mr.Prathivadi: It is the same methodology used by AWWA standard, I don't have the reference number but we have a copy of it at SAM.

District Sewer Engineer Cavagnaro: Is there any information available currently from sea level rise analysis that would put any of the current infrastructures significantly at risk within that 20 year period? Would that be scaled up in some way to harden them in place, or would that be something that may be outside the 20 year plan?

Mr. Prathivadi: That is also something being addressed in the 20 year plan. We have identified mechanical building One which houses the electrical, and we are exploring how we can move it or raise it.

Mr. Monahan: Another risk is the Princeton Pump station. It is very low right across the street from the water. We are looking at means of hardening that structure well. It is on the CIP to get replaced. But the design of the new facility would include provisions for flooding that the original design did not include.

Director Huber: In regards to the Montara force main, specifically, what section are you talking about Tim?

Mr. Monahan: We've replaced from the pump station down to the end of Vallemar a couple of years ago. From that point, to about Sam's Chowder House that is pressure force main, and that is about 16,000 feet of pipe, and the Princeton Pump station ties in where the sign says Princeton. At the Chowder House, the flow turns to gravity, and flows down into the Portola Pump station, so that gravity section we took a look at it a couple of years ago, and it is in good shape. We did two spot repairs on it, and that's solid. We have replaced everything on the southern end, but the 16,000 feet of pipe between Vallemar and Sams Chowder House, has never been thoroughly inspected. The air release valves and vacuum break valves

on that pipeline section have all been replaced a couple of years ago when we did Vallemar, so all the assets connected to it are upgraded, but the pipeline itself we don't know. We can't give a solid good bill of health. There is no history of breaks, but it is over 40 years old and needs a thorough inspection. In the CIP, we've included \$100,000 to do a thorough inspection, dig down, soil sampling, etc. to do the assessment of the pipeline.

Director Huber: You said that section is 40 years old? How does that section compare to Vallemar?

Mr. Monahan; The same age.

Director Huber: So, it could be in the same condition.

Mr. Monahan: Yes, but as you know, Vallemar seemed to be springing a leak almost monthly, so that needed to address first. The rest of the pipe doesn't have any significant history that I know of it breaking...

Director Huber: But, given the fact that the two are the same type of material, the same age....

Mr. Monahan: Exactly, that makes us nervous. That is why we would like to get our eyes on it and do a thorough inspection. It could be great or could be, as we showed, a 9 million dollar project to systematically replace sections of it. We hope that is not the case...

Director Huber: You are talking about a 3 mile section.

Director Slater-Carter: I realize the first 5 years are the highest risk projects of catastrophic or significant failure. I am wondering about in reference to sea level rise is....Clemens and I watched a water treatment presentation from AWWA and it was about the new concept of distributed recycled water treatment but I've also seen the concept of distributed wastewater treatment, instead of everything go to one major plant, and I am wondering if perhaps SAM shouldn't be looking at moving the SAM plant someplace in Montara where it is a higher elevation. Half Moon Bay might need some holding tanks. Or perhaps some distributed treatment plants along the intertie pipeline system, so we don't have so much demand on the main SAM plant and find other ways to deal with this. Because 40 million dollars over 20 years is a lot of money and I'd like to see us putting our heads together and as part of this planning some "what ifs."

Mr. Monahan: In the program we have identified several studies, looking at beneficial reuse of the digester gas at the plant, perhaps a different discharge or new use for the sludge, and ways of conserving water at the plant and so forth. And with that there should be a study where we take a conceptual look at distributed systems, do they make sense, what will be the cost, impact, benefits, and how does it tie into all the major things we are also thinking about-sea level rise, costs going forward, development, water regulatory changes that are on the

horizon that may impact us—particularly with regard to the ocean discharge—that might be coming under fire in the next 5-6 years. There are a lot of moving parts, and that is why we think this document should be reviewed each year, projects that are done, checked off, other projects brought forward, studies to evaluate the efficiency of what you are suggesting is really important.

Director Slater-Carter: The Montara force main hasn't been leaking. If we haven't had problems with it--obviously an inspection is called for-- are there ways to defer that overall huge cost?

General Manager Heldmaier: There are two spikes in year 2 and year 5, are elevated. There was a question about financing. If SAM can't finance, the financing happens through the member agencies but ultimately we have to pay for this. Can this be smoothed out, so that this is friendlier to the member agencies that have to finance what is suggested here? Also, you mentioned that during heavy rain events there is I&I raising the usual 1 mgd that the plant sees to significantly higher levels. You don't need a treatment plant for that--you can address that through wet weather holding facilities like what we have implemented up here North. Also, a 20 year CIP is an awkward far-out look, where does this idea come from? Now that we are looking at a 20 year outlook, this agency along with the two other member agencies, went through some very difficult phases when it came to the centralized treatment plant in Half Moon Bay. The first one was the formation of SAM which was a financial disaster for this agency, the second was the rehabilitation of the treatment plant in the 1990s which was also a financial disaster. The plant was and is overbuilt and is poorly designed. And when we look at this 20 year plan, we have to understand at the end of the 20 years, how comfortable are we going to be when we review what was done during those 20 years? In 20 years, we will have to look at sea level rise and it is cliff erosion that is going to impact the SAM plant, not the elevation. We know recycled water will be implemented. Everything I see are repairs. Have you thought through what is going to happen after the 20 years, and why don't we spend 40 million dollars right now, in bonds, maybe more, and rebuild what the Coastside really needs?

Mr. Prathivadi: The wet weather storage, we are expanding the wet weather expansion at Portola. It is in the design stage, and we are going to add another 200,000 gallons to what we already have.

General Manager Heldmaier: Which addresses 50% of the total flow to the plant, the other 50% is unaddressed.

Mr. Prathivadi: Yes. The way each member agency is already taking action on the I&I, we presume that this will come down. And I&I plays a major role when there is a storm. If you go through our monthly flow reports, it is clearly addressed. I presume that in the next few years, each agency will be able invest more and take care of it. That would bring peak flow down. And your second question, where the 20 CIP come from? It was a request from the SAM Board, keeping the 5 year CIP as the basis. The 20 year CIP can always be broken down into 4-5 year CIPs, and you can look at it that way. We are not saying that once we prepare the 20 year

CIP, we aren't going to review it anymore. It will be reviewed every year, and every year it will be brought forth to each member agency as that year's budget, taken from the CIP. Maybe some projects would be moved depending on failure.

Mr. Monahan: Most member agencies will do a 5 or 10 year CIP, and the SAM Board wanted a longer range plan to try to forecast and prepare for financial burdens that might be down the road, and 20 years from now, projects that we do this year or next, will be 20 years old and at that point, that item would need to be addressed again. We're addressing in 2018, assets that were put into service in the 1990s. It's like leap frog, moving down and looking at all the priorities and all the assets trying to keep them all working functional reliable so that we can meet our treatment goals and the mission of the District.

Director Boyd: I was one of the Directors asking for what we are now looking at. For quite some time, I have been urging that we look at all the capital equipment and infrastructure we have, and how long they are good for, when things are going to run out, and when things need to be replaced, so that we know what our default spending plan is if we simply take things to their end of life and replace them. The 20 year horizon gives us, in my view, the default spending plan. The 5 year plan is especially prioritized towards "we better do this stuff, or we are going to be looking at more of what we had last year." So, there's the very near term that's the 5 year plan, and it is heavier than we want, but I want to remind, that due to one of the member agencies, for various reasons, not willing to invest, we have a lot of deferred maintenance that has caught up to us. We would have been spending the money in the past, maybe a little less because it would have been timely maintenance, rather than catch up. When we see how heavy the next 5 years are, it's like we know how we got there, we are in a partnership, and you have to bring all three partners along or you can't do all the necessary spending. We have this very good, fact-based, risk assessed plan for the new term spending. We know when things are going to wear out, and if all we do is replace it, and now we will know what it will cost. And that opens up the conversation to what you have alluded to, now that we know how much we are likely to spend, is there a different way to spend it, or is there a smarter way to apply those same resources? What are our options?...As Kathryn mentioned, let's get some good minds together and start thinking of what options we do have. And now we know the size of that budget. We are going to spend it, and consider whether we can find anything else that competes and gives a better use of money and maybe even less money. Its big numbers, but we are also talking 20 years.

District Sewer Engineer, Pippin Cavagnaro: I would like to offer one technical clarification... If those holding tanks weren't in place the current peak capacity of the SAM plant would have likely been exceeded in the last two major storms we had—more than 15 million gallons because of the dynamics of the way the system works.

Director Harvey: When the pressure relief valves were replaced or checked, weren't you able to look at the pipe in those sections at that point?

Mr. Monahan: On the Montara pipeline, no. We simply went out and took out the corroded equipment in the manholes besides the force main. We inspected the pipe to the manhole, and that was okay. We have no bypass stations in that pipeline.

Director Harvey: There hasn't been any leaks in the Montara pipe?

Mr. Monahan: Between Highway One and Vallemar intersection down to SAM—not that I am aware of.

General Manager Heldmaier: Why is it called the Montara pipeline, if it is serving hotels, restaurants in Half Moon Bay and most of Princeton, as well as Montara and Moss Beach?

Mr. Monahan: We refer to it as the Montara Force main because it starts at the Montara pump station.

Director Slater Carter: Maybe we should re-name it for clarity.

Director Wilson: I'm used to 5 or 10 year plans. With the idea of looking at different models on how to proceed with this 40 million dollar budget, where is that going to be addressed in your planning over the x number of years when you have plan identified with specific projects? I've heard that these are all great ideas that should be considered, but I didn't see in the plans that were presented tonight as to when and how that would happen? Is there a timeline for that process?

Mr. Monahan: The 5 year CIP, we have listed the projects...

Director Wilson: I understand the projects. The question is that we are going to be looking at the longer issues related to everything brought up tonight because you've indicated that certain projects going down the line are subject to what you've evaluated from a variety of issues. Where is the planning that would go into, for example, moving the plant, and we should be looking at different models versus continuing with projects identified. Where is that in the overall process?

Mr. Monahan: We have identified suggested studies...

Director Wilson: Those suggested studies are when? When are the studies going to be done?

General Manager Heldmaier: I have a question about the 5-year CIP. In a 5 year CIP, year one is what we are going to do next year, and year 2,3,4 and 5 are what we have to consider in following years, and every year we implement the projects in year one, and re-assess the entire plan, meaning we look at a new year one, and add a new 5th year on the end. This is not how the SAM 5 year plan is working. It was assessed once, and we worked with year one, and now we are on year two. Why are we not re-assessing and adding new years at the end?

Mr. Monahan: That is exactly how this living document should be worked on with the member agencies. We got a lot of work done this year, particularly with the force main, and now as we get into budget cycle and looking at next year, we should definitely be visiting...

General Manager Heldmaier: The budget is out, and that hasn't happened. It's now year two and I don't see a new re-assessment.

Mr. Monahan: This is new, and just came out, and the 5 year CIP...

Mr. Prathivadi: But the projects proposed in 2018 are in the budget and is also in the 20 year CIP starting 2018.

General Manager Heldmaier: Yes, because they are in the 5 year CIP, you started your 20 year CIP with those. Why aren't we re-assessing every year what the priorities are and look at the CIP new? Why was the CIP adopted in this fashion that it is worked off for the first two years? I understand that there is now a different way of looking at this, but why is this not re-assessed every year?

Mr. Prathivadi: That is what we are proposing, that the 20 year CIP be assessed every year.

General Manager Heldmaier: Correct. But the 20 year CIP wasn't considered in this budget that is supposed to be adopted by the member agencies now, because this budget is already out and approved by SAM Board. So the SAM Board had no chance of including this 20 year CIP in it. So, it is based on the 5 year CIP which was adopted two years ago.

Mr. Prathivadi: The same modality is being followed, so projects in 2018 in the 5 year CIP have come again in the 20 year CIP. This document was completed halfway when the budget was ready. So, moving forward 2019, we have that...

General Manager Heldmaier: Yes, that is why I am asking about the 5 year CIP. Only the 5 year CIP was available for the preparation for this year's budget, yet it was not re-assessed and re-prioritized for the budget we are supposed to approve now.

Director Wilson: You guys should talk about this offline. I think your question, Clemens, is: Are you starting this CIP two years ago now in the second or third year? And how did it get wrapped up in the budget? I think these are questions that should be addressed going forward. Do you have a response?

Mr. Prathivadi: No. I just have a response to your question in regards to the study projects. For example, we have a study projected in 2020 for Condition Assessment for the force main in Montara for \$100,000 to be spent in 2020. Also, other study projects, Perform Disinfection Treatment Analysis, \$50,000 in 2021. So, we have categorized certain study projects all along in the 20 year. Once we

do the study, we bring it back again for construction for whatever it is after one or two years after the study.

Director Wilson: Is this something we need to vote for? What does possible action mean?

General Manager Heldmaier: No. I left it just in case we wanted to give direction to our SAM representatives and how to present the District's position. We can use this as information or we can give direction to our SAM representatives.

Director Wilson: Dave has a question for you too. "Could you ask the SAM reps if Half Moon Bay provided the storage how would that affect the SAM CIP?"

Director Boyd: If Half Moon Bay added storage, would it affect the SAM CIP program?

District Counsel Schrickler: Would that affect the need for some of the facilities or the upgrades for some of these facilities included in the CIP?

Director Boyd: Most of what we are looking at in the CIP is for equipment that has reached the end of life, not affecting capacity. We do have concerns that Half Moon Bay is exceeding the upper boundaries of the flow that they are entitled to during heavy rain events, and storage would help alleviate that concern. I'm not aware of anything that we are doing with right now, other than concerns of potentially excessive rain, exceeding the plant capacity. Half Moon Bay has no retention capability right now, other than in the pipes that they have right now. There's retention in Granada and Montara, nothing in Half Moon Bay.

Director Wilson: The question is in so many words is "if Half Moon Bay added to the retention capacity would that reduce any of the maintenance in that 20 year plan?"

Mr. Monahan: I don't think the maintenance or replacement of antiquated equipment would be impacted.

Director Wilson: There is nothing in your maintenance for storage capacity?

Mr. Monahan: No. But additional storage capacity would certainly help out during storm events and reduce the spike coming down the pike at the plant.

Director Wilson: If you had anything in there that if you reduce the need for storage capacity at the plant, will that be impacted in the 20 year or 5 year?

Director Slater-Carter: You talked about the spike that comes during the heavy rain flow, and that spike has a risk factor attached to it for overflowing the capacity of the plant. So, if Half Moon Bay had storage, it would be an insurance factor against spikes and over reaching the capacity of the plant.

Mr.Monahan: Yes.

District Sewer Engineer Cavagnaro: To say it another way, the comment is that some of the equipment is redundant you could potentially slow down the maintenance a little bit, you had some storage because you wouldn't have as much wet weather flow. If magically you could keep the plant under 3-4 mgd all the time maybe you wouldn't need to use all the pumping they have, conceptually. Conceptually, I don't think Dave's question has been answered. There doesn't seem to be anything in this research that has looked at that question. You would have to ask the engineers to re-assess if you reduce the peak wet weather flow could you change the 20 year plan? I don't see an answer to that with what is here.

All the Directors agreed that it is an intriguing question, and worth examining.

Director Wilson closed the item for comments. He thanked everyone and confirmed with General Manager Heldmaier that no action was to be taken tonight.

2. Review and Possible Action Concerning Installation of a New Nitrate Treatment Facility for the Airport Well No. 3.

General Manager Heldmaier: This is an addition to the treatment plant to the system. We currently have an existing nitrate treatment plant at another airport well, and we are looking at another quality improvement project that this District is implementing. SRT did an exceptional job in trying to fit everything into the existing footprint, which was the most important condition. We are still working on achieving this, and it is working. With that, Tanya Yurovsky is here to talk about the background and explain what this project is.

District Water Engineer Tanya Yurovsky: We are talking about adding a new nitrate treatment facility Airport well 3. We have been in negotiations with the Division of Drinking Water for the past two years. This well is currently offline. There is a complex transition plan that we have developed for the airport wells at the request of the Division. However, we are trying to keep all our sources intact and the threat they wanted to put this well into inactive status, which was unacceptable to the District because of their redundancy issues. We tried to fend this off for as long as possible. No water with nitrates will be going into the system. However, the situation has come to the point where we have nitrates in the well and manganese, which the Division is strongly advising us to take care of. On the other hand, in the CIP for the water system, we have had money set aside and this was adopted by this Board last year and we will bring this in for revision next month. These projects before you today are all included in the 5 year CIP. I am referring to projects plural, because this is more than one project, although they are bundled together. One is the rehabilitation of the well that should reduce manganese occurrences. The District has done this successfully with other wells. So, we are very optimistic that the low costs to rehabilitate the well, we will take care of that problem without installing additional treatment. The nitrate is something we need to treat. The District has been treating nitrates at the north airport well since 2004 and so this is a very

familiar process and the proposal in front of you tonight is to amend the lease agreement with Evoqua, the vendor that took over Siemens, that took over US Filter. They are providing the same equipment –ion exchange units and we propose to lease them, not buy them which reduce the cost significantly for the District. We think there will be a 5-10 year transition plan during which the District will continue leasing the equipment. There are some improvements that need to be permanently installed, and that is the plumbing, the controls and instrumentation and electrical. So the proposal before you is to amend the lease agreement for the ion exchange units at airport well number 3, to sole source the electrical instrumentation work to Calcon, because we do not believe anyone else can do this at the proposed price of \$60,000 dollars, and for the main reason of the compatibility of the existing equipment. This is also included in the CIP SCADA project and the treatment project. There are several sources of money in the CIP and in the budget to address these projects. And third item is re-drilling the well, which will be bid, along with the improvements at the airport well number 3 site.

Director Wilson: So, if I understand this correctly, it is amending the lease, the \$100,000 dollars for the plumbing, \$60,000 dollars for some upgrade work, and what is the actual drilling going to cost?

District Water Engineer Yurovsky: We do have a preliminary quote for \$11,000 dollars.

General Manager Heldmaier: There are updated resolutions before you--the lease amendment, going out to bid for the project, and sole-sourcing the electrical work. T

Director Huber: This is something that we weighed in and decided already. This is just a follow-up of what we already decided.

Director Wilson: Pretty much. We are giving them authority to proceed.

District Counsel Schrickler: There are three resolutions, they are all concurrent, and are all one.

Director Wilson: What I would like to recommend to the Board. I would like to recommend to pass all three resolutions at the same vote. The Board will take a vote on the following three resolutions:

- Adopt resolution number 1635 of the Montara Water and Sanitary District approving and authorizing execution of amendment number 3 to Mobile Nitrate Removal Service Lease Agreement with Evoqua Water Technologies, LLC.
- Adopt resolution number 1634 of the Montara Water and Sanitary District approving contract documents, including design, plans and specifications, for airport well 3 rehabilitation and treatment project; authorizing and directing advertisement for bids, therefor; determining exemption of the project under the California Environmental Quality Act and authorizing and directing filing notice of exemption;

- Adopt resolution number 1636 of the Montara Water and Sanitary District approving and authorizing waiver of competitive bidding for Airport Well 3 Controller Upgrade project.

Director Slater-Carter moved to approve and adopt all three resolutions, and Director Harvey seconded the motion. All Directors were in favor and the motion passed unanimously 5 – 0.

3. Review and Possible Action Concerning Adoption of Policy for Acquiring Personal Services.

General Manager Heldmaier: This goes back to last year's Grand Jury report about Independent Special Sewer District, and the Grand Jury asked questions and didn't let go of this until they found out what each agency has in place, so we saw that we were in need to establish a formal policy for acquiring personal services. Most construction related projects fall under the public bidding requirements, meaning everything over \$15,000 needs to go out to public bid. For the personal services in the past this Board approved all contracts over \$15,000 dollars, and legal counsel drafted a resolution that establishes a requirement for all personal service contracts exceeding \$15,000 dollars to be formally approved by this Board. The recommendation is to adopt the resolution approving and adopting policy for acquiring personal services.

Director Slater-Carter: Is there a difference between personal and personnel services?

District Counsel Schricker: Yes, quite. Personal services means the contract services provided by an individual, such as attorneys, engineers, and so forth. Personnel is a specialty of its own and not included here. This is a blanket policy for non-bid personal services.

Director Slater-Carter: So, if we wanted to hire an engineer or accountants.

District Counsel Schricker: You actually do this all the time, but there hasn't been a formal policy on the books. This formalizes the informal policy.

Director Slater-Carter made a motion to adopt Resolution number 1633 approving and adopting policy for acquiring personal services. Director Huber seconded the motion, and all Directors were in favor and the motion passed unanimously 5 – 0.

4. Review and Possible Action Concerning Cancellation of Next Regular Scheduled Meeting May 17, and June 7, 2018 – Consideration of Special Meeting May 31 2018.

General Manager Heldmaier: At this time we don't anticipate the need for a May 17th meeting. If we will need to hold it, we will agendaize it and notify everyone. The June 7th regular meeting, there was discussion that some Directors would not be available on this date, and it was decided at the last meeting to hold a special

meeting on May 31, 2018. Our public hearing for the sewer rate increase is scheduled for that meeting. So, we need to hold this special meeting May 31, 2018

Director Slater Carter: When will we discuss the SAM Budget?

General Manager Heldmaier: on the May 31, 2018 meeting.

Director Slater-Carter: I will probably not be able to attend that meeting, but will attend, via teleconference.

REPORTS

1. Sewer Authority Mid-Coastside Meeting (Boyd) –

Director Boyd: We approved the job description for the General Manager. We spent a lot of time talking about an issue the City brought to SAM in reference to flow meters. It turns out that the flow meters the City was concerned about were the meter that they purchased, installed on their own to get an idea if what they were being billed was fair. Apparently, those meters have fallen in disuse and disrepair, and the City was accusing SAM of forgetting to do what turned out to be Half Moon Bay's job. There must have been a communication break down through staff turnover. Sometime back we had some flow meter anomalies that Granada brought to our attention at SAM and we spent a long time figuring out what was going on, and it was discovered there was a short in the sending unit on the biggest flow meter we had at the plant. It resulted in Granada paying a quarter of a million dollars more than it should have. Part of being in a relationship with agencies, they decided to note it and move on. A few years later, something similar happened with a big negative impact, on Montara and having learned from Granada, we all jumped on that quickly and got that sorted out. Now, Half Moon Bay is seeing flows where typically they would run 52% of the flow, and they are up about 56% of the flow, and now it is their turn to be concerned, and instead of trying to work together to figure it out, they came in accusing SAM of something that is their own responsibility. We are still concerned about the higher flows they are seeing. Hopefully we can put our heads together and sort this out.

Director Slater-Carter: They want a mid-year budget adjustment if the flows are reduced, which would mean Granada and Montara's contributions to SAM would have to fill in what they are asking to be relieved of mid-year next year. And given their past history, this should be part of the May 31st agenda or SAM budget item. But is that going to be part of the approval of the budget or we going to suggest that Half Moon Bay follow the same protocol as Montara and Granada have followed in the past?

District Sewer Engineer: Is there any technical information available on the Half Moon Bay meters?

Director Boyd: We have information on the SAM meters, but not the Half Moon Bay meters. And I don't care—because these meters were never part of the SAM infrastructure, we were never part of any of their calculations about flow measurement or billing and it's something they chose to do on their own. Their Public Works Director, in speaking to us that night, made a comment that they want to get to the bottom of this and understand it and it is entirely possible that we have been under-reading Half Moon Bay's contribution and they might have to pay more. I have not information how these meters that seemed so important at the time, were left to fall under disrepair. They have some equipment that is in no use, because it was not done in concert with the design and construction of the rest of SAM nor done under the auspices of the Board as a whole, SAM's engineers were not involved, so it has nothing to do with SAM.

District Sewer Engineer Cavagnaro: Can you please re-cap how the flow meters are calculated, and did they request a special re-inspection of all the meters? Was that discussed at your meeting?

Director Boyd: Did they request a re-inspection of calibration, no. The meters SAM has are inspected from time to time by a third party. One thing we learned over the years, is that flow metering is hard, and there are many different kinds, and it is really important that the appropriate meter be chosen for the appropriate location and flow, that it is installed correctly, at the correct angle or the reading will be inaccurate. Also we don't have meters on all the pipes, and Half Moon Bay has several pipes going into the SAM plant, because the original plant was there and they didn't need to meter then, because it was just them. When we added the intertie pipeline system to bring the other two agencies flow in, then it was important that we measure who is contributing how much because we bill on a fee for service. We figure out what the flow percentages are, split up flow related costs by who is using how much. The calculations are done with meters that measure flow coming from the North against the total flow coming into the plant. So the northern flow is subtracted from the plant flow and that is Half Moon Bay's flow, and have been doing this for 45 years.

Director Wilson: It sounds like, to your question, Kathryn, for the May 31st agenda, we don't have any information right now except to see what comes from this discussion, but to your point, if it is crazy, we should have a special meeting.

Director Boyd: There is one point that we absolutely have to bring up. Half Moon Bay made a very strong unified pitch for a flat rate for flow payment. If their flows have gone up, we really need to figure out why that is, and it provides an incentive to figure it out.

Director Slater-Carter: This mid-year budget that Half Moon Bay is requesting for the 2018-2019 budget will have an effect on Montara's budget going forward from the time of the adjustment, and I think we need to be clear

whether we are going to consider even consider it or not. It could be a rude shock.

General Manager Heldmaier: We have an existing contract with JPA with the two other member agencies. If now we are deviating from this, this should require approval of all member agencies.

Director Slater-Carter: I would agree with that. But, I believe it is going to be a make or break deal for the budget.

District Counsel Schricker: It would be advisable to keep in mind when thinking in terms of a flat rate the legal requirement is that the rate must correspond to costs and by definition of flat rate, it must reflect the actual costs.

Director Wilson: That might take care of that.

Director Huber: And it doesn't also reflect the concept of best practice.

Director Boyd: That's right, and the state regulators would not have any interest in doing this. In fact, the drive is other way, fee for service, because it is in incentive to keep it working.

- 2. Mid-Coast Community Council Meeting (Slater-Carter) – none**
- 3. CSDA Report (Slater-Carter) – none**
- 4. Attorney's Report (Schricker) – none**
- 5. Directors Report – None**
- 6. General Manager's Report (Heldmaier) –**

General Manager Heldmaier: We currently have some discrepancies with the SAM billing, and we are unable to pay SAM. We are working with SAM on resolving this issue soon. Also, in preparation for the May 31st budget meeting, we've invited SAM to participate in the Finance Committee meeting so that we can get more comfortable recommending the SAM budget on May 31st.

Director Wilson: I would recommend that if the issue with the SAM billing is not resolved we should agendize it for the May 31st meeting as well. That has been going on for two or three months.

FUTURE AGENDAS

ADJOURNMENT

REGULAR MEETING ENDED at 9:28 P.M.

The Board Convened in a Closed Session at 9:40 p.m.

CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
(Government Code § 54956.9(d)(1))

Case Names: *City of Half Moon Bay v. Granada Community Services District, et al.* (San Mateo County Super, Crt. No. 17 CIV 03092)

Regional Water Quality Control Board v. Sewer Authority Mid-Coastside (ACL Complaint No. R2-2017-1024)

CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION
(Government Code § 54956.9(d)(2))

Significant Exposure to Litigation
Number of cases: 1

REPORT OF ACTION TAKEN IN CLOSED SESSION, IF ANY

ADJOURNMENT

Respectfully Submitted,

Signed _____
Secretary

Approved on the 31st, May 2018

Signed _____
President

Sewer Authority **SAM** Mid-Coastside

Capital Improvement Program (CIP)

May 3, 2018

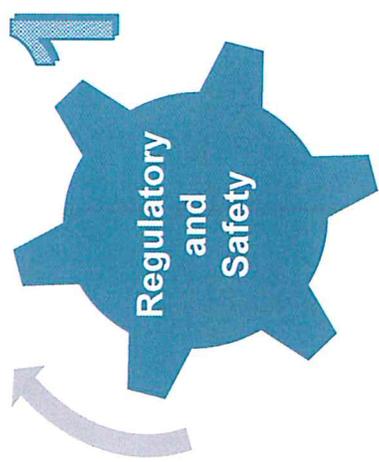
Objectives of the Program



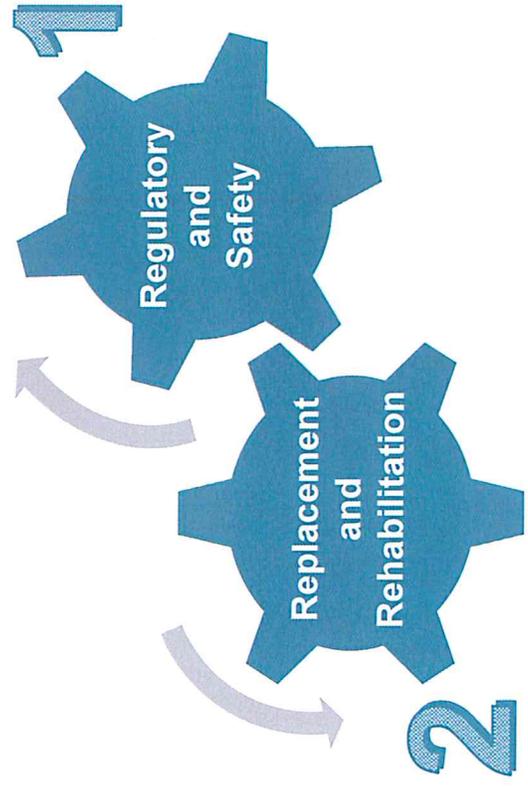
1. Respond to regulatory and safety concerns
2. Maintain and replace existing assets
3. Protect public health and environment
4. Embrace a policy of sustainability for the responsible use of existing resources



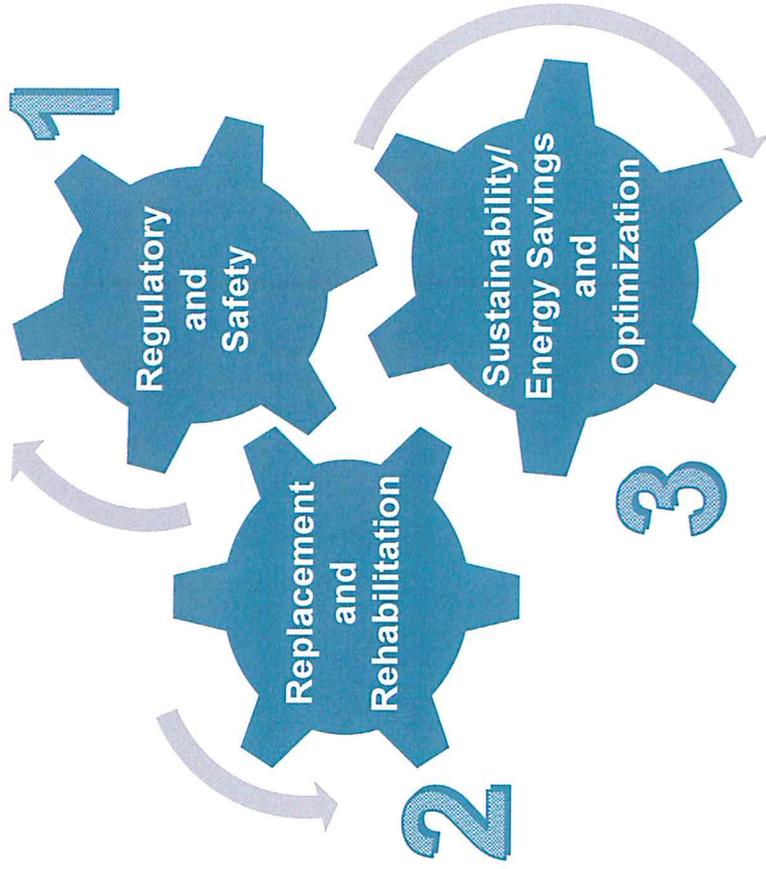
Key Drivers



Key Drivers



Key Drivers



1. Regulatory and Safety



- Projects to ensure District remains in full regulatory and safety compliance
- Improve facilities for safety reasons
- Reduce emission of pollutants to the environment
- Meet future regulatory requirements



2. Replacement and Rehabilitation



- Projects related to aging infrastructure and replacement requirements of the District
- Provide for ongoing or future renovation activities
- Initiate preventive maintenance



3. Sustainability / Energy / Optimization



- Optimize existing processes for energy use
- Increase energy efficiency
- Maintain and improve on sustainability of the plant
- Lower maintenance costs



Probability of Failure



Rate of occurrence:	Once in 10 years	Once in 5-10 years	Once in 3-5 years	Once in 1-3 years	Less than once/yr.
Probability of failure rating:	0.5	2.5	5.0	7.5	10.0

Consequence of Failure



Three criteria were considered:

1. *Impact on the WWTP effluent quality*
2. *Impact on the WWTP treatment capacity*
3. *Ability to return the equipment to service (including staff)*

Consequence of Failure



Criteria	Relative Weight	Anticipated Consequences		
		none	Mid-term Non-compliance	Immediate Non-compliance
Effluent quality	33%	none	Mid-term Non-compliance	Immediate Non-compliance
Treatment capacity	33%	none	No more redundancy or peak capacity <15 MGD	Failed process or average capacity <4 MGD
Ability to return to service	34%	Immediate repair replacement possible	Repair possible before treatment is impacted	No contingency plan preparedness uncertain
Criteria rating:		1 = negligible	5 = low	10 = severe
Consequence rating:		Sum of the three weighted criteria ratings		

Determining Risk Score



Risk Score = Probability of Failure Rating x Consequence Rating

Example:

Asset	Probability of Failure Rating	Consequence of failure			Consequence of Failure Rating	Risk Score
		Quality	Capacity	Service-ability		
		33%	33%	34%		
Belt filter press	10	5	10	10	8.4	84

$$\text{Risk Score} = 10 \times (5 \times 0.333 + 10 \times 0.333 + 10 \times 0.344) = 84$$

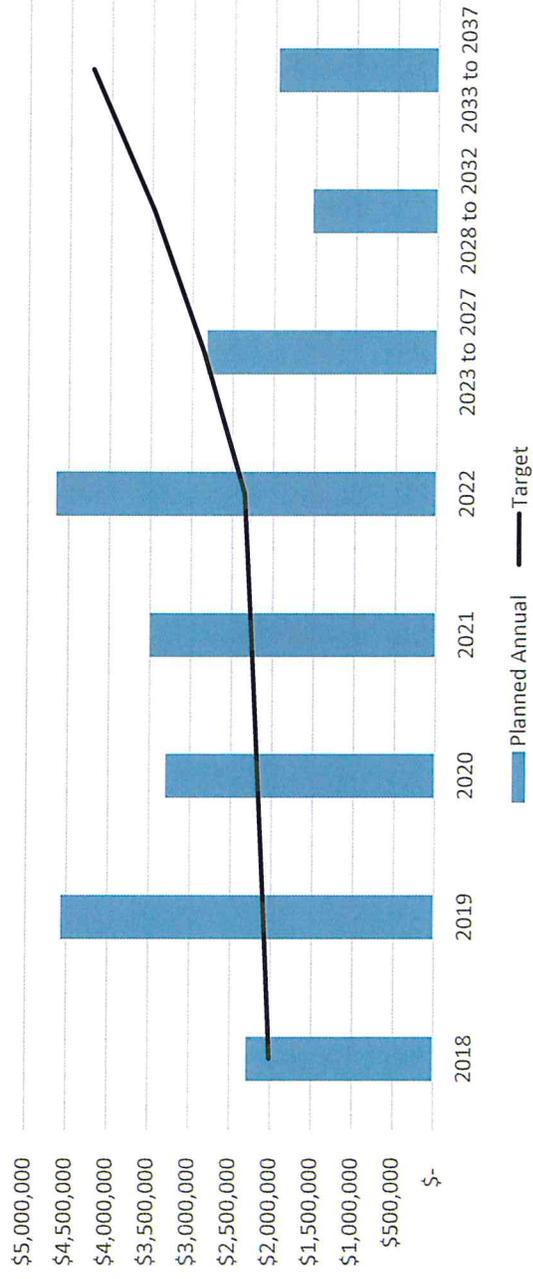
Assessment Results

- 5 year capital improvement plan
- \$22.0 million in projects
- Update each year
- Proactive funding
- Risk reduction

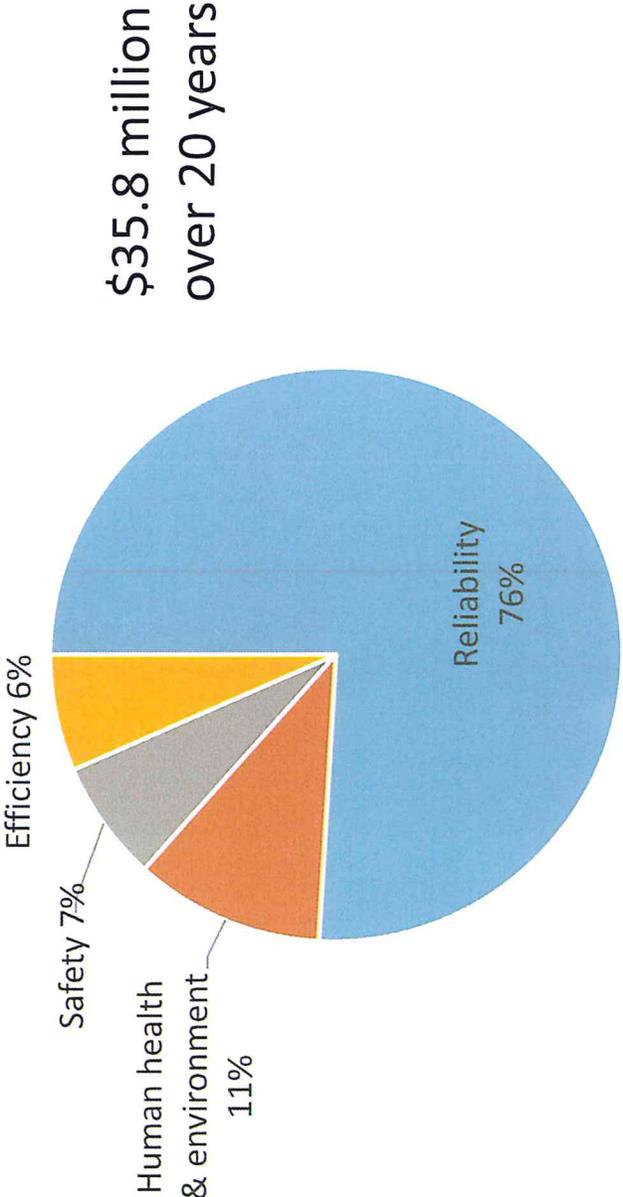


Summary – total annual spending

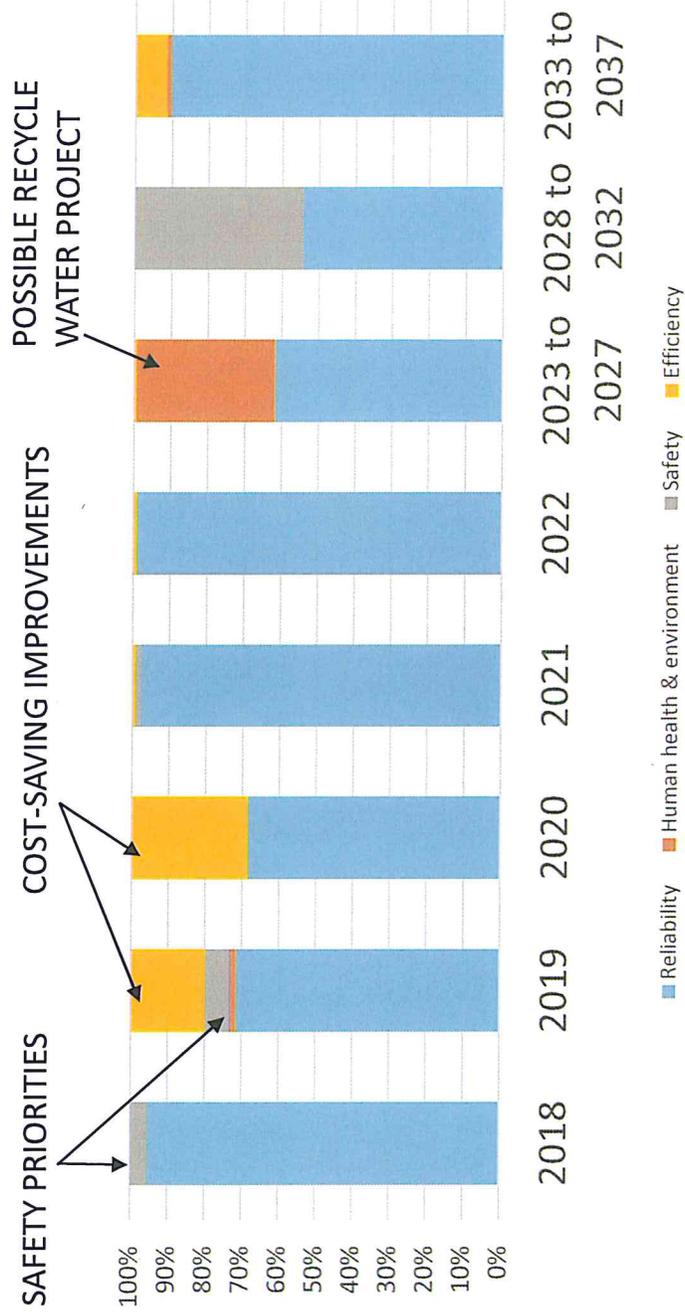
\$35.8 million over 20 years



Spending by Objective



Spending by Objective



Spending by Category



RESOLUTION NO. 1635

RESOLUTION OF THE MONTARA WATER AND SANITARY DISTRICT APPROVING AND AUTHORIZING EXECUTION OF AMENDMENT NO. 3 TO MOBILE NITRATE REMOVAL SERVICE LEASE AGREEMENT WITH EVOQUA WATER TECHNOLOGIES, LLC

(Airport Well 3 Rehabilitation and Treatment Project)

WHEREAS, on or about April 1, 2004, the Montara Water and Sanitary District ("District") and U.S. Filter/Ionpure, Inc. ("Lessor") entered into an agreement ("Agreement") whereby Lessor provides mobile nitrate removal services to District at District's Airport Wells site; and

WHEREAS, through successive name changes, Lessor is currently named Evoqua Water Technologies LLC ("Evoqua"); and

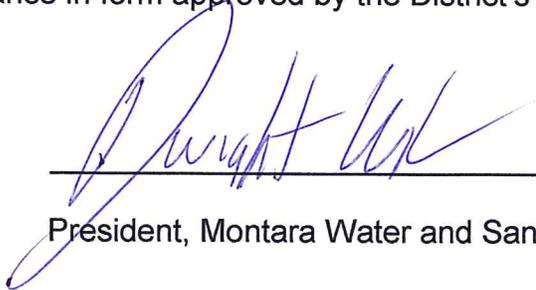
WHEREAS, Lessor (Evoqua) and District propose to amend the Agreement to provide the equipment and services hereinafter described;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF THE MONTARA WATER AND SANITARY DISTRICT, A PUBLIC AGENCY IN THE COUNTY OF SAN MATEO, CALIFORNIA, AS FOLLOWS:

1. That certain proposal to amend the Agreement set forth in the document entitled, "Nitrate Reduction System MONTARA, CA Quotation 1801-212/ rev 2," dated February 14, 2018, on file in the District's Administrative Offices, to which reference is hereby made for the particulars thereof, and particularly as set forth in letter of the same date to SRT Consultants included therein, is hereby approved and the Capital System Rental Option described therein is hereby accepted.

2. The General Manager is hereby authorized and directed to execute an amendment to the Agreement that effectuates the purpose and intent of the foregoing approval and acceptance in form approved by the District's General Counsel.

Dated: 5/3/18



President, Montara Water and Sanitary District

RESOLUTION NO. 1635

RESOLUTION OF THE MONTARA WATER AND SANITARY DISTRICT APPROVING AND AUTHORIZING EXECUTION OF AMENDMENT NO. 3 TO MOBILE NITRATE REMOVAL SERVICE LEASE AGREEMENT WITH EVOQUA WATER TECHNOLOGIES, LLC

(Airport Well 3 Rehabilitation and Treatment Project)

COUNTERSIGNED:

Dated: 5/3/18


Secretary, Montara Water and Sanitary District

* * * * *

I HEREBY CERTIFY that the foregoing Resolution No. 1635 was duly and regularly adopted and passed by the Board of the Montara Water and Sanitary District, San Mateo County, California, at a meeting thereof held on the 3rd day of May, 2018 by the following vote:

AYES, Directors: Boyd, Slater-Carter, Wilson, Harvey, and Huber

NOES, Directors: None

ABSENT, Directors: None


Secretary, Montara Water and Sanitary District



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: **May 31, 2018**

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager 

SUBJECT: Approve Financial Statements for April 2018

The Financial Statements have not been received at this time and will be submitted with the next consent agenda.



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: **May 31, 2018**

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager 

SUBJECT: SAM Flow Report for April 2018

The SAM Flow Report for April has not been received and will be submitted with the next consent agenda.



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: May 31, 2018

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

SUBJECT: Review of Current Investment Portfolio

The District's Investment Policy and Guidelines requires that the Board review the status of the current investment portfolio. The following summarizes the status of these accounts:

- The District has most of its idle sewer funds deposited in the State of California's Local Agency Investment Fund (LAIF). The Monthly Average interest rate for April 2018 the rate was 1.661.
- The District has one checking account with Wells Fargo Bank for Water and Sewer Funds that is largely backed by Federal securities.

RECOMMENDATION:

District staff attempts to cash manage idle funds in LAIF as long as possible before transferring to the Wells Fargo checking accounts for disbursements.



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: **May 31, 2018**

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

SUBJECT: Connection Permit Applications Received

As of May 31, 2018 the following new Sewer Connection Permit application was received since the last report:

Date of Application	Property Owner	Site Address	Home Size

As of May 31, 2018 the following new Water (Private Fire Sprinkler) Connection Permit application was received since the last report:

Date of Application	Property Owner	Site Address	Home Size
05-11-18	Mike & Denise Uniacke	1212 Birch Street, Montara	SFD

As of May 31, 2018 the following new Water Connection Permit application was received since the last report:

Date of App.	Property Owner	Site Address	Home Size	Type of Connection
05-11-18	Mike & Denise Uniacke	1212 Birch Street, Montara	SFD	Domestic

RECOMMENDATION:

No action is required. This is for Board information only.



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: May 31st, 2018

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

A handwritten signature in black ink, appearing to be 'C Heldmaier', written in a cursive style.

SUBJECT: Monthly Water Production Report

The attached two charts summarize the monthly water production for the District.

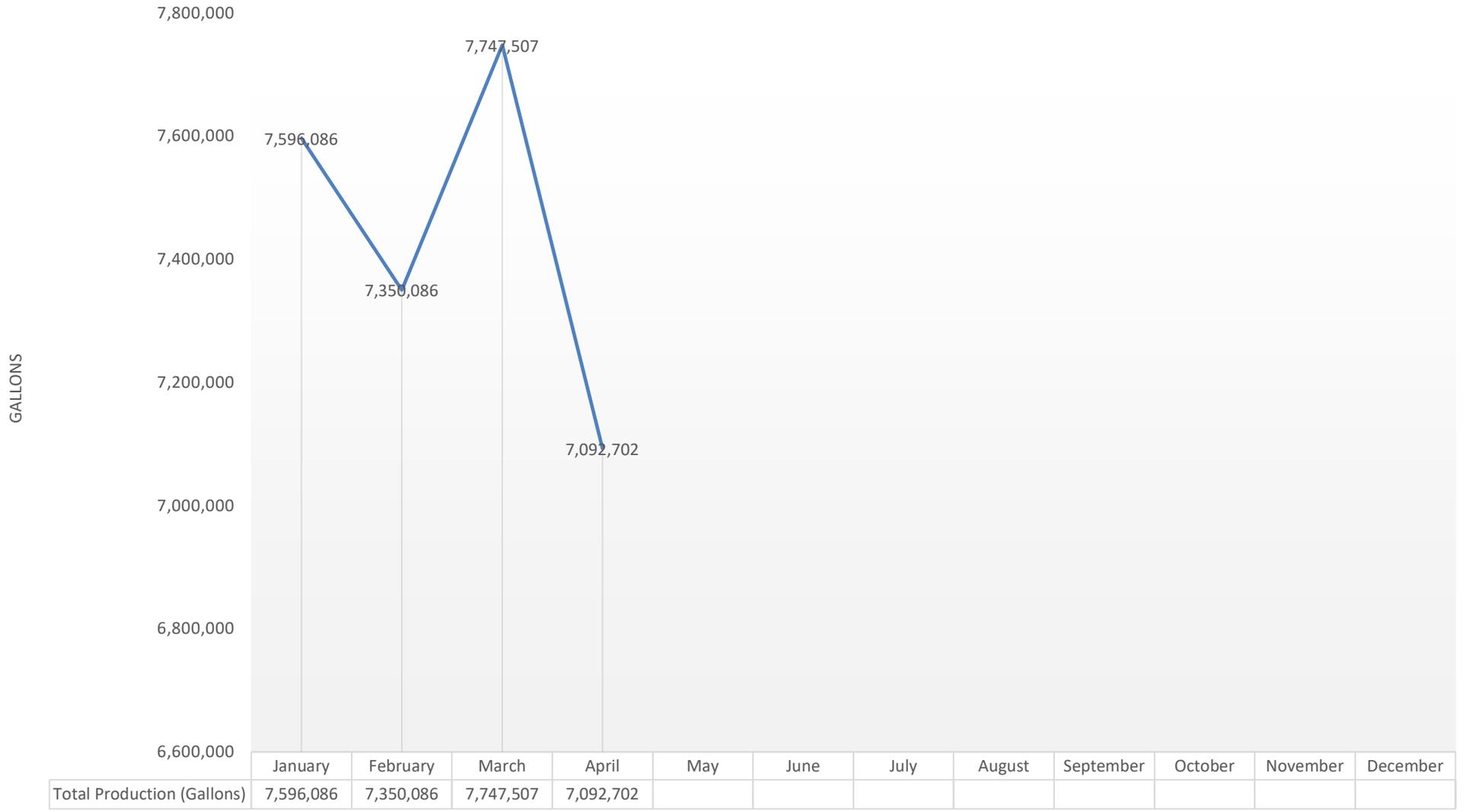
The first shows a consolidated from all sources by month. The second shows each water source the District uses, both wells and surface water. The production is shown in gallons of water produced.

RECOMMENDATION:

No action is required. These reports are provided for the Board's information only.

Attachments: 2

TOTAL PRODUCTION 2018(Gallons)



MONTH



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting of: May 31st, 2018

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

A handwritten signature in black ink, appearing to be 'C Heldmaier'.

SUBJECT: Rain Report

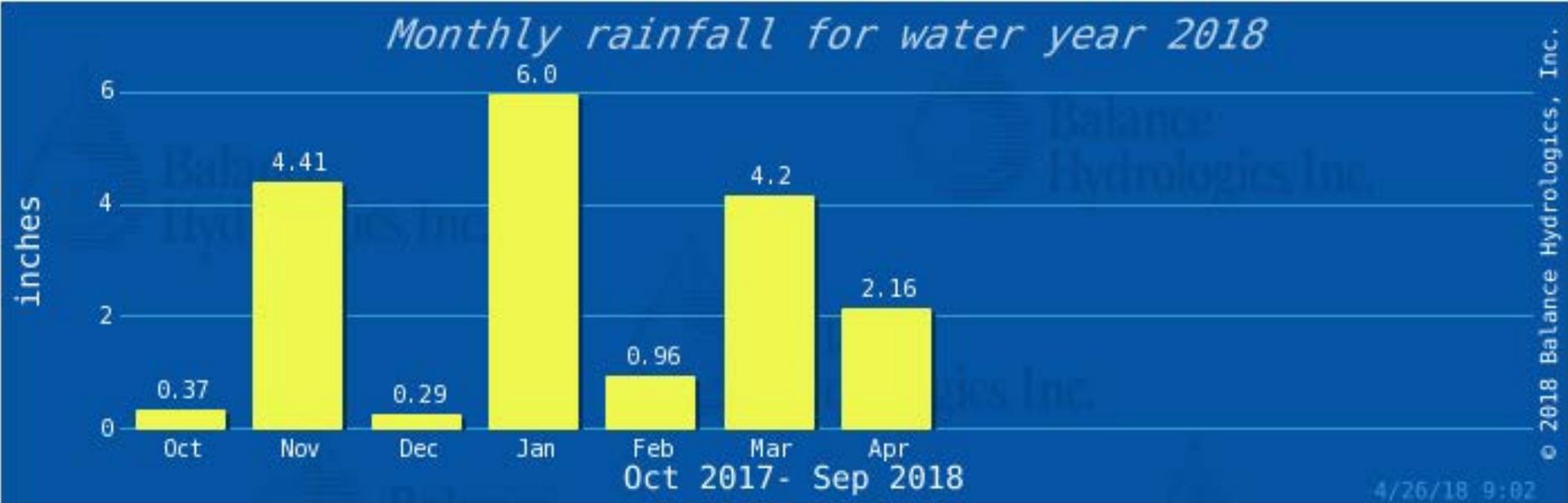
The attached chart shows the monthly rainfall at Alta Vista Treatment Plant for the current and prior water years along with seven-year average rain fall.

RECOMMENDATION:

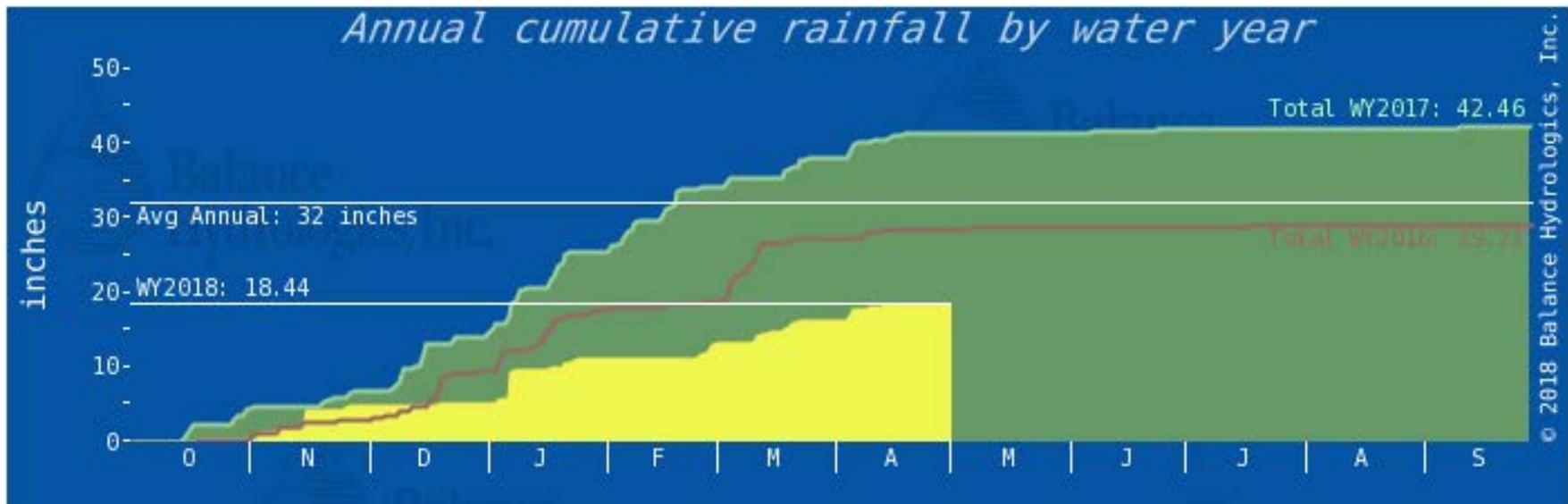
No action is required. These reports are provided for the Board's information only.

Attachments: 2

Monthly Cumulative Rainfall



Annual Cumulative Rainfall





MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: May 31st, 2018

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

SUBJECT: Monthly Solar Energy Report

The attached chart summarizes the monthly solar production at the Alta Vista Array. Since the installation of the solar panels the District produced 41013 kWh and saved 69723 lbs of CO₂.

RECOMMENDATION:

No action is required. This information is provided for the Board's information only.

Attachments: 1



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: **May 31, 2018**

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

SUBJECT: Monthly Public Agency Retirement Service Report for March 2018.

The District has received the monthly PARS report for March 2018.

Contributions are calculated on a bi-weekly basis, and contributions are made on a monthly basis.

The following monthly reports are submitted as consent agenda items on a monthly basis.

RECOMMENDATION:

This is for Board information only.

Attachment

TRUSTED SOLUTIONS. LASTING RESULTS.

**Montara Water and San
PARS (CA)**

Clemens H. Heldmaier
General Manager
Montara Water and San
P.O. Box 370131
Montara, CA 94037



**Monthly Account Report for the Period
3/1/2018 to 3/31/2018**

PlanID: P7-REP15A

Account Summary

Source	Beginning Balance as of 3/1/2018	Contributions	Earnings	Expenses	Distributions	Transfers	Ending Balance as of 3/31/2018
Contributions	\$622,679.07	\$7,422.33	(\$4,569.72)	\$288.01	\$1,042.51	\$0.00	\$624,201.16
TOTAL	\$622,679.07	\$7,422.33	(\$4,569.72)	\$288.01	\$1,042.51	\$0.00	\$624,201.16

Investment Selection

PARS Capital Appreciation INDEX PLUS

Investment Objective

The primary goal of the Capital Appreciation objective is growth of principal. The major portion of the assets are invested in equity securities and market fluctuations are expected.

Investment Return

Source	1-Month	3-Months	1-Year	Annualized Return			Plan's Inception Date
				3-Years	5-Years	10-Years	
General	-0.73%	-0.84%	10.31%	-	-	-	03/08/16

Information as provided by US Bank, Trustee for PARS; Not FDIC Insured; No Bank Guarantee; May Lose Value.

Past performance does not guarantee future results. Performance returns may not reflect the deduction of applicable fees, which could reduce returns. Information is deemed reliable but may be subject to change.

Account balances are inclusive of Trust Administration, Trustee and Investment Management fees.

Investment Return: Annualized rate of return is the return on an investment over a period other than one year multiplied or divided to give a comparable one-year return.

**March 2018 PARS Statement
Detail Information**

PARS Beginning Balance as of March 1, 2018 \$ 622,679.07

Contributions:

February 15, 2018 Calculation

Wages	\$ 26,990.51	
Employer - 6.92%	\$ 1,867.74	
Employee - 7.75%	\$ 2,091.76	
Contributions Subtotal		\$ 3,959.51

Fund Impact - PARS Wages			
Sewer	Water	Total	
\$ 8,948.30	\$ 18,042.22	\$ 26,990.51	
\$ 619.22	\$ 1,248.52	\$ 1,867.74	

Sewer	Water	Total	
\$ 8,082.15	\$ 15,522.63	\$ 23,604.77	
\$ 559.28	\$ 1,074.17	\$ 1,633.45	

February 28, 2018 Calculation

Wages	\$ 23,604.77	
Employer - 6.92%	\$ 1,633.45	
Employee - 7.75%	\$ 1,829.37	
Contributions Subtotal		\$ 3,462.82

Rounding

Total Contributions thru January	\$ 7,422.33	
Rounding	\$ -	
	\$ 7,422.33	

Earnings (\$4,569.72)

Expenses \$ (288.01)

Distributions \$ (1,042.51)

PARS Ending Balance as of March 31 \$ 624,201.16



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: **May 31, 2018**

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager 

SUBJECT: Review and Possible Action Concerning Sewer Authority Mid-Coastside Fiscal Year 2018-2019 Budgets.

At the SAM Board of Directors meeting on March 26, 2018, the Board approved the SAM General Budget for Fiscal Year 2018/19 be sent as two separate budgets for the member agencies to consider and approve.

The overall Collections Budget is suggested to increase by \$129,483, or 16% over the prior Fiscal Year. The 2017/18 assessment for MWSD for the Collections Contract Services would increase by \$48,625, or 17%.

The General Budget contains an Infrastructure Division Budget, which is largely based on last year's 5 Year Capital Improvement Program, designed to address the maintenance shortfalls of SAM. SAM is asking for an assessment increase of the General Budget by \$913,178, or 18% to a total of \$6,063,748. MWSD's assessment would increase by \$136,624 or 12% to \$1,249,147.

The SAM Budget was presented and discussed at the April 5 meeting.

RECOMMENDATION:

This item is for Board discussion and direction to staff. Staff prepared Resolution, No. ___ Resolution of the Montara Water and Sanitary District Consenting to Approval by Sewer Authority Mid-Coastside of its General Budget for Fiscal Year 2018-2019.

Attachments

RESOLUTION NO. _____

RESOLUTION OF THE MONTARA WATER AND SANITARY DISTRICT CONSENTING TO APPROVAL BY SEWER AUTHORITY MID-COASTSIDE OF ITS GENERAL BUDGET FOR FISCAL YEAR 2018-2019

WHEREAS, Sewer Authority Mid-Coastside has, pursuant to Article III, Section (F)(3) of the joint exercise of powers agreement dated February 3, 1976, as amended, establishing said Authority, submitted its General Budget for fiscal year July 1, 2018 – June 30, 2019 for the consent of this District; and

WHEREAS, this Board has reviewed the aforesaid budget and desires to signify its approval thereof;

NOW THEREFORE, be it resolved by the Board of the Montara Water and Sanitary District, a public agency in the County of San Mateo, California, as follows:

1. Consent is hereby given to the approval by Sewer Authority Mid-Coastside of its General Budget for Fiscal Year July 1, 2018 –June 30, 2019 entitled, “Sewer Authority Mid-Coastside Proposed General Budget - Fiscal Year 2018/19,” dated March 26, 2018, a copy of which is on file in the District’s Administrative Offices to which reference is hereby made for the particulars thereof.

2. The District Secretary is hereby authorized and directed to transmit a certified copy of this resolution to Sewer Authority Mid-Coastside, the Granada Community Services District and the City of Half Moon Bay.

President, Montara Water and Sanitary District

COUNTERSIGNED:

Secretary, Montara Water and Sanitary District

* * * * *

I HEREBY CERTIFY that the foregoing Resolution No.____ was duly and regularly passed and adopted by the Board of the Montara Water and Sanitary

RESOLUTION NO. _____

RESOLUTION OF THE MONTARA WATER AND SANITARY DISTRICT CONSENTING TO APPROVAL BY SEWER AUTHORITY MID-COASTSIDE OF ITS GENERAL BUDGET FOR FISCAL YEAR 2018-2019

District, County of San Mateo, California, at a Special Meeting thereof held on the 31st day of May, 2018, by the following vote:

AYES, Directors:

NOES, Directors:

ABSENT, Directors:

Secretary, Montara Water and Sanitary District

SEWER AUTHORITY MID-COASTSIDE



PROPOSED GENERAL BUDGET FISCAL YEAR 2018/19 MARCH 26, 2018



**SEWER AUTHORITY MID-COASTSIDE
GENERAL BUDGET
FISCAL YEAR 2018/19**

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EXECUTIVE SUMMARY

The Joint Exercise of Powers Agreement (Agreement) that created SAM and governs its day-to-day operations specifies that “The total expenses of operation and maintenance shall be shared in a manner based on flows into the single consolidated treatment plant.” The General Budget is divided into Administrative Services, Treatment, Environmental Compliance, and Infrastructure.

The proposed budget includes obligations for wages and benefits defined in employment and bargaining contracts, increases in retirement contributions, and other non-discretionary expenses.

Proposed Income & Expenses

Operating Income	
Assessments - City of Half Moon Bay	3,360,430
Assessments - Granada Community Services District	1,454,171
Assessments - Montara Water & Sanitary District	1,249,147
NDWSCP Fees	118,025
Miscellaneous Revenue	9,000
Total Operating Income	\$ 6,190,773
Operating Expenses	
Wages	1,491,707
Benefits	675,527
Legal Services	56,500
Engineering Services	102,000
Professional & Technical Services	802,000
Professional Memberships	35,100
Insurance Premiums	51,000
Miscellaneous Expenses	79,640
Utilities	504,680
Travel & Training	42,450
Equipment Rental/Lease	60,000
Building & Maintenance Services	159,000
Chemicals	135,000
Permits & Licenses	33,000
Supplies	51,169
Equipment	331,000
Infrastructure Projects	1,332,500
Claims & Penalties	5,000
Total Operating Expenses	\$ 5,947,273
Net Operating Income	\$ 243,500
Non-Operating Income	
Interest Income	6,500
Total Non-Operating Income	\$ 6,500
Contribution to Reserve Funds	\$ 250,000

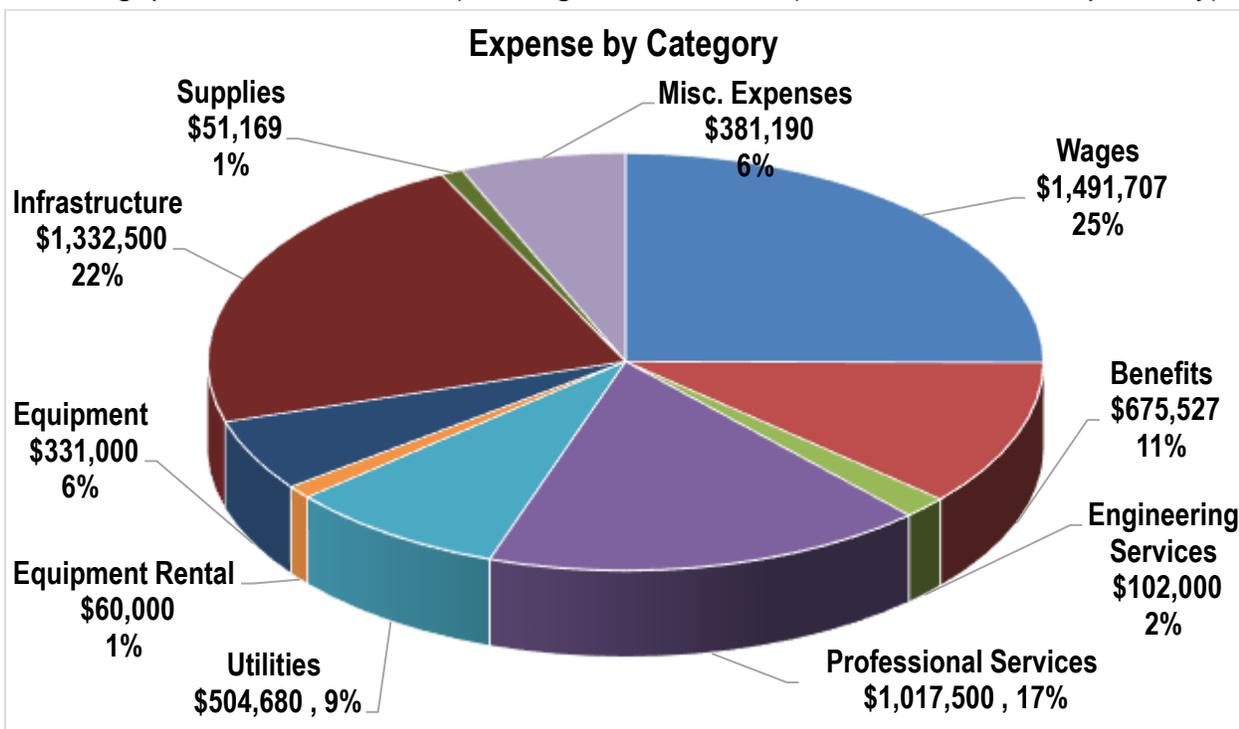
FISCAL YEAR 2018/19

The overall change from the original Fiscal Year 2017/18 budget to Fiscal Year 2018/19 is an increase of \$.74 million (14%). This is primarily due to increasing staff to meet service level needs, infrastructure spending, and COLA adjustments.

Division Budgets by Fiscal Year

	FY 2016/17	FY 2017/18	FY 2018/19	\$ Change	% Change
	<u>Actuals</u>	<u>Original</u>	<u>Proposed</u>	<u>Original</u>	<u>Original</u>
Administration	\$1,022,217	\$1,058,663	\$1,135,148	\$ 76,485	9%
Treatment	\$2,677,553	\$2,479,794	\$3,194,958	\$ 465,164	29%
Environ Comp	\$ 151,386	\$ 165,088	\$ 149,667	(\$ 15,421)	(9%)
Infrastructure	<u>\$ 300,221</u>	<u>\$1,505,000</u>	<u>\$1,717,500</u>	<u>\$ 212,500</u>	<u>14%</u>
Total	\$4,151,377	\$7,095,463	\$6,197,273	\$ 738,727	14%

Of the total budget expenses, 25% (\$1.49 million) is for wages and 11% (\$0.68 million) is for benefits. Infrastructure is 22% (\$1.33 million). Professional services make up a significant amount (17%, \$1.02 million) due to SAM's dependency on contractors and consultants for technical and specialized services. Utilities, equipment purchases, and miscellaneous expenses (liability insurance, professional dues, uniform services, training, permits, licenses, etc.) are significant as well (9%, 6%, and 6% respectively).



The Administrative Services division increased \$76,485 (9%). The significant impacts are from changing the Accounting Technician from part-time to full-time and replacing the carpet in the administration building. The remaining changes are related to COLA and benefit changes per the Local 39 MOU, increases in utility, services, and supplies

costs, and replacement of the carpet in the Administration Building.

The Treatment division increased \$465,164 (19%), primarily due to adding two positions (Operator and Utility Worker) and small (<\$50k) repair projects at SAM facilities.

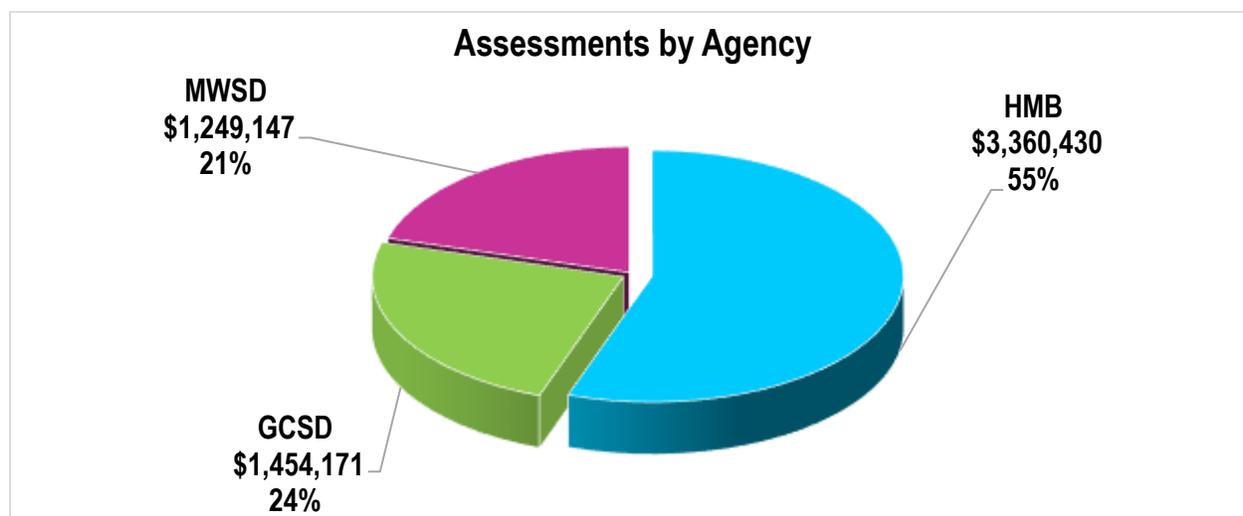
The Environmental Compliance division budget *decreased* \$15,421 (-9%). In FY 2017/18, SAM paid for two years of the First Flush program with the San Mateo County RCD. Therefore, there are no expenses budgeted in FY 2018/19 for this program.

The Infrastructure division increased from \$1.51 million in Fiscal Year 2017/18 to \$1.72 million (14%) in FY 2018/19 to address the most urgent of the Priority 1 projects identified in the adopted 5-Year Infrastructure Plan.

Of the total proposed revenue, the majority (98%) is from assessments paid by the JPA member agencies. The most significant increase is \$250,000 to rebuild reserve funds. The remaining revenue is from NDWSCP fees (2%), and miscellaneous revenue (<1%). The impact to the JPA member agency assessments is (rounded to nearest \$):

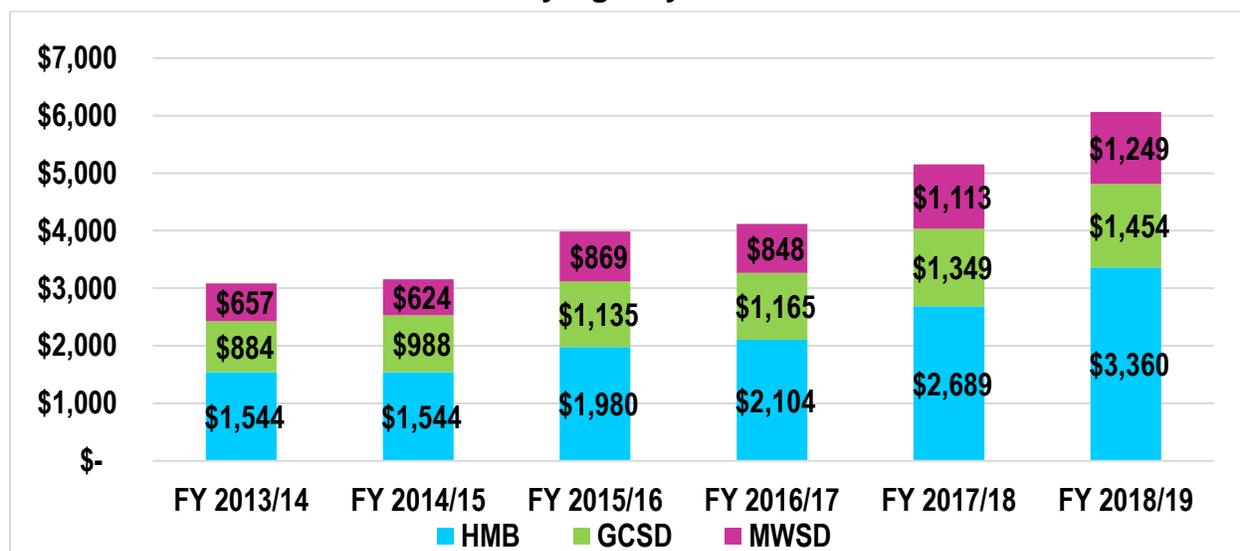
Total Assessments for Each Member Agency

	FY 2016/17	FY 2017/18	FY 2018/19	\$ Change	% Change
	<u>Actuals</u>	<u>Original</u>	<u>Proposed</u>	<u>Original</u>	<u>Original</u>
Half Moon Bay	\$2,417,806	\$2,688,598	\$3,360,430	\$ 671,832	25%
GCSD	\$1,425,166	\$1,349,449	\$1,454,171	\$ 104,722	8%
MWSD	<u>\$1,169,848</u>	<u>\$1,112,523</u>	<u>\$1,249,147</u>	<u>\$ 136,624</u>	<u>12%</u>
Total	\$5,012,820	\$5,150,570	\$6,063,748	\$ 913,178	18%



The member agency assessments are allocated based on flow percentages from the previous calendar year. This allocation varies each year.

Assessments by Agency – Past Five Years



Staffing at SAM was kept low for many years to reduce the impact on member agency assessments. Recognizing that a significant number of employees are reaching retirement age, staffing has increased as part of a succession plan. The following table reflects the staffing for SAM functions over the past five years.

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
JPA functions	8.85	8.85	8.525	10.75	11.00	13.00

Section I of the budget document provides budget worksheets for each division. Section II provides a brief narrative of each division’s goals and performance metrics. Section III includes the contract collection services budget. Section IV provides charts, glossary, and other relevant data related to SAM.

GENERAL BUDGET

(Includes: Administrative Services, Treatment, Environmental Compliance, and Infrastructure)

	FY 2015/16 ACTUAL	FY 2016/17 ACTUAL	FY 2017/18 ORIGINAL	FY 2017/18 ESTIMATE	FY 2018/19 PROPOSED	CHANGE FROM FY 2017/18 ORIGINAL
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EXPENDITURES

Personnel

1	Wages	919,245	1,130,610	1,174,648	1,177,489	1,421,597	246,949	21%
2	Premium Pay	31,398	79,860	62,582	78,654	70,110	7,528	12%
3	Health Benefits	35,882	226,314	246,493	237,427	299,467	52,974	21%
4	Retirement Cont.	156,415	237,634	260,102	138,009	258,026	(2,076)	-0.8%
5	Retirement Medical	28,974	35,639	27,062	23,616	30,798	3,736	14%
6	Misc. Benefits	257,854	46,972	66,340	58,840	87,235	20,894	31%
7	Subtotal	1,429,768	1,757,029	1,837,228	1,714,034	2,167,234	330,006	18%

Non-Personnel

8	Legal Services	103,449	49,324	46,500	98,562	56,500	10,000	22%
9	Engineering Services	66,966	244,106	102,500	314,000	102,000	(500)	0%
10	Professional Services	361,792	694,397	637,330	568,232	802,000	164,670	26%
11	Prof. Memberships	20,133	30,800	34,100	30,000	35,100	1,000	3%
12	Insurance Premiums	57,858	26,251	49,496	50,000	51,000	1,504	3%
13	Misc. Expenses	91,371	108,869	71,769	297,301	79,640	7,871	11%
14	Utilities	459,316	507,015	493,680	495,439	504,680	11,000	2%
15	Travel & Training	11,223	12,615	38,300	18,619	42,450	4,150	11%
16	Equipment Rental	-	65,009	60,000	121,855	60,000	-	0%
17	Bldg & Maint Services	38,704	154,362	58,452	196,966	159,000	100,548	172%
18	Chemicals	195,468	128,595	130,000	149,420	135,000	5,000	4%
19	Permits & Licenses	36,983	31,103	31,000	31,000	33,000	2,000	6%
20	Supplies	55,639	61,278	53,891	68,339	51,169	(2,722)	-5%
21	Equipment	418,928	280,294	242,800	646,973	331,000	88,200	36%
22	Infrastructure Projects	1,353,921	-	1,311,500	1,964,500	1,332,500	21,000	2%
23	Claims/Penalties	-	330	10,000	300,000	5,000	(5,000)	-50%
24	Subtotal	3,271,751	2,394,348	3,371,318	5,351,205	3,780,039	408,721	12%

25 TOTAL		4,701,519	4,151,377	5,208,545	7,065,239	5,947,273	738,727	14%
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Key Changes

Personnel: COLA of 3%, applicable step increases, CalPERS rate increase	\$ 69,006
Personnel: additional 2.5 positions (Utility Worker, Operator II, Accounting Tech)	\$ 261,000
3% CPI increase for utilities, services, and supplies	\$ 24,303
Legal Services: increase based on anticipated expenses	\$ 10,000
Professional Services: increase preventive maintenance and repair/replace projects	\$ 164,670
Bldg & Maint: small projects at pump stations and Administration Bldg.	\$ 100,548
Equipment: increase in repair/replace projects	\$ 88,200
Infrastructure: increase in repair/replace projects	\$ 21,000

Total	738,727
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GENERAL BUDGET

(Includes: Administrative Services, Treatment, Environmental Compliance, and Infrastructure)

	FY 2015/16 ACTUAL	FY 2016/17 ACTUAL	FY 2017/18 ORIGINAL	FY 2017/18 ESTIMATE	FY 2018/19 PROPOSED	CHANGE FROM FY 2017/18 ORIGINAL
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REVENUE

By Type:

26 JPA Assessments	4,484,212	4,117,177	5,150,570	7,065,277	6,063,748	913,178	18%
27 Contract Services	-	-	-	-	-	-	0%
28 NDWSCP Fees	74,593	81,228	22,025	24,925	118,025	96,000	436%
29 Misc. Fees	7,225	5,415	8,200	8,532	8,500	300	4%
30 Interest Earnings	8,365	5,741	6,500	6,500	6,500	-	0%
31 Misc. Revenue	36,350	26,550	21,250	250	500	(20,750)	-98%
32 (From) Reserves	(500,000)	-	-	-	-	-	0%
33	4,110,745	4,236,111	5,208,545	7,105,484	6,197,273	988,728	19%

By Agency:

34 Half Moon Bay	1,980,157	2,103,982	2,688,598	3,682,090	3,360,430	671,832	25%
35 Granada CSD	1,135,497	1,164,955	1,349,449	1,860,182	1,454,171	104,722	8%
36 Montara WSD	868,558	848,240	1,112,523	1,523,005	1,249,147	136,624	12%
37	3,984,212	4,117,177	5,150,570	7,065,277	6,063,748	913,178	18%

Key Changes

Assessment allocations change each year based on flow percentages.

Start replenishing operating reserve funds

250,000

Funded Positions:

Operating Fund FTE	8.53	10.75	10.50	11.00	13.00	2.50	24%
Other Funds FTE	-	-	-	-	-	-	0%
	8.53	10.75	10.50	11.00	13.00	2.50	24%

ADMINISTRATIVE SERVICES

By Category

	FY 2015/16 ACTUAL	FY 2016/17 ACTUAL	FY 2017/18 ORIGINAL	FY 2017/18 ESTIMATE	FY 2018/19 PROPOSED	CHANGE FROM FY 2017/18 ORIGINAL	
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EXPENDITURES

Personnel

1	Wages	431,898	447,732	459,157	450,061	506,020	46,863	10%
2	Premium Pay	2,021	-	200	73	200	-	0%
3	Health Benefits	25,494	64,135	83,703	77,352	93,840	10,137	12%
4	Retirement Cont.	76,014	93,205	110,237	62,831	106,996	(3,241)	-3%
5	Retirement Medical	18,216	24,229	16,301	16,360	17,040	739	5%
6	Misc. Benefits	89,174	21,294	17,613	19,272	22,364	4,751	27%
7	Subtotal	642,817	650,595	687,211	625,950	746,460	59,249	9%

Non-Personnel

8	Legal Services	103,449	49,324	46,000	93,114	56,500	10,500	23%
9	Engineering Services	66,966	7,244	2,000	-	2,000	-	0%
10	Professional Services	316,814	165,728	105,280	98,082	108,950	3,670	3%
11	Prof. Memberships	18,975	19,615	24,000	24,000	25,000	1,000	4%
12	Insurance Premiums	56,041	26,251	49,496	50,000	51,000	1,504	3%
13	Misc. Expenses	30,375	28,476	28,794	11,575	27,840	(954)	-3%
14	Utilities	24,678	26,043	20,180	22,968	20,180	-	0%
15	Travel & Training	260	8,504	15,500	9,642	16,500	1,000	6%
16	Equipment Rental	-	9,638	10,000	9,855	10,000	-	0%
17	Bldg & Maint Services	5,379	16,267	24,452	15,929	37,000	12,548	51%
18	Chemicals	-	-	-	-	-	-	0%
19	Permits & Licenses	-	-	-	-	-	-	0%
20	Supplies	16,674	8,406	8,750	4,310	8,718	(32)	0%
21	Equipment	2,781	5,796	27,000	12,000	20,000	(7,000)	-26%
22	Infrastructure Projects	-	-	-	-	-	-	0%
23	Claims/Penalties	-	330	10,000	300,000	5,000	(5,000)	-50%
24	Subtotal	642,392	371,622	371,452	651,474	388,688	17,236	5%

25 TOTAL		1,285,209	1,022,217	1,058,663	1,277,424	1,135,148	76,485	7%
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Key Changes

COLA of 3%, applicable step increases, CalPERS rate changes	12,000
Increase Accounting Technician from part-time to full-time	46,000
Legal Services: increase based on anticipated expenses	10,500
3% increase for utilities, services, and supplies	5,985
Bldg. & Maint: Replace carpet in Administration building	25,000
Bldg. & Maint: reduce janitorial due to addition of Utility Worker	(11,000)
Equipment: increased FY 17/18 to replace server	(7,000)
Reduce budget for claims/penalties	(5,000)
	76,485

ADMINISTRATIVE SERVICES

By Category

	FY 2015/16 ACTUAL	FY 2016/17 ACTUAL	FY 2017/18 ORIGINAL	FY 2017/18 ESTIMATE	FY 2018/19 PROPOSED	CHANGE FROM FY 2017/18 ORIGINAL
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REVENUE

By Type:

26 JPA Assessments	1,122,456	991,864	1,030,913	1,370,913	1,128,148	97,235	9%
27 Contract Services	-	-	-	-	-	-	0%
28 NDWSCP Fees	-	-	-	-	-	-	0%
29 Misc. Fees	-	-	-	-	-	-	0%
30 Interest Earnings	8,365	5,741	6,500	6,500	6,500	-	0%
31 Misc. Revenue	36,350	26,550	21,250	250	500	(20,750)	-98%
32 (From) Reserves	-	-	-	-	-	-	0%
33	1,167,171	1,024,155	1,058,663	1,377,663	1,135,148	76,485	7%

By Agency:

34 Half Moon Bay	557,868	502,565	538,137	715,617	625,201	87,064	16%
35 Granada CSD	319,896	284,951	270,099	359,179	270,545	446	0%
36 Montara WSD	244,692	204,348	222,677	296,117	232,401	9,724	4%
37	1,122,456	991,864	1,030,913	1,370,913	1,128,148	97,235	9%

Key Changes

Assessments allocated based on CY 2017 flow calculation

Eliminate assumptions of receiving miscellaneous revenue

\$ (20,750)

Funded Positions:

Operating Fund FTE	3.98	3.50	3.50	4.00	4.00	0.50	14%
Other Funds FTE	-	-	-	-	-	-	0%
	3.98	3.50	3.50	4.00	4.00	0.50	14%

TREATMENT

By Category

	FY 2015/16 ACTUAL	FY 2016/17 ACTUAL	FY 2017/18 ORIGINAL	FY 2017/18 ESTIMATE	FY 2018/19 PROPOSED	CHANGE FROM FY 2017/18 ORIGINAL
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EXPENDITURES

Personnel

1	Wages	486,492	612,185	621,377	676,667	878,692	257,315	41%
2	Premium Pay	29,377	78,604	61,591	77,716	69,095	7,504	12%
3	Health Benefits	10,297	152,910	144,843	154,636	199,410	54,567	38%
4	Retirement Cont.	80,271	133,867	137,082	70,346	142,110	5,028	4%
5	Retirement Medical	10,314	11,167	9,322	6,774	13,180	3,858	41%
6	Misc. Benefits	167,914	26,350	43,504	38,006	62,571	19,067	44%
7	Subtotal	784,665	1,015,083	1,017,719	1,024,145	1,365,058	347,339	34%

Non-Personnel

8	Legal Services	-	-	-	-	-	-	0%
9	Engineering Services	-	42,223	500	162,000	15,000	14,500	2900%
10	Professional Services	37,529	471,602	429,500	375,512	432,500	3,000	1%
11	Prof. Memberships	1,158	11,185	10,000	6,000	10,000	-	0%
12	Insurance Premiums	1,817	-	-	-	-	-	0%
13	Misc. Expenses	60,989	32,243	41,150	25,066	41,200	50	0%
14	Utilities	434,638	480,972	473,500	472,471	484,500	11,000	2%
15	Travel & Training	10,963	4,111	19,500	8,837	22,500	3,000	15%
16	Equipment Rental	-	55,371	50,000	112,000	50,000	-	0%
17	Bldg & Maint Services	33,325	138,095	34,000	181,037	122,000	88,000	259%
18	Chemicals	195,468	120,953	125,000	147,775	130,000	5,000	4%
19	Permits & Licenses	36,983	31,103	31,000	31,000	33,000	2,000	6%
20	Supplies	38,965	47,604	35,125	57,185	31,200	(3,925)	-11%
21	Equipment	416,147	227,008	212,800	295,853	208,000	(4,800)	-2%
22	Infrastructure Projects	-	-	-	-	-	-	0%
23	Claims/Penalties	-	-	-	-	-	-	0%
24	Subtotal	1,267,982	1,662,470	1,462,075	1,874,736	1,579,900	117,825	8%

25 TOTAL **2,052,647** **2,677,553** **2,479,794** **2,898,881** **2,944,958** **465,164** **19%**

Key Changes

COLA of 3%, applicable step increases, CalPERS rate changes	\$ 48,339
Add 2 new positions (Utility Worker, Operator II)	\$ 216,000
Shift .50 Engineering & Construction Contracts Manager from Infrastructure	\$ 83,000
Engineering: technical support for small repair projects	\$ 14,500
Professional Services: preventive maintenance on electrical bus duct/panel	\$ 25,000
Bldg & Maint: Replace hatches at Portola PS wet well	\$ 40,000
Bldg & Maint: Repair rainwater intrusion at Princeton PS MCC room	\$ 38,000
Total	\$ 464,839

TREATMENT

By Category

	FY 2015/16 ACTUAL	FY 2016/17 ACTUAL	FY 2017/18 ORIGINAL	FY 2017/18 ESTIMATE	FY 2018/19 PROPOSED	CHANGE FROM FY 2017/18 ORIGINAL	
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REVENUE

By Type:

26 JPA Assessments	2,124,756	2,209,193	2,452,593	3,023,835	2,821,458	368,865	15%
27 Contract Services	-	-	-	-	-	-	0%
28 NDWSCP Fees	-	81,228	19,000	21,900	115,000	96,000	505%
29 Misc. Fees	7,225	5,415	8,200	8,532	8,500	300	4%
30 Interest Earnings	-	-	-	-	-	-	0%
31 Misc. Revenue	-	-	-	-	-	-	0%
32 (From) Reserves	-	-	-	-	-	-	0%
33	2,131,981	2,295,836	2,479,793	3,054,267	2,944,958	465,165	19%

By Agency:

34 Half Moon Bay	1,056,000	1,138,924	1,280,254	1,572,457	1,563,606	283,352	22%
35 Granada CSD	605,556	645,762	642,579	801,324	676,625	34,046	5%
36 Montara WSD	463,200	424,507	529,760	650,054	581,227	51,467	10%
37	2,124,756	2,209,193	2,452,593	3,023,835	2,821,458	368,865	15%

Key Changes

Funded Positions:

<i>Operating Fund FTE</i>	4.275	6.25	6.25	6.50	8.75	2.50	40%
<i>Other Funds FTE</i>	-	-	-	-	-	-	0%
	4.275	6.25	6.25	6.50	8.75	2.50	40%

ENVIRONMENTAL COMPLIANCE

By Category

	FY 2015/16 ACTUAL	FY 2016/17 ACTUAL	FY 2017/18 ORIGINAL	FY 2017/18 ESTIMATE	FY 2018/19 PROPOSED	CHANGE FROM FY 2017/18 ORIGINAL
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EXPENDITURES

Personnel

1	Wages	855	55,899	33,283	30,761	36,886	3,603	11%
2	Premium Pay	-	1,256	791	864	815	24	3%
3	Health Benefits	91	7,281	6,217	5,439	6,217	(0)	0%
4	Retirement Cont.	129	9,812	8,577	4,831	8,920	343	4%
5	Retirement Medical	444	227	524	482	578	54	10%
6	Misc. Benefits	767	(1,035)	1,080	1,562	2,300	1,220	113%
7	Subtotal	2,286	73,440	50,472	43,939	55,716	5,244	10%

Non-Personnel

8	Legal Services	-	-	-	-	-	-	0%
9	Engineering Services	-	-	-	-	-	-	0%
10	Professional Services	7,449	57,067	92,550	84,638	60,550	(32,000)	-35%
11	Prof. Memberships	-	-	100	-	100	-	0%
12	Insurance Premiums	-	-	-	-	-	-	0%
13	Misc. Expenses	7	479	650	6,679	10,600	9,950	1531%
14	Utilities	-	-	-	-	-	-	0%
15	Travel & Training	-	-	3,300	140	3,450	150	5%
16	Equipment Rental	-	-	-	-	-	-	0%
17	Bldg & Maint Services	-	-	-	-	-	-	0%
18	Chemicals	-	7,642	5,000	1,646	5,000	-	0%
19	Permits & Licenses	-	-	-	-	-	-	0%
20	Supplies	-	5,268	10,016	6,844	11,251	1,235	12%
21	Equipment	-	7,490	3,000	2,120	3,000	-	0%
22	Infrastructure Projects	-	-	-	-	-	-	0%
23	Claims/Penalties	-	-	-	-	-	-	0%
24	Subtotal	7,456	77,946	114,616	102,066	93,951	(20,665)	-18%
25	TOTAL	9,742	151,386	165,088	146,004	149,667	(15,421)	-9%

Key Changes

COLA of 3%, applicable step increases, CalPERS rate changes	\$ 5,244
3% CPI increase for utilities, services, and supplies	\$ 1,385
Professional Services: new requirement for pollution prevention program	\$ 9,950
Professional Services: First Flush paid for 2 fiscal years in 2017/18	\$ (32,000)
Total	\$ (15,421)

ENVIRONMENTAL COMPLIANCE

By Category

FY 2015/16 ACTUAL	FY 2016/17 ACTUAL	FY 2017/18 ORIGINAL	FY 2017/18 ESTIMATE	FY 2018/19 PROPOSED	CHANGE FROM FY 2017/18 ORIGINAL
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REVENUE

By Type:

26 JPA Assessments	-	170,045	162,064	142,979	146,642	(15,422)	-10%
27 Contract Services	-	-	-	-	-	-	0%
28 NDWSCP Fees	74,593	-	3,025	3,025	3,025	-	0%
29 Misc. Fees	-	-	-	-	-	-	0%
30 Interest Earnings	-	-	-	-	-	-	0%
31 Misc. Revenue	-	-	-	-	-	-	0%
32 (From) Reserves	-	-	-	-	-	-	0%
33	74,593	170,045	165,089	146,004	149,667	(15,422)	-9%

By Agency:

34 Half Moon Bay	-	66,605	84,597	74,635	81,267	(3,330)	-4%
35 Granada CSD	-	37,765	42,461	37,461	35,167	(7,294)	-17%
36 Montara WSD	-	65,675	35,006	30,884	30,209	(4,797)	-14%
37	-	170,045	162,064	142,979	146,642	(15,422)	-10%

Key Changes

Funded Positions:

Operating Fund FTE	0.28	0.50	0.25	0.25	0.25	-	0%
Other Funds FTE	-	-	-	-	-	-	0%
	0.28	0.50	0.25	0.25	0.25	-	0%

INFRASTRUCTURE

By Category

	FY 2015/16 ACTUAL	FY 2016/17 ACTUAL	FY 2017/18 ORIGINAL	FY 2017/18 ESTIMATE	FY 2018/19 PROPOSED	CHANGE FROM FY 2017/18 ORIGINAL
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EXPENDITURES

Personnel

1	Wages	-	14,794	60,831	20,000	-	(60,831)	-100%
2	Premium Pay	-	-	-	-	-	-	0%
3	Health Benefits	-	1,988	11,730	-	-	(11,730)	-100%
4	Retirement Cont.	-	750	4,206	-	-	(4,206)	-100%
5	Retirement Medical	-	16	915	-	-	(915)	-100%
6	Misc. Benefits	-	363	4,143	-	-	(4,143)	-100%
7	Subtotal	-	17,911	81,825	20,000	-	(81,825)	-100%

Non-Personnel

8	Legal Services	-	-	500	5,448	-	(500)	-100%
9	Engineering Services	-	194,639	100,000	152,000	85,000	(15,000)	-15%
10	Professional Services	-	-	10,000	10,000	200,000	190,000	1900%
11	Prof. Memberships	-	-	-	-	-	-	0%
12	Insurance Premiums	-	-	-	-	-	-	0%
13	Misc. Expenses	-	47,671	1,175	253,982	-	(1,175)	0%
14	Utilities	-	-	-	-	-	-	0%
15	Travel & Training	-	-	-	-	-	-	0%
16	Equipment Rental	-	-	-	-	-	-	0%
17	Bldg & Maint Services	-	-	-	-	-	-	0%
18	Chemicals	-	-	-	-	-	-	0%
19	Permits & Licenses	-	-	-	-	-	-	0%
20	Supplies	-	-	-	-	-	-	0%
21	Equipment	-	40,000	-	337,000	100,000	100,000	0%
22	Infrastructure Projects	1,353,921	-	1,311,500	1,964,500	1,332,500	21,000	2%
23	Claims/Penalties	-	-	-	-	-	-	0%
24	Subtotal	1,353,921	282,310	1,423,175	2,722,930	1,717,500	294,325	21%
25	TOTAL	1,353,921	300,221	1,505,000	2,742,930	1,717,500	212,500	14%

Key Changes

Shift all personnel costs to Treatment division	\$ (81,825)
Wet Weather Storage Expansion Project	\$ 400,000
Shift small (<\$50k) repair projects to Treatment division	\$ (105,675)
Total	\$ 212,500

INFRASTRUCTURE

By Category

	FY 2015/16 ACTUAL	FY 2016/17 ACTUAL	FY 2017/18 ORIGINAL	FY 2017/18 ESTIMATE	FY 2018/19 PROPOSED	CHANGE FROM FY 2017/18 ORIGINAL
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REVENUE

By Type:

26 JPA Assessments	1,237,000	746,075	1,505,000	2,527,550	1,967,500	462,500	31%
27 Contract Services	-	-	-	-	-	-	0%
28 NDWSCP Fees	-	-	-	-	-	-	0%
29 Misc. Fees	-	-	-	-	-	-	0%
30 Interest Earnings	-	-	-	-	-	-	0%
31 Misc. Revenue	-	-	-	-	-	-	0%
32 (From) Reserves	(500,000)	-	-	-	-	-	0%
33	737,000	746,075	1,505,000	2,527,550	1,967,500	462,500	31%

By Agency:

34 Half Moon Bay	366,289	395,888	785,610	1,319,381	1,090,356	304,746	39%
35 Granada CSD	210,045	196,477	394,310	662,218	471,834	77,524	20%
36 Montara WSD	160,666	153,710	325,080	545,951	405,310	80,230	25%
37	737,000	746,075	1,505,000	2,527,550	1,967,500	462,500	31%

Key Changes

Assessments allocated based on CY 2017 flow calculation

Start replenishing operating reserve funds 250,000

Funded Positions:

Operating Fund FTE	-	0.50	0.50	0.25	-	(0.50)	-100%
Other Funds FTE	-	-	-	-	-	-	0%
	-	0.50	0.50	0.25	-	(0.50)	-100%

OPERATION & MAINTENANCE



PROGRAM DESCRIPTION

This section of the budget provides the service descriptions and performance metrics for the different Operation & Maintenance (O & M) functions by division. O & M (Administrative Services, Treatment, Environmental Compliance, and Infrastructure) staffing remained static until 2016/17. In FY 2016/17, the cost for staff that supervise and provide support for the contract collection services was reallocated to keep the JPA staff independent of the contract staff. This was to clearly identify which staff might be affected if the contract services were terminated. The following staffing summary reflects the historical cost allocation of staff in O & M.

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Regular Positions	8.85	8.85	8.85	8.525	10.75	10.50	13.00

The Joint Exercise of Powers Agreement (JEPA) stipulates that the total expenses of operation and maintenance of all of the components of the Present Project (intertie pipeline and attendant pump facilities, ocean outfall, treatment plant) shall be shared in a manner based on flows.

Operation & Maintenance Flow Calculations

	HMB	GCSD	MWSD	
FY 2017/18	55.4%	24.0%	20.6%	(Based on Calendar Year 2017)
FY 2017/18	<u>52.3%</u>	<u>26.2%</u>	<u>21.5%</u>	(Based on Calendar Year 2016)
Variance	3.1%	-2.2%	-0.9%	

FINANCIAL DETAILS

The following is a list of budget categories, what is included in each category, and the changes between the FY 2017/18 and 2018/19 budgets.

Budget Line #	FY 2017/18	FY 2018/19
1. Wages Increased for COLA adjustments of 3% and step increases per MOU. Includes wages for all staff allocated to O & M, which reflects the addition of 2.50 positions.	\$1,174,648	\$1,421,597
2. Premium Pay Overtime paid for staff to perform tasks outside of normal work times.	\$62,582	\$70,110
3. Health Benefits The cost of medical, dental, and vision benefits provided to employees based on the MOU or Unrepresented Employees Manual. Increased to reflect the addition of 2.50 positions.	\$246,493	\$299,467
4. Retirement Contributions SAM pays the employer contribution but no portion of the employee contribution to CalPERS for retirement benefits. SAM is in compliance with PEPRA.	\$260,102	\$258,026
5. Retirement Medical Increased to make contributions for future retirement medical costs in compliance with GASB as well as current retiree medical premiums.	\$27,062	\$30,798
6. Misc. Benefits Includes Medicare, long-term and short-term disability, workers compensation, and matching funds to a 457 plan. Increased to reflect the addition of 2.50 positions.	\$66,340	\$87,235
7. Personnel Subtotal Subtotal of all costs associated with SAM staff wages and benefits.	\$1,837,228	\$2,167,634
8. Legal Services Increased based on anticipated meetings and projects.	\$46,500	\$56,500

FISCAL YEAR 2018/19

<u>Budget Line #</u>	<u>FY 2017/18</u>	<u>FY 2018/19</u>
9. Engineering Services Increased to provide technical design and project management related to infrastructure and maintenance projects.	\$102,500	\$102,000
10. Professional Services Includes ongoing services that are specialized and need to be performed by consultants rather than staff. Assumes a 3% CPI increase to these services.	\$632,630	\$802,000
11. Professional Membership Increased to reflect rate increases for memberships in professional organizations for SAM and employees that keeps them current in industry practices and improves how SAM serves the community.	\$34,100	\$35,100
12. Insurance Premiums Property and liability premiums based on utilization rates.	\$49,496	\$51,000
13. Misc. Expenses Includes incidental expenses (uniforms laundry services, radio and alarm systems, offsite file storage, postage, claims, copier, phone system, property taxes, etc.) not reflected in other categories.	\$75,819	\$79,640
14. Utilities Electricity, water, telephone, solid waste, etc. Increased to reflect anticipated rate changes.	\$494,330	\$504,680
15. Travel & Training Training and travel related costs for attendance at industry conferences and seminars, and other related events to allow staff to keep current on technical skills and industry best practices.	\$38,300	\$42,450
16. Equipment Rental/Lease Short-term rental or lease of equipment (generators, storage tanks, etc.) for less than a fiscal year.	\$60,000	\$60,000

FISCAL YEAR 2018/19

Budget Line #	FY 2017/18	FY 2018/19
17. Building & Maintenance Services Includes janitorial, landscaping, and other regular building maintenance services.	\$58,452	\$159,000
18. Chemicals Includes chemicals (sodium hypochlorite, polymer, ferric chloride) used in the treatment of wastewater to meet regulatory standards.	\$130,000	\$135,000
19. Permits & Licenses Annual costs for permits with local, regional and state agencies. Increase reflects anticipated changes in fees.	\$31,000	\$33,000
20. Supplies Office, computer, breakroom, and general supplies.	\$53,891	\$51,169
21. Equipment Purchase Purchase of equipment for repair and rehabilitation of SAM facilities not captured in infrastructure projects.	\$242,800	\$331,000
22. Infrastructure Projects Contract construction costs are included in this category. Includes costs associated with projects that exceed \$50,000 each.	\$1,311,500	\$1,332,500
23. Claims/Penalties Decreased to reflect claim experience.	\$10,000	\$5,000
24. Non-Personnel Subtotal Subtotal of all costs not associated with wages and benefits.	\$3,371,318	\$3,780,039
25. Total Total of all costs for O & M (sum of Personnel and Non-Personnel subtotals).	\$5,208,545	\$5,947,273

TREATMENT DIVISION

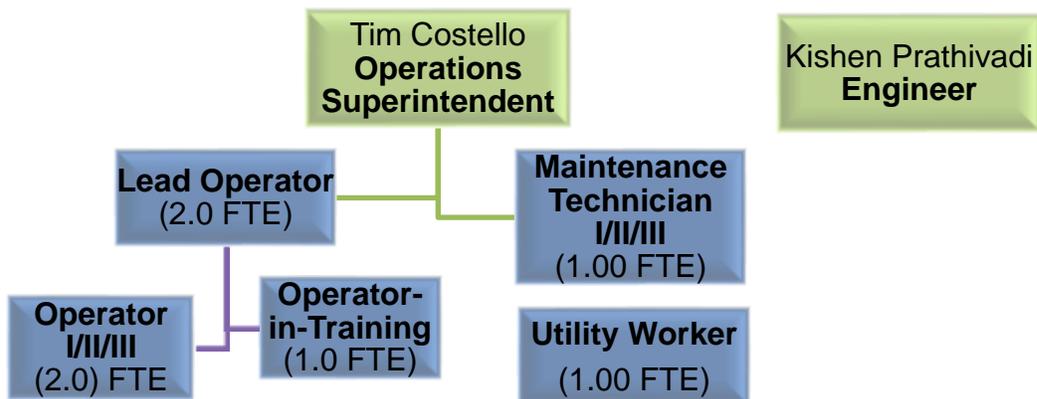


PROGRAM DESCRIPTION

The Treatment division is responsible for the safe, economical, and environmentally acceptable treatment and reclamation of all sanitary wastewater flows from the City of Half Moon Bay, Granada Community Services District, and the Montara Water & Sanitary District. The division is responsible for the reliability and integrity of systems and equipment at the Plant and the operation and maintenance of three SAM pump stations and the transmission pipeline. Staff performs predictive and preventive maintenance programs, corrective and rehabilitative maintenance, and in-house equipment and process improvements.

Over recent years we have lost some of the key personal and with that institutional knowledge and ability. While staff is trying to keep up with the current needs of an aging system we have had to bring in people that specialize in certain pieces of equipment as necessary. We are also finding that a growing portion of our equipment no longer has parts available on the primary market which can be problematic at best.

Division services are supervised by the Operations Superintendent. The following organizational chart reflects the reporting structure of the division.



FISCAL YEAR 2018/19

The following staffing summary reflects the historical cost allocation for the division.

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Regular Positions	4.60	4.60	4.70	4.275	5.95	6.25	8.75

FINANCIAL HIGHLIGHTS

The following is a list of key budget categories, what is included in each category, and the changes between the FY 2017/18 and 2018/19 budgets.

Budget Line #	FY2017/18	FY 2018/19
1. Wages Increased for COLA adjustments of 3% per MOU, addition of two new positions (Operator-in-Training and Utility Worker), a shift of 0.50 Engineer (was Engineering & Construction Contracts Manager), and merit step increases, where applicable.	\$621,377	\$878,692
2. Premium Pay Overtime paid for staff to perform tasks outside of normal work times as well as standby pay.	\$61,591	\$69,095
3. Health Benefits The cost of medical, dental, and vision benefits provided to employees based on the MOU or Unrepresented Employees Manual. Reflects the increase of two new positions.	\$144,843	\$199,410
4. Retirement Contributions Increased to reflect two new positions. SAM pays the employer contribution but no portion of the employee contribution to CalPERS for retirement benefits. SAM is in compliance PEPRA.	\$137,082	\$142,110
5. Retirement Medical Increased to reflect two new positions.	\$9,322	\$13,180
6. Misc. Benefits Increased to reflect two new positions. Includes Medicare, long-term and short-term disability, workers compensation, and matching funds to a 457 plan.	\$43,504	\$62,571

FISCAL YEAR 2018/19

<u>Budget Line #</u>	<u>FY2017/18</u>	<u>FY 2018/19</u>
7. Personnel Subtotal Subtotal of all costs associated with SAM staff wages and benefits.	\$1,017,719	\$1,365,058
8. Legal Services There are no legal services budgeted to Treatment.	\$0	\$0
9. Engineering Services Specialized services related to small maintenance projects.	\$500	\$15,000
10. Professional Services Services that are specialized and need to be performed by contractors rather than staff (GIS software hosting, electrical maintenance, safety training, permit compliance assistance, SSMP audit and updates, outfall inspection, inspections, SCADA support, etc.). Increased for additional electrical equipment preventive maintenance.	\$429,500	\$432,500
11. Professional Membership Memberships in professional organizations for SAM and employees that keeps them current in industry practices and improves how SAM serves the community.	\$10,000	\$10,000
12. Insurance Premiums There are no insurance premiums charged to Treatment.	\$0	\$0
13. Misc. Expenses Includes incidental expenses (uniform laundry services, radio and alarm systems, etc.) not captured in other categories. Increase based on anticipated needs.	\$41,150	\$41,200
14. Utilities Electricity, water, telephone, solid waste, etc. Increased to reflect anticipated rate changes.	\$473,500	\$484,500

FISCAL YEAR 2018/19

<u>Budget Line #</u>	<u>FY2017/18</u>	<u>FY 2018/19</u>
15. Travel & Training Training and travel related costs for attendance at industry conferences and seminars, and other related events to allow staff to keep current on technical skills and industry best practices and safety training.	\$19,500	\$22,500
16. Equipment Rental/Lease Short-term rental or lease of equipment (generators, storage tanks, etc.) for less than a fiscal year.	\$50,000	\$50,000
17. Building & Maintenance Services Preventive maintenance and emergency repairs on structures and stationary equipment that do not extend the life expectancy of the asset. Includes small projects costing less than \$50,000.	\$34,000	\$122,000
18. Chemicals Includes chemicals (sodium hypochlorite, polymer, ferric chloride) used in the treatment of wastewater to meet regulatory standards.	\$125,000	\$130,000
19. Permits & Licenses Annual costs for permits with local, regional and state agencies. Increase reflects anticipated changes in fees.	\$31,000	\$33,000
20. Supplies Office, computer, and general supplies.	\$35,125	\$31,200
21. Equipment Purchase of equipment for repair and rehabilitation of SAM facilities not captured in infrastructure projects.	\$212,800	\$208,000
22. Infrastructure There are no project costs budgeted to Treatment. These costs are generally reflected in the Infrastructure division and exceed \$50,000 per project.	\$0	\$0
23. Claims/Penalties There are no claims/penalties budgeted to Treatment.	\$0	\$0

FISCAL YEAR 2018/19

Budget Line #	FY2017/18	FY 2018/19
24. Non-Personnel Subtotal Subtotal of all costs not associated with wages and benefits.	\$1,462,075	\$1,579,900
25. Total Total of all costs for Treatment (sum of Personnel and Non-Personnel subtotals).	\$2,479,794	\$2,944,958

The significant changes in the Treatment division from FY 2017/18 included in the FY 2018/19 budget are:

1. Reallocated 0.50 FTE of Engineer (was Engineering & Construction Contracts Manager) from Infrastructure to Treatment to reflect the support provided for Treatment-related functions.
2. Add two new positions (Operator-in-Training and Utility Worker) to address manhour needs as well as succession planning.
3. Increased the retirement contributions budget to CalPERS for classic employees based on projected rate changes and blended with PEPRA rates.
4. Small (<\$50k) repair/replace projects at plant and pump stations.
5. Increased funds for preventive maintenance on electrical, pumps, and other key equipment.

GOALS

- Operate the wastewater system for current and future customers with safe, efficient, and cost-effective treatment services.
- Achieve 100% compliance with all NPDES limits for conventional pollutants.
- Maintain appropriate capacities and effective operations and assure no spills or overflows at SAM facilities.
- Maintain SAM facilities at a level that assures uninterrupted quality service and no process interruptions due to equipment failures.
- Promote the development and education of staff to assure the ongoing ability to operate, maintain, troubleshoot and repair all systems and equipment.
- Maintain equipment and facilities to improve reliability and reduce operating and maintenance costs.

HIGHLIGHTS

- Performed process related laboratory analysis for the Environmental Compliance division on weekends.
- Conducted all required annual safety training programs.
- Administered the Trucked Waste Acceptance Program.
- Worked to optimize processes to improve reliability.
- Developed and implemented standard operating procedures (SOPs) for operations and maintenance functions.
- Purchased and implemented new computer maintenance management system to replace outdated system.

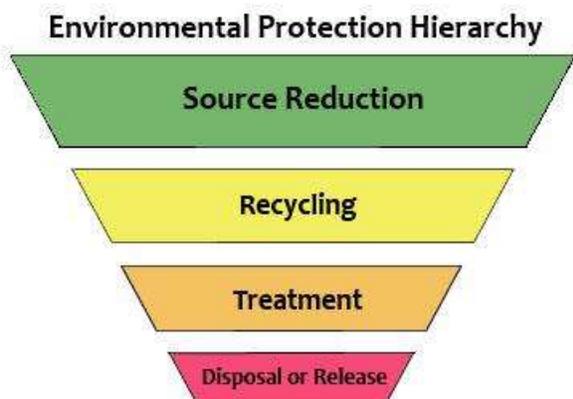
PROGRAM OBJECTIVES

- Perform required preventive and predictive maintenance to eliminate spills, overflows, bypasses, or discharge permit violations, and to minimize the possibility of equipment breakdowns
- Promote comprehensive training of division personnel.
- Continue to promote and provide a safe and healthy environment for all staff, contractors, and community.
- Develop and implement maintenance plan for routine maintenance on all equipment.

PERFORMANCE MEASURES

- Meet all effluent quality targets described in the NPDES permit.
- Perform all routine maintenance tasks in a timely manner.

ENVIRONMENTAL COMPLIANCE DIVISION



PROGRAM DESCRIPTION

The Environmental Compliance division provides services and oversight in four areas: National Pollutant Discharge Elimination System (NPDES) permit compliance, Laboratory Operations, Non-Domestic Waste Source Control (NDWSCP) Program, and Pollution Prevention (P2) Program. NPDES permit compliance involves maintaining compliance with permit parameters, implementing investigations and additional sampling programs to address specific pollutants, developing action plans to reduce these pollutants and reporting levels of progress to the Regional Board. The in-house laboratory conducts analyses of various plant samples for process control, some NPDES permit parameters, and special projects as needed. We do contract with outside lab analysis for NPDES requirements that our in-house lab is not certified to do to be in compliance with ELPA, (Environmental Lab Accreditation Program).

The NDWSC Program includes evaluating facilities and dischargers within SAM's service area that could adversely affect the SAM collection system and/or treatment plant, evaluating discharge permit applications and issuing permits, performing inspections, sampling and monitoring and conducting enforcement when needed. The P2 Program focuses on educating commercial businesses and residents on pollutants that are harmful to the collection system, treatment plant and the environment, including fats, oils, and grease (F.O.G.), and how to reduce or eliminate them. Public information, plant tours, and participation in outreach activities are significant elements.

Division functions are supervised by the Operations Superintendent. The following organizational chart reflects the reporting structure of the division.



FISCAL YEAR 2018/19

The following staffing summary reflects the historical cost allocation for the division.

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Regular Positions	0.25	0.25	0.225	0.275	0.50	0.25	0.25

FINANCIAL HIGHLIGHTS

The following is a list of key budget categories, what is included in each category, and the changes between the FY 2017/18 and 2018/19 budgets.

<u>Budget Line #</u>	<u>FY2017/18</u>	<u>FY 2018/19</u>
1. Wages Increased for COLA adjustments of 3%.	\$33,284	\$36,886
2. Premium Pay Special compensation for certification above that required by the position.	\$791	\$815
3. Health Benefits The cost of medical, dental, and vision benefits provided to employees based on the MOU or Unrepresented Employees Manual.	\$6,217	\$6,217
4. Retirement Contributions SAM pays the employer contribution but no portion of the employee contribution to CalPERS for retirement benefits. SAM is in compliance with PEPRA.	\$8,577	\$8,920
5. Retirement Medical Increased to reflect contributions to an OPEB trust in compliance with GASB as well as current retiree medical premiums.	\$524	\$578
6. Misc. Benefits Includes Medicare, long-term and short-term disability, workers compensation, and matching funds to a 457 plan.	\$1,080	\$2,300
7. Personnel Sub-total Subtotal of all costs associated with SAM staff wages and benefits.	\$50,472	\$55,716

FISCAL YEAR 2018/19

<u>Budget Line #</u>	<u>FY2017/18</u>	<u>FY 2018/19</u>
8. Legal Services There are no legal services budgeted to EC.	\$0	\$0
9. Engineering Services There are no engineering costs budgeted to EC.	\$0	\$0
10. Professional Services Services that are specialized and must be performed by outside laboratories and consultants (SVCW, laboratories, SMCRCD, event registration, etc.). Change reflects required outreach program expenses.	\$92,550	\$60,550
11. Professional Membership The cost of the laboratory certification.	\$100	\$100
12. Insurance Premiums There are no insurance premiums budgeted to EC.	\$0	\$0
13. Misc. Expenses Includes incidental expenses (outreach materials, postage, etc.) not reflected in other categories.	\$650	\$10,600
14. Utilities There are no utility costs budgeted to EC.	\$0	\$0
15. Travel & Training Training and travel related costs for attendance at industry conferences, seminars, and other related events to keep current on technical skills and industry practices and required safety training.	\$3,300	\$3,450
16. Equipment Rental/Lease Short-term rental or lease of equipment (generators, storage tanks, etc.) for less than a fiscal year.	\$0	\$0
17. Building & Maintenance Services There are no building maintenance services budgeted to EC.	\$0	\$0
18. Chemicals Includes chemicals used in the laboratory.	\$5,000	\$5,000

FISCAL YEAR 2018/19

Budget Line #	FY2017/18	FY 2018/19
19. Permits & Licenses There are no permits or licenses budgeted to EC.	\$0	\$0
20. Supplies Lab and general supplies including materials for biology student field trips to the plant.	\$10,016	\$11,251
21. Equipment Purchase of equipment and tools for the laboratory to replace noncompliant or inoperable equipment.	\$3,000	\$3,000
22. Infrastructure Projects There are no project costs budgeted to EC.	\$0	\$0
23. Claims/Penalties There are no claims or penalties budgeted to EC.	\$0	\$0
24. Non-Personnel Subtotal Subtotal of all costs not associated with wages and benefits.	\$114,616	\$93,951
25. Total Total of all costs for EC (sum of Personnel and Non-Personnel subtotals).	\$165,088	\$149,667

The significant changes in the Environmental Compliance division from the Adopted Budget for FY 2015/16 included in the FY 2016/17 budget are:

1. Increased retirement contributions to CalPERS for classic employees based on projected rate changes.
2. Increased professional services to reflect costs associated with pollution prevention and outreach requirements in new NPDES permit.

GOALS

- Achieve and maintain 100 % compliance with the District's NPDES permit requirements, including the NDWSC and Pollution Prevention (P2) programs.
- Promote and maintain a positive, safe and productive work environment while cultivating a sense of environmental stewardship.
- Promote and maintain representative sampling, perform exceptional analyses and accurately report data collected to evaluate industrial and commercial

discharges, the operational status of the treatment plant and the quality of the bio-solids generated.

- Effectively regulate dischargers of industrial, commercial and other types of wastewater to protect the sanitary sewer system, the treatment plant, staff, the public and the environment.
- Effectively implement the Pollution Prevention (P2) Program and provide public outreach to reduce and or prevent the discharge of pollutants to the collection system, treatment plant and the environment; this includes implementing tools to measure the progress of these efforts.
- Effectively build and maintain partnerships with other agencies that have similar requirements and goals (Green Business Program, Household Hazardous Waste/Pharmaceutical Collection, Bay Area Pollution Prevention Group, etc.)
- Maintain Environmental Laboratory Accreditation Program (ELAP) certification for conventional pollutants and coliform bacteria.

ACHIEVEMENTS

- Identified deficiencies in the necessary ELAP certification requirements and implemented necessary changes.
- Performed the annual NDWSC program inspections and sampling at commercial facilities and inspections at food service establishments (FSEs) and dentists in the SAM's service area.
- Conducted classroom tours of the treatment plant for over 280 students.

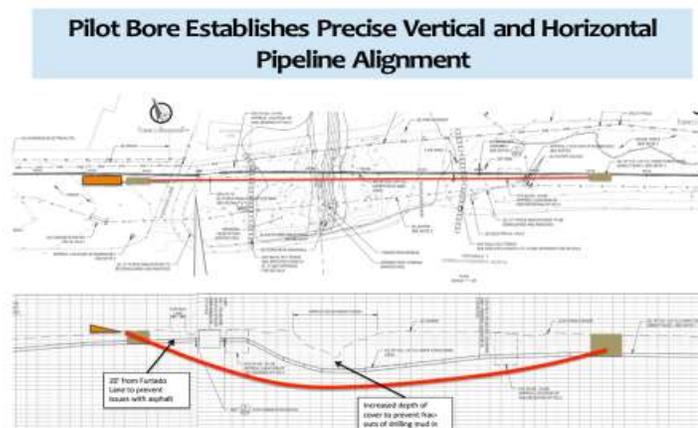
PROGRAM OBJECTIVES

- Perform all required sampling, inspections, studies and outreach to comply with the District's NPDES permit, NDWSCP and Pollution Prevention programs, F.O.G. program, and process control.
- Maintain compliance with all programs and requirements listed above.
- Maintain ELAP certification for laboratory functions.
- Continue to educate and increase the level of awareness on pollution prevention and water quality issues with the goals of changing behavior and decreasing the volume of pollutants entering the treatment plant and the bay.
- Participate in public outreach activities such as the Half Moon Bay Art & Pumpkin Festival and Pacific Coast Dream Machines.
- Distributed informational materials, brochures, and notices regarding proper discharge of wastes to residents, commercial businesses, and public events.
- Coordinate Plant Tour program for Half Moon Bay High School biology students.

PERFORMANCE MEASURES

- Complete 100% NDWSCP inspections as required by SAM permits.
- Meet and maintain ELAP compliance requirements.
- Complete all of the necessary annual continued learning units to maintain required Environmental Compliance Inspector and Laboratory Analyst certifications from the California Water Environment Association.

INFRASTRUCTURE DIVISION



PROGRAM DESCRIPTION

The Infrastructure Division is responsible for the management and technical support necessary to develop and manage an infrastructure program and provide project management and construction inspection services of SAM facilities.

Division services are managed by the Engineer; however, none of the related personnel costs are allocated to this division. The following staffing summary reflects the historical cost allocation to this division.

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Regular Positions	0.00	0.00	0.00	0.00	0.80	0.50	0.0

FINANCIAL HIGHLIGHTS

The following is a list of key budget categories, what is included in each category, and the changes between the FY 2017/18 and 2018/19 budgets.

Budget Line #	FY2017/18	FY 2018/19
1. Wages All personnel costs have been reallocated to Treatment.	\$60,831	\$0
2. Premium Pay All personnel costs have been reallocated to Treatment.	\$0	\$0
3. Health Benefits All personnel costs have been reallocated to Treatment.	\$11,730	\$0
4. Retirement Contributions All personnel costs have been reallocated to Treatment.	\$4,206	\$0

FISCAL YEAR 2018/19

<u>Budget Line #</u>	<u>FY2017/18</u>	<u>FY 2018/19</u>
5. Retirement Medical All personnel costs have been reallocated to Treatment.	\$915	\$0
6. Misc. Benefits All personnel costs have been reallocated to Treatment.	\$4,143	\$0
7. Personnel Subtotal Subtotal of all costs associated with staff wages and benefits.	\$81,825	\$0
8. Legal Services Costs associated with general contract review reallocated to Administration.	\$500	\$0
9. Engineering Services Engineering services requiring specialized certification or skills will be performed by consulting engineers.	\$100,000	\$85,000
10. Professional Services Specialized services that cannot be provided by staff.	\$10,000	\$200,000
11. Professional Memberships There are no professional memberships budgeted to Infrastructure.	\$0	\$0
12. Insurance Premiums There are no insurance premiums budgeted to Infrastructure.	\$0	\$0
13. Misc. Expenses There are no utilities budgeted to Infrastructure.	\$1,175	\$0
14. Utilities There are no utilities budgeted to Infrastructure.	\$0	\$0
15. Travel & Training There are no costs budgeted to Infrastructure.	\$550	\$0
16. Building & Maintenance Services Preventive maintenance and emergency repairs on structures and stationary equipment that do not extend the life expectancy of the asset.	\$0	\$0

FISCAL YEAR 2018/19

<u>Budget Line #</u>	<u>FY2017/18</u>	<u>FY 2018/19</u>
17. Chemicals There are no chemical costs budgeted to Infrastructure.	\$0	\$0
18. Permits & Licenses There are no permit and license costs budgeted to Infrastructure.	\$0	\$0
19. Supplies There are no supply costs budgeted to Infrastructure.	\$0	\$0
20. Equipment Equipment costs associated with projects that exceed \$50,000 each.	\$0	\$100,000
21. Tools There are no tool costs budgeted to Infrastructure.	\$0	\$0
22. Infrastructure Contract construction costs are included in this category. Includes costs associated with projects that exceed \$50,000 each.	\$1,311,500	\$1,332,500
23. Claims/Penalties There are no costs budgeted to Infrastructure.	\$0	\$0
24. Non-Personnel Subtotal Subtotal of all costs not associated with wages and benefits.	\$1,423,175	\$1,717,500
25. Total Total of all costs for Treatment (sum of Personnel and Non-Personnel subtotals).	\$1,505,000	\$1,717,500

The Infrastructure division budget increased from \$1.51 million in Fiscal Year 2017/18 to \$1.72 million. The significant changes in the Infrastructure division included in the FY 2018/19 budget are:

1. Reallocated wage and benefit costs of 0.50 Engineer (was Engineering & Construction Contracts Manager) to Treatment division.

FISCAL YEAR 2018/19

2. Increased the Infrastructure budget by \$212,500 to fund Priority Level 1 projects. The projects planned for this fiscal year are:

➤ Portola Pump Station Replacement Pump	\$202,500
➤ Replace ATS at all three pump stations	\$225,000
➤ Replace Electrical Switch Gear at Plant	\$500,000
➤ Replace Force Air Ventilation System at Plant	\$100,000
➤ Wet Weather Storage Expansion	\$690,000

GOALS

- To provide engineering analysis and project development for cost effective implementation of all SAM facility infrastructure projects.
- To effectively plan and implement future rehabilitation and replacement of the facilities to maintain an efficient, reliable system and to provide timely response with plan review for new development.
- To maintain accurate reproducible records of facility improvements and records.
- To keep informed of all construction that may affect SAM facilities.

HIGHLIGHTS

- Directed design approval, implementation and construction inspection for all facility projects.
- Infrastructure Projects completed in FY 2017/18:
 - 20-Year Capital Improvement Plan
 - IPS Repair Project Segments 1 – 3

PROGRAM OBJECTIVES

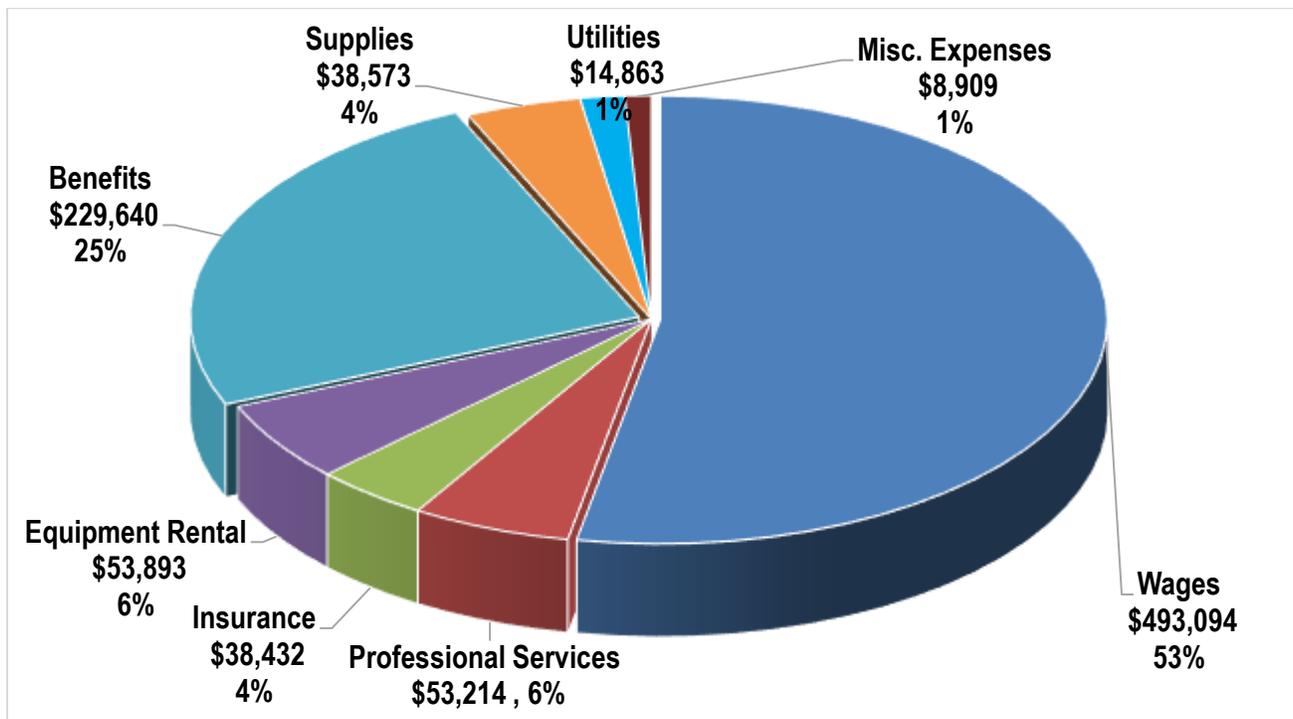
- Provide research, design, bidding and construction inspection services for infrastructure projects.
- Prioritize infrastructure projects to meet SAM needs, compliance with new regulatory requirements, and update 5-Year CIP.

CONTRACT COLLECTION SERVICES BUDGET

Each year SAM makes assumptions regarding revenue and expenses. While some of the expenses are outside of SAM's control (utilities, collection flow levels, emergency repairs), it is still possible to estimate the cost from year to year. The Board and the contracting agencies expect staff to continue to identify areas that can be made more efficient and cost effective.

The budget includes obligations for wages and benefits as stipulated in employment and bargaining contracts, increases in retirement contributions, utilities, fuel, and other non-discretionary expenses. Costs were recommended by staff based on identified needs and industry best practices.

As for most service agencies, the most significant costs are for employee wages (53%) and benefits (25%). Providing necessary equipment (6%) and professional support services (6%) required to meet the scope of services are the next largest portions of the budget.



The overall change from the Contract Collection Services Budget for Fiscal Year 2017/18 to Fiscal Year 2018/19 is an increase of \$117,059 (14%). Each agency is invoiced monthly for one-twelfth of the annual cost as well as any requests for reimbursement for contract services performed by vendors in response to requests by the contracting agency.

The change in assessments to each member agency is shown in the following table.

FISCAL YEAR 2018/19

	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	\$ Change	%
	<u>Actual</u>	<u>Actual</u>	<u>Adopted</u>	<u>Proposed</u>	<u>Adopted</u>	<u>Change</u>
Half Moon Bay	\$ 319,741	\$ 351,881	\$ 274,596	\$ 310,908	\$ 36,312	13%
GCSD	\$ 242,391	\$ 242,350	\$ 239,954	\$ 284,500	\$ 44,546	19%
MWSD	<u>\$ 325,958</u>	<u>\$ 321,608</u>	<u>\$ 279,411</u>	<u>\$ 328,036</u>	<u>\$ 48,625</u>	<u>17%</u>
Total	\$ 888,090	\$ 915,839	\$ 793,961	\$ 923,444	\$ 129,483	16%

The primary change in the assessments is that the cost of services methodology for HMB is based on SAM's proposal in response to the Request for Proposals, which reflects the requested change in service levels. The changes for GCSD and MWSD are based on the cost of services methodology used for HMB but reflecting no change in service levels (status quo). The amount assessed for each agency FY 2018/19 assumes that SAM continues to collect the FOG inspection fees on behalf of GCSD and MWSD only.

CONTRACT COLLECTION SERVICES

Consolidated (Half Moon Bay, GCSD, MWSD)

	FY 2015/16 ACTUAL	FY 2016/17 ACTUAL	FY 2017/18 ADOPTED	FY 2017/18 ESTIMATE	FY 2018/19 PROPOSED	CHANGE FROM FY 2017/18 ADOPTED
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EXPENDITURES

Personnel

1	Wages	430,134	317,229	390,503	342,945	446,177	55,674	14%
2	Premium Pay	15,545	60,217	48,096	36,868	46,917	(1,179)	-2%
3	Health Benefits	129,030	93,486	117,300	90,651	128,663	11,363	10%
4	Retirement Cont.	71,986	46,635	45,043	28,624	53,499	8,456	19%
5	Retirement Medical	11,942	14,461	5,856	5,342	6,693	837	14%
6	Misc. Benefits	12,233	(8,804)	37,016	27,437	40,785	3,769	10%
7	Subtotal	670,870	523,224	643,813	531,867	722,734	78,920	12%

Non-Personnel

8	Legal Services	-	-	-	-	-	-	0%
9	Engineering Services	-	-	-	-	-	-	0%
10	Professional Services	37,454	153,956	36,400	51,619	53,214	16,814	46%
11	Prof. Memberships	245	1,056	259	183	802	543	210%
12	Insurance Premiums	51,718	71,996	77,761	77,761	38,432	(39,329)	-51%
13	Misc. Expenses	47,103	5,374	5,446	4,359	6,232	786	14%
14	Utilities	942	10,667	12,500	9,328	14,863	2,363	19%
15	Travel & Training	10,666	1,533	2,880	2,387	1,875	(1,005)	-35%
16	Equipment Rental	-	-	100	-	53,893	53,793	53793%
17	Bldg & Maint Services	22	97,568	-	117,994	-	-	0%
18	Chemicals	-	4,153	941	3,877	3,238	2,297	244%
19	Permits & Licenses	-	3,338	6,400	-	-	(6,400)	-100%
20	Supplies	16,229	26,960	18,118	27,628	35,335	17,217	95%
21	Equipment	57,425	2,033	8,942	-	-	(8,942)	-100%
22	Infrastructure	-	-	-	-	-	-	0%
23	Claims/Penalties	-	-	-	-	-	-	0%
24	Subtotal	221,804	378,634	169,747	295,135	207,885	38,138	22%

25	TOTAL	892,674	901,858	813,560	827,002	930,619	117,059	14%
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Key Changes

COLA and applicable step increases for field staff.	\$ 25,976
QA/QC and support services previously subsidized by JPA.	\$ 37,184
No longer providing FOG inspections and related services for HMB per RFP.	\$ (10,240)
Services to cover for employee leave, training, and technical support.	\$ 11,000
Rent/lease equipment from JPA instead of purchasing as part of CCS.	\$ 53,793
Pooled liability insurance through CSRMA for GCSD and MWSD only.	\$ (39,329)
All vehicles and equipment belong to JPA along with maintenance costs.	\$ (8,942)
Safety supplies, general supplies, and services previously allocated by % share.	\$ 32,617
Services supporting 3 SSOs per year for HMB only.	\$ 15,000
	\$ 117,059

CONTRACT COLLECTION SERVICES

Consolidated (Half Moon Bay, GCSD, MWSD)

	FY 2015/16 ACTUAL	FY 2016/17 ACTUAL	FY 2017/18 ADOPTED	FY 2017/18 ESTIMATE	FY 2018/19 PROPOSED	CHANGE FROM FY 2017/18 ADOPTED	
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REVENUE

By Type:

26 JPA Assessments	-	-	-	-	-	-	0%
27 Contract Services	888,090	915,839	793,961	807,402	923,444	129,483	16%
28 NDWSCP Fees	-	-	19,600	19,600	7,175	(12,425)	-63%
29 Misc. Fees	-	-	-	-	-	-	0%
30 Interest Earnings	-	-	-	-	-	-	0%
31 Misc. Revenue	-	-	-	-	-	-	0%
32 From/(To) Reserves	-	-	-	-	-	-	0%
33	888,090	915,839	813,561	827,002	930,619	117,058	14%

By Agency:

34 Half Moon Bay	319,741	351,881	274,596	281,645	310,908	36,312	13%
35 Granada CSD	242,391	242,350	239,954	226,623	284,500	44,546	19%
36 Montara WSD	325,958	321,608	279,411	299,133	328,036	48,625	17%
37	888,090	915,839	793,961	807,402	923,444	129,483	16%

Key Changes

SAM continues to perform and invoice for FOG inspections for GCSD and MWSD.

Cost of services based on methodology used for proposal to HMB.

<u>Funded Positions:</u>	6.47	4.75	5.00	5.00	5.00	-	0%
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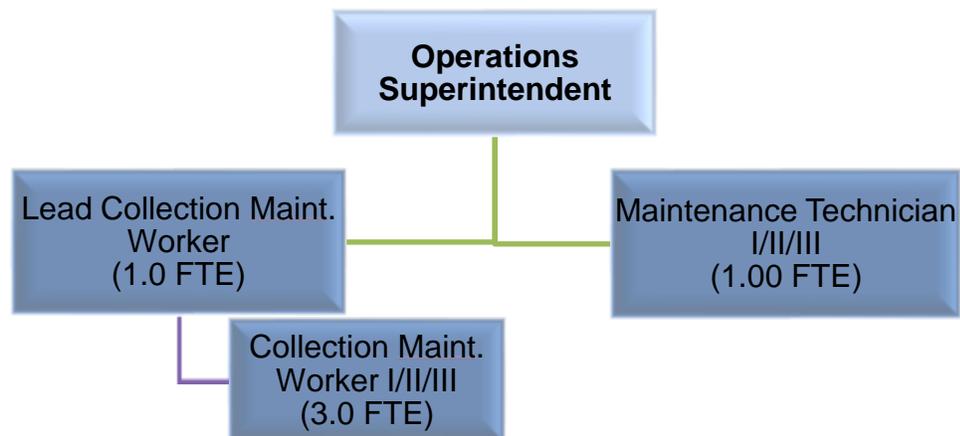


CONTRACT COLLECTION SERVICES

The Contract Collection Services (CCS) division budget is a discrete function at SAM and not included in the JEPA. This division provides preventive and corrective maintenance of the wastewater main lines and lift stations and responds to customer requests for service for the City of Half Moon Bay, Granada Community Services District, and the Montara Water & Sanitary District. The service levels are identified in the service agreements between SAM and each contracting agency.

Starting with FY 2017/18, the allocation of costs between the contracting agencies was based on the percentage of total lines cleaned and percentage of lift stations maintained rather than on a percentage of total CCS man hours.

This program is managed by the Operations Superintendent. The following chart reflects the organizational structure.



FISCAL YEAR 2018/19

The following staffing summary reflects the historical cost allocation for this function.

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Positions	6.15	6.15	6.15	6.47	4.75	5.00	5.00

The following pages provide the Contract Collection Services budget line items as well as the cost allocation for each contracting agency.

FINANCIAL HIGHLIGHTS

The following is a list of key budget categories, what is included in each category, and the changes between the FY 2017/18 and 2018/19 budgets.

Budget Line #	FY 2017/18	FY 2018/19
1. Wages Increased for COLA adjustments of 3% per MOU and merit step increases, where applicable.	\$390,503	\$446,177
2. Premium Pay Includes overtime paid for staff to perform tasks outside of normal work times as well as standby pay.	\$48,096	\$46,917
3. Health Benefits The cost of medical, dental, and vision benefits provided to employees based on the MOU.	\$117,300	\$128,663
4. Retirement Contributions SAM pays the employer contribution but no portion of the employee contribution to CalPERS for retirement benefits. SAM is in compliance with PEPRA.	\$45,043	\$53,499
5. Retirement Medical Reflects contributions to an OPEB fund in compliance with GASB.	\$5,856	\$6,693
6. Misc. Benefits Includes Medicare, long-term and short-term disability, and workers compensation premiums.	\$37,016	\$40,785
7. Personnel Subtotal Subtotal of all costs associated with SAM staff wages and benefits.	\$643,813	\$722,734

FISCAL YEAR 2018/19

<u>Budget Line #</u>	<u>FY 2017/18</u>	<u>FY 2018/19</u>
8. Legal Services There are no legal services budgeted to CCS.	\$0	\$0
9. Engineering Services There are no engineering costs budgeted to CCS.	\$0	\$0
10. Professional Services Includes ongoing services that are specialized and need to be performed by consultants rather than staff.	\$36,400	\$53,214
11. Professional Membership Includes memberships in professional organizations (CWEA) for SAM to keep current on industry practices and service delivery improvements.	\$259	\$802
12. Insurance Premiums The liability insurance premiums for coverage of the member agencies' collection systems are charged to this budget. Assumes that HMB is no longer covered under this pooled plan.	\$77,761	\$38,432
13. Misc. Expenses Includes incidental expenses (employee physicals, uniform laundry services, radio and alarm systems, etc.) not captured in other categories.	\$5,446	\$6,232
14. Utilities Water for cleaning the sewer lines and cell phone reimbursement for CCS staff.	\$12,500	\$14,863
15. Travel & Training Training and travel related costs for required safety and industry training.	\$2,880	\$1,875
16. Equipment Rental/Lease Rental or lease of equipment necessary to perform the identified scope of services.	\$100	\$53,893
17. Building & Maintenance Services This line reflects the maintenance work performed through 3 rd party vendors. There is no budget and expenses are billed only if approved by the agency.	\$0	\$0

FISCAL YEAR 2018/19

18. Chemicals	\$941	\$3,238
Chemicals are purchased to address issues at the contracting agency lift stations as needed.		
19. Permits	\$6,400	\$0
There are no permit fees budgeted to CCS.		
20. Supplies	\$18,118	\$35,335
Safety, general, and miscellaneous supplies necessary to perform the contract services.		
21. Equipment	\$8,942	\$0
There are no equipment costs budgeted to CCS. All equipment used for the CCS program owned by SAM.		
22. Infrastructure	\$0	\$0
SAM does not perform infrastructure work as part of CCS.		
23. Claims/Penalties	\$0	\$0
There are no claims/penalties budgeted to CCS. Claim recovery costs are reimbursed by the contracting agency when they occur.		
24. Non-Personnel Subtotal	\$169,747	\$207,885
Subtotal of all costs not associated with wages and benefits.		
25. Total	\$813,560	\$930,619
Total of all costs for Treatment (sum of Personnel and Non-Personnel subtotals).		

The significant changes in the Contract Collection Services department from FY 2017/18 included in FY 2018/19 budget are:

1. The budget for HMB is based on the services described in the Request for Proposals issued by the City. For GCSD and MWSD, each agency's budget is based on the services currently provided by SAM (status quo) based on the same cost for service methodology used for the HMB proposal.
2. QA/QC and support services previously subsidized by JPA now charged to each agency based on cost for service methodology.
3. Rent or lease equipment from JPA rather than CCS purchasing it.

4. Pooled liability insurance through CSRMA for GCSD and MWSD only.
5. Safety supplies, general supplies, and services previously allocated by percentage share of total service hours.

GOALS

- Perform all scheduled and emergency maintenance at the service levels defined in the scope of service for each agency.
- Reduce sanitary sewer overflows (SSOs) through use of industry best practices.
- Provide customers with quick, knowledgeable, and complete response to calls.
- Promote the development and education of staff to assure the ongoing ability to maintain, troubleshoot and repair all systems and equipment.

HIGHLIGHTS

- Cleaned participating agency sewer lines as required in the service agreements.
- Responded to service requests as required in the service agreements.
- Responded to all emergency service requests within 60 minutes or less.
- Performed preventive maintenance at all contract lift stations to maintain station reliability.
- Conducted all required annual safety training programs.
- Responded to requests for USA markings.
- Performed connection inspections for GCSD as requested.
- Performed project oversight as requested by contracting agencies.

PROGRAM OBJECTIVES

- Perform required preventive and predictive maintenance to eliminate spills, overflows, and to minimize the possibility of equipment breakdowns
- Continue to promote and provide a safe environment for all staff.
- Develop and implement standard operating procedures (SOPs) for contract collection and maintenance functions.
- Develop and implement maintenance plan for routine equipment maintenance.
- Perform annual F.O.G. program inspections on behalf of contracting agencies.

PERFORMANCE MEASURES

- Clean all segments of contracting agency sewer lines each year for regular cleaning and more frequently for “hot spots” or problem areas.
- Reduce sanitary sewer overflows (SSOs) to achieve the goal of no spills.
- No lost time due to injuries or accidents.

FISCAL YEAR 2018/19

- Completion of 100% of required annual safety trainings.
- Respond to 100% of emergency service requests within 60 minutes.
- Achieve 100% customer satisfaction for all service calls.



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: **May 31, 2018**

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

A handwritten signature in black ink, appearing to be 'CH'.

SUBJECT: Review and Possible Action Concerning Draft Water and Sewer Budgets and Capital Improvement Programs.

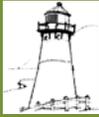
Every year the Board reviews MWSD's budgets in draft form to provide input to staff . At this time sewer flows are still being assessed by the consultant and sewer revenue unknown. Water and sewer CIP's are also in need to be refined and are still reviewed by staff.

Peter Medina with Maze associates is available to present the draft budget.

RECOMMENDATION:

This item is for Board discussion and direction to staff. The finalized budgets will be presented for adoption at a subsequent meeting.

Attachments



Montara Water & Sanitary Budgeted Cash Flow - Sewer Fiscal year 2018-2019

Cash flow summary
Operating cash flow

Operating income	FY 2017-2018	FY 2018-2019	Variance (%)	Variance (\$)
Sewer Service Charges	\$ 1,999,171	\$ 1,998,171	-0.05%	\$ (1,000)
Cell Tower Lease	\$ 34,300	\$ 35,500	3.50%	\$ 1,200
Fees & Other	\$ 17,000	\$ 17,000	0.00%	\$ -
Property Tax	\$ 235,000	\$ 275,000	17.02%	\$ 40,000
Waste Collection Revenues	\$ 22,000	\$ 22,000	0.00%	\$ -
Total operating income	\$ 2,307,471	\$ 2,347,671		
Operating expenses				
Personnel	\$ (306,639)	\$ (315,649)	2.94%	\$ 9,010
Professional Services	\$ (114,950)	\$ (222,000)	93.13%	\$ 107,050
Facilities & Administration	\$ (46,100)	\$ (53,600)	16.27%	\$ 7,500
Engineering	\$ (52,000)	\$ (52,000)	0.00%	\$ -
Pumping	\$ (32,000)	\$ (41,000)	28.13%	\$ 9,000
Sewer Authority Mid-Coastside	\$ (1,635,254)	\$ (1,667,183)	1.95%	\$ 31,929
All other Accounts	\$ (53,860)	\$ (57,635)	7.01%	\$ 3,775
Total operating expenses	\$ (2,240,803)	\$ (2,409,067)		
Net Cash Flow Provided by Operations	\$ 66,668	\$ (61,396)		
Investment cash flow				
Investment income				
Interest Revenue	\$ 15,000	\$ 40,000	166.67%	\$ 25,000
Total investment income	\$ 15,000	\$ 40,000		
Investment expenses				
Capital Improvement Program	\$ (1,640,000)	\$ (827,500)	-49.54%	\$ (812,500)
SAM Capital Assessment	\$ -	\$ -	0.00%	\$ -
Total investment expenses	\$ (1,640,000)	\$ (827,500)		
Net Cash Flow Used by Investments	\$ (1,625,000)	\$ (787,500)		
Financing cash flow				
Financing income				
Connection Fees	\$ 194,576	\$ 194,600	0.01%	\$ 24
Total financing income	\$ 194,576	\$ 194,600		
Financing expenses				
Loan Interest Expense	\$ (42,634)	\$ (40,307)	-5.46%	\$ (2,326)
Loan Principal Payment	\$ (75,179)	\$ (81,092)	7.87%	\$ 5,913
Total financing expenses	\$ (117,813)	\$ (121,399)		
Net Cash Flow Provided by Financing Activities	\$ 76,763	\$ 73,201		
Overall projected cash flow	\$ (1,481,568)	\$ (775,696)		
Transfer to Sewer Reserves	\$ 1,481,568	\$ 775,696		
Net cash flow	\$ -	\$ -		



Montara Water & Sanitary

Budgeted Cash Flow - Water

Fiscal year 2018-2019

Cash flow summary

Operating cash flow

Operating income	FY 2017-2018	FY 2018-2019	Variance (%)	Variance (\$)
Water Sales	\$ 1,912,496	\$ 2,013,000	5.26%	\$ 100,504
Cell Tower Lease	\$ 34,300	\$ 35,500	3.50%	\$ 1,200
Fees & Other	\$ 12,050	\$ 12,050	0.00%	\$ -
Property Tax	\$ 235,000	\$ 275,000	17.02%	\$ 40,000
Backflow Testing & Other	\$ 13,000	\$ 16,000	23.08%	\$ 3,000
Total operating income	\$ 2,206,846	\$ 2,351,550		
Operating expenses				
Personnel	\$ (769,260)	\$ (914,480)	18.88%	\$ 145,219
Professional Services	\$ (139,700)	\$ (140,000)	0.21%	\$ 300
Facilities & Administration	\$ (57,380)	\$ (58,000)	1.08%	\$ 620
Engineering	\$ (87,000)	\$ (120,500)	38.51%	\$ 33,500
Pumping	\$ (109,000)	\$ (110,700)	1.56%	\$ 1,700
Supply	\$ (52,000)	\$ (52,100)	0.19%	\$ 100
Collection/Transmission	\$ (94,500)	\$ (81,500)	-13.76%	\$ (13,000)
Treatment	\$ (64,000)	\$ (61,000)	-4.69%	\$ (3,000)
All Other Accounts	\$ (130,600)	\$ (454,636)	248.11%	\$ 324,036
Total operating expenses	\$ (1,503,440)	\$ (1,992,916)		
Net Cash Flow Provided by Operations	\$ 703,406	\$ 358,634		
Investment cash flow				
Investment income				
GO Bonds, Assessment Receipts	\$ 1,150,436	\$ 1,150,436	0.00%	\$ -
Total investment income	\$ 1,150,436	\$ 1,150,436		
Investment expenses				
Capital Improvement Program	\$ (713,500)	\$ (1,106,000)	55.01%	\$ 392,500
Total investment expenses	\$ (713,500)	\$ (1,106,000)		
Net Cash Flow Used by Investments	\$ 436,936	\$ 44,436		
Financing cash flow				
Financing income				
Connection Fees	\$ 253,020	\$ 253,020	0.00%	\$ -
Total financing income	\$ 253,020	\$ 253,020		
Financing expenses				
Long Term Debt - Interest Expense	\$ (326,530)	\$ (347,802)	6.51%	\$ 21,272
Long Term Debt - Principal Payment	\$ (1,062,675)	\$ (1,200,079)	12.93%	\$ 137,404
Total financing expenses	\$ (1,389,205)	\$ (1,547,881)		
Net Cash Flow Provided by Financing Activities	\$ (1,136,185)	\$ (1,294,861)		
Overall projected cash flow	\$ 4,157	\$ (891,790)		
Transfer from Water Reserves	\$ 4,157	\$ (891,790)		
Net cash flow	\$ -	\$ -		



MWSD — Fiscal Year 2018-19 Operations Budget - SEWER ENTERPRISE

Operating Revenue	GL Codes	2015-16 Actual	2016-17 Actual	Approved		Income/Expenditure s as of March 31,			Projected as % of Budget	Proposed Budgeted amounts 2018-19	Increase/(Decrease) from 2016-2017 \$	Increase/(decrease) %
				Budget 2017-18	2018	% To date	Projected					
Cell Tower Lease:	4220	33,500	34,427	34,300	26,589	77.52%	35,452	103.36%	35,500	1,200	3.50%	
Administrative Fees (New Construction):	4410	3,318	3,409	3,500	3,030	86.57%	4,040	115.43%	3,500			
Administrative Fees (Remodel):	4420	1,422	1,448	2,000	708	35.40%	944	47.20%	2,000			
Inspection Fees (New Construction):	4430	3,136	3,220	3,500	2,862	81.77%	3,816	109.03%	3,500			
Inspection Fees (Remodel):	4440	3,219	3,748	4,000	110	2.75%	147	3.67%	4,000			
Mainline Extension Fees:	4450										#DIV/0!	
Remodel Fees:	4460	2,222	15,844	4,000	7,398	184.95%	9,864	246.60%	4,000			
Grants:	4510										#DIV/0!	
Property Tax Receipts:	4610	325,926	340,018	235,000	264,130	112.40%	352,174	149.86%	275,000	40,000	17.02%	
Sewer Service Charges:	4710	2,063,335	1,975,325	2,003,171	1,161,964	58.01%	2,003,171	100.00%	2,003,171			
Sewer Service Refunds, Customer:	4720	(8,386)	(10,530)	(4,000)	(2,003)	50.07%	(2,670)	66.76%	(5,000)	(1,000)	25.00%	
Waste Collection Revenues:	4760	19,350	23,130	22,000	15,252	69.33%	20,336	92.44%	22,000			
Other Revenue:	4990	155	433		3,368	100.00%	4,491	100.00%				
Total Operating Revenue:		2,447,196	2,390,473	2,307,471	1,483,410	64.29%	2,431,764	105.39%	2,347,671	40,200	1.74%	
Operating Expenses												
Bank Fees:	5190	3,363	6,692	6,500	5,463	84.05%	6,532	100.49%	6,500			
Board Meetings:	5210	3,282	4,169	4,000	1,341	33.54%	2,012	50.31%	3,000	(1,000)	-25.00%	
Director Fees:	5220	2,363	2,665	3,300	3,000	90.91%	4,500	136.36%	4,000	700	21.21%	
Election Expenses:	5230		4,860						5,000	5,000		
Conference Attendance:	5250		147	2,000	3,075	153.76%	3,075	153.75%	3,075	1,075	53.75%	
Information Systems:	5270	3,888	1,667	6,000	480	8.00%	720	12.00%	6,000			
Fidelity Bond:	5310			500					500			
Property & Liability Insurance:	5320	1,688	3,758	2,000	2,161	108.04%	2,161	108.05%		(2,000)	-100.00%	
LAFCO Assessment:	5350	1,718	1,526	2,000	1,601	80.05%	1,601	80.05%	2,000			
Meeting Attendance, Legal:	5420	7,139	6,483	9,500	5,814	61.20%	8,721	91.80%	9,500			
General Legal:	5430	31,865	32,775	25,000	91,515	366.06%	137,272	549.09%	140,000	115,000	460.00%	
Maintenance, Office:	5510	7,619	6,933	8,000	2,283	28.54%	3,425	42.81%	8,000			
Meetings, Local:	5520											
Memberships:	5530											
Office Supplies:	5540	7,366	7,755	8,000	3,683	46.04%	5,525	69.06%	8,000			
Postage:	5550	2,668	1,143	2,500	246	9.84%	369	14.76%	2,500			
Printing & Publishing:	5560	3,478	1,135	3,000	3,028	100.93%	4,542	151.39%	3,000			
Accounting:	5610	38,555	38,950	30,000	13,700	45.67%	20,550	68.50%	30,000			
Audit:	5620	12,050	13,000	13,000	9,800	75.39%	13,000	100.00%	13,000			
Consulting:	5630	16,886	19,894	28,000	10,818	38.64%	28,000	100.00%	20,000	(8,000)	-28.57%	
Data Services:	5640	5,504		6,000	5,851	97.51%	5,851	97.52%	6,000			
Labor & HR Support:	5650	1,875	2,250	2,500	2,276	91.02%	2,800	112.00%	2,500			
Payroll Services:	5660	839	942	950	720	75.83%	1,081	113.75%	1,000	50	5.26%	
Other Professional Services:	5690	375	132									
San Mateo County Tax Roll Charges:	5710	116	119	2,500					2,500			
Telephone & Internet:	5720	13,742	16,380	16,500	13,957	84.59%	23,926	145.01%	24,000	7,500	45.45%	
Mileage Reimbursement:	5730	682	1,063	1,500	564	37.60%	846	56.40%	1,500			
Reference Materials:	5740		23	200					200			
Other Administrative:	5790				435	100.00%	653	100.00%				
CalPERS 457 Deferred Plan:	5810	13,954	18,637	15,445	14,604	94.55%	21,905	141.83%	15,912	467	3.02%	
Employee Benefits:	5820	47,890	37,701	35,635	35,414	99.38%	53,121	149.07%	35,635	(0)	0.00%	
Disability Insurance:	5830	1,397	1,360	1,534	907	59.12%	1,360	88.68%	1,534			
Payroll Taxes:	5840	14,577	14,552	16,879	11,786	69.82%	17,678	104.74%	17,390	511	3.03%	
Worker's Compensation Insurance:	5960	491	2,120	2,447	2,091	85.45%	3,137	128.18%	2,447			
Management:	5910	92,434	99,561	103,725	89,783	86.56%	134,674	129.84%	103,725			
Staff :	5920	112,648	119,299	112,599	97,011	86.16%	145,517	129.23%	119,047	6,448	5.73%	
Staff Certification:	5930	1,800	1,800	1,800	1,350	75.00%	2,025	112.50%	1,800			
Staff Overtime:	5940	2,888	3,879	2,514	621	24.71%	932	37.07%	2,744	230	9.13%	
Staff Standby:	5950	29										
PARS:	5850	(0)	(80,974)	14,061	12,270	87.27%	18,406		15,416	1,355	9.64%	
Claims, Property Damage:	6170			10,000					10,000			



MWSD — Fiscal Year 2018-19 Operations Budget - SEWER ENTERPRISE

Operating Revenue	GL Codes	2015-16 Actual	2016-17 Actual	Approved Budget 2017-18	Income/Expenditures as of March 31,		Projected	Projected as % of Budget	Proposed Budgeted amounts 2018-19	Increase/(Decrease) from 2016-2017 \$	Increase/(decrease) %
					2018	% To date					
Education & Training:	6195			1,000	628	62.75%	941	94.13%	1,000		
Meeting Attendance, Engineering:	6210			2,000					2,000		
General Engineering:	6220	31,924	44,122	50,000	60,912	121.82%	91,367	182.74%	50,000		
Equipment & Tools, Expensed:	6320			1,000					1,000		
Alarm Services:	6335	5,896	6,738	5,700	3,734	65.51%	5,601	98.26%	5,700		
Landscaping:	6337	3,702	4,080	2,400	1,140	47.50%	1,710	71.25%	2,400		
Pumping Fuel & Electricity:	6410	25,454	36,043	32,000	27,098	84.68%	40,647	127.02%	41,000	9,000	28.13%
Pumping Maintenance, General:	6430	3,525									
Maintenance, Collection System:	6660			10,000					10,000		
Fuel:	6810	792	878	800					800		
Truck Equipment, Expensed:	6820	89	71	160					160		
Truck Repairs:	6830	153	331	400					400		
Total Other Operations:	6890		550								
SAM Collections:	6910	360,504	321,608	285,934	186,272	65.15%	279,408	97.72%	328,036	42,102	14.72%
SAM Operations:	6920	707,892	677,904	1,259,320	760,889	60.42%	1,141,333	90.63%	1,249,147	(10,173)	-0.81%
SAM Prior-Year Adjustment:	6930										
SAM Maintenance, Collection System:	6940			40,000					40,000		
SAM Maintenance, Pumping:	6950			50,000					50,000		
Total Operations Expense:		1,595,101	1,484,721	2,240,803	1,488,319	66.42%	1,984,426	88.56%	2,409,067	168,264	7.51%
Net Change in position from Operations:		852,096	905,751	66,668	(4,910)	-7.37%	447,338	670.99%	(61,396)	(128,064)	-192.09%

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 5/25/2018



MWSD — Fiscal Year 2018-2019 Non-Operating Budget - SEWER ENTERPRISE

	GL Codes	2015-16		Approved		Income/Expenditure		Projected	Projected as % of Budget	Proposed Budgeted amounts 2018-19	Increase/(Decrease) from 2016-17 \$	Increase/(decrease) %
		Actual	2016-17 Actual	Budget 2017-18	s as of March 31, 2018	% To date						
Non Operating Revenue												
Connection Fees, Residential New Const:	7110	53,363	140,090	144,576	164,853	114.03%	164,853	114.03%	144,600	24	0.02%	
Connection Fees, Residential Remodel:	7120	47,234	35,740	50,000	27,273	54.55%	36,363	72.73%	50,000			
LAIF, Interest:	7200	18,184	32,034	15,000	24,880	165.87%	33,174	221.16%	40,000	25,000	166.67%	
Total Non Operating Revenue:		119,676	207,864	209,576	217,006	103.55%	234,390	111.84%	234,600	25,024	11.94%	
Non Operating Expense												
PNC Equipment Lease:	9125	20,743	19,545	18,280	13,053	71.40%	17,404	95.21%	16,826	(1,454)	-7.95%	
Capital Assessment, SAM:	9175	160,668	113,432		121,345	100.00%	161,793	100.00%			#DIV/0!	
I-Bank Loan:	9200	28,284	24,853	24,354	14,027	57.60%	18,703	76.80%	23,481	(873)	-3.58%	
Total Non Operating Expense:		209,695	157,830	42,634	148,425	348.14%	197,900	464.18%	40,307	(2,327)	-5.46%	
Net Change in position from Non Operating		(90,019)	50,034	166,942	68,581		36,490		194,293	27,351		

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5/25/2018



MWSD — Fiscal Year 2018-2019 Operations Budget - WATER ENTERPRISE

Operating Revenue	GL Codes	2015-16	2016-17	Approved Budget	Income/Expenditures			Projected as %	Proposed Budgeted	Increase/(Decrease)	Increase/(decrease)
		Actual	Actual	2017-18	as of March 31, 2018	% To date	Projected	of Budget	amounts 2018-19	from 2016-17 \$	%
Cell Tower Lease:	4220	33,500	34,427	34,300	26,589	77.52%	35,452	103.36%	35,500	1,200	3.50%
Administrative Fees (New Construction):	4410	6,349	7,292	5,500	4,040	73.46%	5,387	97.94%	5,500	0	0.00%
Administrative Fees (Remodel):	4420	0	0	900	1,679	186.56%	2,239	248.74%	900	0	0.00%
Inspection Fees (New Construction):	4430	5,813	6,888	5,000	3,816	76.32%	5,088	101.76%	5,000	0	0.00%
Inspection Fees (Remodel):	4440	0	460	650	1,908	293.54%	2,544	391.39%	650	0	0.00%
Mainline Extension Fees:	4450	46,459		0	0	0.00%	0	0.00%		0	
Remodel Fees:	4460	325,926	9,732	0	1,696	100.00%	2,262	100.00%			
Property Tax Receipts:	4610	16,377	340,018	235,000	264,130	112.40%	352,174	149.86%	275,000	40,000	17.02%
Testing, Backflow:	4740	1,739,386	14,816	13,000	14,782	113.71%	19,709	151.61%	16,000	3,000	23.08%
Water Sales:	4810		1,771,239	1,915,496	1,444,073	75.39%	1,925,431	100.52%	2,010,000	94,504	4.93%
Water Sales Refunds, Customer:	4850	(1,488)	(2,993)	(3,000)	0	0.00%	0	0.00%	3,000	6,000	-200.00%
Other Revenue:	4990	8,793	10,820		1,170	100.00%	1,560	100.00%	0	0	
Total Operating Revenue:		2,181,114	2,192,699	2,206,846	1,763,884	79.93%	2,351,846	106.57%	2,351,550	144,704	6.56%
Operating Expenses											
Bank Fees:	5190	6,907	6,743	7,000	1,520	21.72%	2,280	32.58%	3,500	(3,500)	-50.00%
Board Meetings:	5210	3,282	4,169	4,000	4,064	101.59%	6,095	152.39%	4,000	0	0.00%
Director Fees:	5220	2,363	2,665	3,300	3,000	90.91%	4,500	136.36%	3,300	0	0.00%
Election Expenses:	5230		4,860	0	0	0.00%	0	0.00%		0	
CDPH Fees:	5240	18,086		15,500	0	0.00%	0	0.00%	15,500	0	0.00%
Conference Attendance:	5250	5,267	850	4,000	5,641	141.02%	5,641	141.03%	6,000	2,000	50.00%
Information Systems:	5270	3,888	2,973	3,000	480	16.00%	720	24.00%	3,000	0	0.00%
Fidelity Bond:	5310			500	0	0.00%	0	0.00%	500	0	0.00%
Property & Liability Insurance:	5320	1,688	3,758	2,700	0	0.00%	0	0.00%	2,700	0	0.00%
LAFCO Assessment:	5350	2,328	2,048	2,500	2,208	88.32%	2,208	88.32%	2,500	0	0.00%
Meeting Attendance, Legal:	5420	7,700	6,480	8,500	2,711	31.90%	4,067	47.85%	8,500	0	0.00%
General Legal:	5430	43,625	57,788	60,000	9,653	16.09%	14,479	24.13%	60,000	0	0.00%
Maintenance, Office:	5510	8,122	8,678	8,000	2,136	26.70%	3,204	40.05%	8,000	0	0.00%
Meetings, Local:	5520			0	0	0.00%	0	0.00%		0	
Memberships:	5530	17,225	17,679	18,000	20,298	112.77%	20,298	112.77%	20,500	2,500	13.89%
Office Supplies:	5540	7,366	7,638	8,000	3,683	46.04%	5,525	69.06%	7,000	(1,000)	-12.50%
Postage:	5550	7,578	7,168	7,500	4,480	59.73%	6,720	89.60%	7,000	(500)	-6.67%
Printing & Publishing:	5560	1,650	1,356	2,000	383	19.16%	575	28.74%	1,500	(500)	-25.00%
Accounting:	5610	38,555	38,950	30,000	13,700	45.67%	20,550	68.50%	30,000	0	0.00%
Audit:	5620	20,950	13,000	13,000	9,800	75.39%	13,000	100.00%	13,000	0	0.00%
Consulting:	5630	28,560	36,600	25,000	12,506	50.03%	18,760	75.04%	25,000	0	0.00%
Data Services:	5640	18,773		0	0	0.00%	0	0.00%		0	
Labor & HR Support:	5650	2,651	2,349	2,250	2,276	101.13%	3,413	151.70%	2,500	250	11.11%
Payroll Services:	5660	839	942	950	720	75.83%	1,081	113.74%	1,000	50	5.26%
Other Professional Services:	5690	227	132		0	0.00%	0	0.00%		0	
San Mateo County Tax Roll Charges:	5710	122	119		0	0.00%	0	0.00%			
Telephone & Internet:	5720	19,391	22,304	22,380	16,223	72.49%	24,334	108.73%	25,000	2,620	11.71%
Mileage Reimbursement:	5730	2,157	1,648	2,000	564	28.20%	846	42.30%	1,000	(1,000)	-50.00%
Reference Materials:	5740	0	23	800	0	0.00%	0	0.00%	800	0	0.00%
Other Administrative:	5790	127	2,147		615	100.00%	923	100.00%		0	
CalPERS 457 Deferred Plan:	5810	31,571	36,418	35,513	28,245	79.54%	42,368	119.30%	43,029	7,516	21.16%
Employee Benefits:	5820	75,196	76,378	86,856	62,019	71.40%	93,029	107.11%	80,058	(6,798)	-7.83%
Disability Insurance:	5830	3,329	3,366	3,637	2,244	61.70%	3,366	92.55%	4,288	651	17.90%
Payroll Taxes:	5840	36,932	38,090	42,294	29,341	69.37%	44,011	104.06%	51,684	9,390	22.20%
Worker's Compensation Insurance:	5960	4,788	14,423	19,948	9,646	48.36%	14,470	72.54%	24,080	4,132	20.71%
Management:	5910	92,434	99,563	103,725	89,783	86.56%	134,674	129.84%	103,725	(0)	0.00%
Staff:	5920	329,764	347,037	358,357	271,452	75.75%	407,179	113.62%	447,944	89,587	25.00%
Staff Certification:	5930	9,440	9,125	9,000	7,946	88.29%	11,919	132.44%	11,400	2,400	26.67%
Staff Overtime:	5940	48,214	52,690	55,831	31,647	56.68%	47,470	85.02%	73,562	17,730	31.76%
Staff Standby:	5950	22,621	23,830	25,947	18,766	72.32%	28,149	108.49%	38,976	13,029	50.22%
PARS:	5850	0	(150,932)	28,152	22,337	79.34%	33,506	119.02%	35,734	7,582	26.93%
Backflow Prevention:	6160	800	892	1,000	473	47.35%	710	71.02%	1,000	0	0.00%



MWSD — Fiscal Year 2018-2019 Operations Budget - WATER ENTERPRISE

Operating Revenue	GL Codes	2015-16	2016-17	Approved Budget	Income/Expenditures			Projected	Projected as %	Proposed Budgeted	Increase/(Decrease)	Increase/(decrease)
		Actual	Actual	2017-18	as of March 31, 2018	% To date		of Budget	amounts 2018-19	from 2016-17 \$	%	
Claims, Property Damage:	6170	0	175	10,000	0	0.00%	0	0.00%	10,000	0	0.00%	
SCADA Maintenance:	6185	28,817	20,505	20,000	7,734	38.67%	11,601	58.00%	15,000	(5,000)	-25.00%	
Internet & Telephone, Communications:	6187			0	0	0.00%	0	0.00%		0		
Education & Training:	6195	2,574	8,131	7,000	7,447	106.38%	11,170	159.58%	9,000	2,000	28.57%	
Meeting Attendance, Engineering:	6210	0		2,000	16	0.78%	23	1.16%	500	(1,500)	-75.00%	
General Engineering:	6220	15,406	4,029	20,000	11,947	59.74%	17,921	89.60%	20,000	0	0.00%	
Water Quality Engineering:	6230	82,864	138,939	65,000	67,232	103.44%	100,849	155.15%	100,000	35,000	53.85%	
Equipment & Tools, Expensed:	6320	4,008	2,962	5,000	5,847	116.94%	8,771	175.41%	5,000	0	0.00%	
Alarm Services:	6335	640	777	800	434	54.20%	650	81.29%	800	0	0.00%	
Landscaping:	6337	6,226	7,102	6,000	2,677	44.62%	4,016	66.93%	6,000	0	0.00%	
Lab Supplies & Equipment:	6370	818	178	1,000	1,672	167.23%	2,000	200.00%	328,036	327,036	32703.60%	
Meter Reading:	6380		119	0	21	100.00%	32	100.00%		0		
Pumping Fuel & Electricity:	6410	89,652	82,730	90,000	47,169	52.41%	70,753	78.62%	95,000	5,000	5.56%	
Pumping Maintenance, Generators:	6420	4,771	12,118	10,000	6,604	66.04%	9,906	99.06%	10,000	0	0.00%	
Pumping Maintenance, General:	6430	6,284	4,969	7,000	1,263	18.05%	1,895	27.07%	5,000	(2,000)	-40.00%	
Pumping Equipment, Expensed:	6440	1,786		2,000	210	10.52%	315	15.77%	700	(1,300)	-65.00%	
Maintenance, Raw Water Mains:	6510	2,478	1,421	2,000	1,463	73.16%	2,195	109.74%	2,100	100	4.76%	
Maintenance, Wells:	6520	20,657	1,466	10,000	5,355	53.55%	8,032	80.32%	10,000	0	0.00%	
Water Purchases:	6530	38,009	34,292	40,000	19,082	47.70%	28,623	71.56%	40,000	0	0.00%	
Hydrants:	6610	0	3,819	1,000	375	37.53%	563	56.29%	1,000	0	0.00%	
Maintenance, Water Mains:	6620	71,575	75,576	55,000	26,328	47.87%	39,491	71.80%	50,000	(5,000)	-9.09%	
Maintenance, Water Service Lines:	6630	33,705	4,206	25,000	11,658	46.63%	17,487	69.95%	20,000	(5,000)	-20.00%	
Maintenance, Tanks:	6640	8,741	71	1,000	557	55.65%	835	83.48%	1,000	0	0.00%	
Maintenance, Distribution General:	6650	2,406	5,196	10,000	1,248	12.48%	1,872	18.72%	7,000	(3,000)	-30.00%	
Maintenance, Collection System:	6660		24		0	0.00%	0	0.00%				
Meters:	6670	5,382	10,719	2,500	1,113	44.50%	1,669	66.75%	2,500	0	0.00%	
Chemicals & Filtering:	6710	40,896	11,660	30,000	5,813	19.38%	8,720	29.07%	15,000	(15,000)	-50.00%	
Maintenance, Treatment Equipment:	6720	11,965	4,724	4,000	2,585	64.62%	3,877	96.93%	4,000	0	0.00%	
Treatment Analysis:	6730	28,890	24,653	30,000	27,142	90.48%	40,714	135.71%	42,000	12,000	40.00%	
Uniforms:	6770	14,530	10,560	12,000	7,311	60.92%	10,966	91.39%	12,000	0	0.00%	
Fuel:	6810	6,117	6,143	8,000	4,626	57.83%	6,939	86.74%	8,000	0	0.00%	
Truck Equipment, Expensed:	6820	651	496	1,000	7	0.68%	10	1.03%	1,000	0	0.00%	
Truck Repairs:	6830	1,074	2,316	5,000	4,470	89.41%	6,706	134.11%	5,000	0	0.00%	
Other Operations:	6890	2,811	18,301		10,967	100.00%	16,450	100.00%		0		
Total Operations Expense:		1,458,253	1,302,322	1,503,440	980,933	65.25%	1,455,118	96.79%	1,992,916	489,475	32.56%	
Net Change in position from Operations:		722,861	890,378	703,406	782,951	111.31%	896,728	127.48%	358,634	(344,771)	-49.01%	



MWSD — Fiscal Year 2018-2019 Non-Operating Budget - WATER ENTERPRISE

	GL Codes	2015-16 Actual	2016-17 Actual	Approved Budget 2017-18	Income/Expenditures as of March 31, 2018	% To date	Projected	Projected as % of Budget	Proposed Budgeted amounts 2018-19	Increase/(Decrease) from 2016-17 \$	Increase/(decrease) %
Non Operating Revenue											
Connection Fees, Residential New Const:	7110	77,695	130,171	173,020	78,478	45.36%	104,637	60.48%	173,020	0	0.00%
Connection Fees, Residential Remodel:	7120		25,921		10,357	100.00%	13,809	100.00%		0	#DIV/0!
Connection Fees, Residential Fire:	7130	61,724	52,693	80,000	41,805	52.26%	55,740	69.68%	80,000	0	0.00%
Connection Fees, Residential Remodel Fire:	7140					0.00%	0	0.00%		0	
Connection Fees, Well Conversion:	7150					0.00%	0	0.00%		0	
General Obligation Bonds, Assessment Receipts:	7600	1,215,941	1,253,111	1,150,436	675,236	58.69%	1,150,436	100.00%	1,150,436	0	0.00%
Total Non Operating Revenue:		1,355,359	1,461,897	1,403,456	805,876	57.42%	1,324,622	94.38%	1,403,456	0	0.00%
Non Operating Expense											
General Obligation Bonds:	9100	307,634	286,455	273,978	158,545	57.87%	211,393	77.16%	252,521	(21,457)	-7.83%
PNC Equipment Lease:	9125	20,743	19,545	18,280	13,053	71.41%	17,404	95.21%	16,826	(1,454)	-7.95%
State Revolving Fund Loan:	9150	60,239	90,816	34,273		0.00%	0	0.00%	78,455	44,182	128.91%
Water Rebates :	9210	6,018	1,129	500	1,400	280.00%	2,000	400.00%	2,000	1,500	300.00%
Total Non Operating Expense:		394,634	397,944	327,030	172,998	52.90%	230,797	70.57%	349,802	21,272	6.50%
Net Change in position from Non Operating activities:		960,725	1,063,952	1,076,426	632,878		1,093,825		1,053,654	(21,272)	-1.98%

DRAFT
5/25/2018

SALARY RANGE
MONTARA WATER AND SANITARY DISTRICT
July 1, 2018

Position	Salary Range	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10
Operations Manager	\$145,809										
	\$96,000	\$116,753	\$119,672	\$122,664	\$125,730	\$128,874	\$132,096	\$135,398	\$138,783	\$142,252	\$145,809
		\$56.13	\$57.53	\$58.97	\$60.45	\$61.96	\$63.51	\$65.10	\$66.72	\$68.39	\$70.10
Superintendent	\$136,648										
	\$109,418	\$109,418	\$112,154	\$114,957	\$117,831	\$120,777	\$123,797	\$126,892	\$130,064	\$133,315	\$136,648
		\$52.60	\$53.92	\$55.27	\$56.65	\$58.07	\$59.52	\$61.01	\$62.53	\$64.09	\$65.70
Water System Operator	\$83,342										
	\$66,734	\$66,734	\$68,403	\$70,113	\$71,866	\$73,662	\$75,504	\$77,391	\$79,326	\$81,309	\$83,342
		\$32.08	\$32.89	\$33.71	\$34.55	\$35.41	\$36.30	\$37.21	\$38.14	\$39.09	\$40.07
Maintenance Worker I	\$72,361										
	\$57,941	\$57,941	\$59,390	\$60,874	\$62,396	\$63,956	\$65,555	\$67,194	\$68,874	\$70,596	\$72,361
		\$27.86	\$28.55	\$29.27	\$30.00	\$30.75	\$31.52	\$32.30	\$33.11	\$33.94	\$34.79
Account Specialist	\$69,184										
	\$55,397	\$55,397	\$56,782	\$58,202	\$59,657	\$61,148	\$62,677	\$64,244	\$65,850	\$67,496	\$69,184
		\$26.63	\$27.30	\$27.98	\$28.68	\$29.40	\$30.13	\$30.89	\$31.66	\$32.45	\$33.26
District Clerk	\$69,184										
	\$55,397	\$55,397	\$56,782	\$58,202	\$59,657	\$61,148	\$62,677	\$64,244	\$65,850	\$67,496	\$69,184
		\$26.63	\$27.30	\$27.98	\$28.68	\$29.40	\$30.13	\$30.89	\$31.66	\$32.45	\$33.26
2.5 % step increases											
		Increase 2.50%	1-Jul-14	Increase 8.25%	1-Jul-15	Increase 2.70%	1-Jul-16	Increase 3.79%	1-Jul-17	Increase 2.83%	1-Jul-18
Operations Manager		1.025	\$98,400	1.0825	\$106,518	1.027	\$109,394	1.0379	\$113,540	1.0283	\$116,753
Superintendent		1.025	\$92,218	1.0825	\$99,826	1.027	\$102,521	1.0379	\$106,407	1.0283	\$109,418
Water System Operator		1.025	\$56,244	1.0825	\$60,884	1.027	\$62,528	1.0379	\$64,898	1.0283	\$66,734
Maintenance Worker		1.025	\$48,833	1.0825	\$52,862	1.027	\$54,289	1.0379	\$56,347	1.0283	\$57,941
Account Specialist		1.025	\$46,689	1.0825	\$50,541	1.027	\$51,905	1.0379	\$53,873	1.0283	\$55,397
District Clerk		1.025	\$46,689	1.0825	\$50,541	1.027	\$51,905	1.0379	\$53,873	1.0283	\$55,397
Operator in Training	\$18 per hour										
Temporary Worker	\$18 per hour										

Payroll	Water	Overtime	Doubletime	On Call	Cert Pay	Total	Health	Disability	WC	CalPERS	PARS	Medicare	SS	F/Y Total Water
										7%	6.92%	1.45%	6.20%	
GM	\$ 103,725.00					\$ 103,725.00	\$ 12,453.00	\$ 731.00	\$ 1,224.00	\$ 7,260.75	\$ 7,177.77	\$ 1,504.01	\$ 6,430.95	\$ 140,506.48
Superintendent	\$ 63,650.02	\$ 1,652.45	\$ 734.42		\$ 1,800.00	\$ 67,836.90	\$ 6,483.00	\$ 541.00	\$ 4,423.00	\$ 4,748.58	\$ 4,404.58	\$ 983.64	\$ 4,205.89	\$ 93,626.59
Account Specialist	\$ 58,389.13					\$ 58,389.13	\$ 24,906.00	\$ 384.00	\$ 521.00	\$ 4,087.24	\$ 4,040.53	\$ 846.64	\$ 3,620.13	\$ 96,794.66
Water Operator	\$ 81,571.19	\$ 8,470.85	\$ 9,412.06	\$ 4,828.39	\$ 2,400.00	\$ 106,682.49	\$ 9,054.00	\$ 676.00	\$ 4,260.00	\$ 7,467.77	\$ 5,644.73	\$ 1,546.90	\$ 6,614.31	\$ 141,946.20
Water Operator	\$ 77,640.63	\$ 10,078.35	\$ 8,062.68	\$ 5,361.68	\$ 2,400.00	\$ 103,543.35	\$ 9,054.00	\$ 654.00	\$ 4,180.00	\$ 7,248.03	\$ 5,372.73	\$ 1,501.38	\$ 6,419.69	\$ 137,973.18
Water Operator	\$ 61,070.41	\$ 7,398.91	\$ 5,989.60	\$ 4,418.21	\$ 2,400.00	\$ 81,277.13	\$ 9,054.00	\$ 651.00	\$ 4,132.00	\$ 5,689.40	\$ 4,226.07	\$ 1,178.52	\$ 5,039.18	\$ 111,247.30
Water Operator	\$ 70,338.58	\$ 8,521.79	\$ 6,898.59	\$ 5,088.73	\$ 2,400.00	\$ 93,247.69	\$ 9,054.00	\$ 651.00	\$ 4,132.00	\$ 6,527.34	\$ 4,867.43	\$ 1,352.09	\$ 5,781.36	\$ 125,612.90
Temp. Operator	\$ 10,569.88	\$ 2,113.98	\$ -	\$ 6,426.49		\$ 19,110.34			\$ 379.00			\$ 277.10	\$ 1,184.84	\$ 20,951.28
Temp. Operator	\$ 10,569.88	\$ 2,113.98		\$ 6,426.49		\$ 19,110.34			\$ 300.00			\$ 277.10	\$ 1,184.84	\$ 20,872.28
Temp. Operator	\$ 10,569.88	\$ 2,113.98		\$ 6,426.49		\$ 19,110.34			\$ 463.00			\$ 277.10	\$ 1,184.84	\$ 21,035.28
Part Time Admin	\$ 2,584.00					\$ 2,584.00			\$ 47.00			\$ 37.47	\$ 160.21	\$ 2,828.68
Part Time Admin	\$ 990.00					\$ 990.00			\$ 19.00			\$ 14.36	\$ 61.38	\$ 1,084.74
Totals	\$ 551,668.59	\$ 42,464.29	\$ 31,097.35	\$ 38,976.46	\$ 11,400.00	\$ 675,606.69	\$ 80,058.00	\$ 4,288.00	\$ 24,080.00	\$ 43,029.12	\$ 35,733.84	\$ 9,796.30	\$ 41,887.61	\$ 914,479.56
Payroll	Sewer	Overtime	Doubletime	On Call	Cert Pay	Total	Health	Disability	WC	CalPERS	PARS	Medicare	SS	F/Y Total Sewer
GM	\$ 103,725.00					\$ 103,725.00	\$ 12,453.00	\$ 731.00	\$ 1,224.00	\$ 7,260.75	\$ 7,177.77	\$ 1,504.01	\$ 6,430.95	\$ 140,506.48
Superintendent	\$ 63,650.02	\$ 2,009.20	\$ 734.42		\$ 1,800.00	\$ 68,193.65	\$ 6,483.00	\$ 419.00	\$ 702.00	\$ 4,773.56	\$ 4,404.58	\$ 988.81	\$ 4,228.01	\$ 90,192.60
District Clerk	\$ 55,397.26					\$ 55,397.26	\$ 16,698.60	\$ 384.00	\$ 521.00	\$ 3,877.81	\$ 3,833.49	\$ 803.26	\$ 3,434.63	\$ 84,950.05
Totals	\$ 222,772.28	\$ 2,009.20	\$ 734.42	\$ -	\$ 1,800.00	\$ 227,315.91	\$ 35,634.60	\$ 1,534.00	\$ 2,447.00	\$ 15,912.11	\$ 15,415.84	\$ 3,296.08	\$ 14,093.59	\$ 315,649.13

MWSD
Five Year Capital Improvement Program
WATER SYSTEM

Existing Customer CIP - WATER	FY 18/19	FY 19/20	FY 20/21	FY 21/22	FY 22/23	5-Year CIP Total
Misc. Repair&Replacements	\$ 10,000	\$ 10,200	\$ 10,404	\$ 10,612	\$ 10,824	\$ 52,040
Water Meters	\$ 25,000	\$ 25,500	\$ 26,010	\$ 26,530	\$ 27,061	\$ 130,101
Water Lateral Services	\$ 25,000	\$ 25,500	\$ 26,010	\$ 26,530	\$ 27,061	\$ 130,101
Water Main Replacements	\$ 350,000	\$ 50,000	\$ 51,000	\$ 52,020	\$ 53,060	\$ 556,080
Fire Hydrants Replacements	\$ 5,500	\$ 5,610	\$ 5,722	\$ 5,837	\$ 5,953	\$ 28,622
Distribution System Renewal and Replacement Program Subtotal	\$ 415,500	\$ 116,810	\$ 119,146	\$ 121,529	\$ 123,960	\$ 896,945
Water Conservation Program	\$ 8,500	\$ 8,755	\$ 9,018	\$ 9,288	\$ 9,567	\$ 45,128
Storage Tank Rehabilitation Program	\$ 25,000	\$ 250,000	\$ -	\$ -	\$ -	\$ 275,000
Emergency Generator Replacement Program	\$ 75,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 235,000
Vehicle Replacement Fund	\$ 27,000	\$ 29,000	\$ 30,000	\$ -	\$ -	\$ 86,000
Pillar Ridge Rehabilitation Program	\$ 50,000	\$ 50,000	\$ 300,000	\$ 25,000	\$ 50,000	\$ 475,000
EXISTING CUSTOMER CIP TOTAL	\$ 601,000	\$ 494,565	\$ 498,164	\$ 195,817	\$ 223,527	\$ 2,013,073
New Customer CIP - WATER	FY 18/19	FY 19/20	FY 20/21	FY 21/22	FY 22/23	5-Year CIP Total
Water Main Upgrade Program	\$ 180,000	\$ 350,000	\$ 360,500	\$ 371,315	\$ 382,454	\$ 1,644,269
Existing Well Upgrade Program	\$ 150,000	\$ -	\$ 280,000	\$ 288,400	\$ 297,052	\$ 1,015,452
New and Upgraded PRV Stations' Program	\$ -	\$ 250,000	\$ 257,500	\$ 265,225	\$ 273,182	\$ 1,045,907
Emergency Generator Upgrade Program	\$ 75,000	\$ 150,000	\$ 154,500	\$ 159,135	\$ 163,909	\$ 702,544
Schoolhouse Booster Pump Station Upgrade	\$ -	\$ -	\$ -	\$ -	\$ 350,000	\$ 350,000
Portola Tank Telemetry Upgrade	\$ -	\$ 150,000	\$ 100,000	\$ -	\$ -	\$ 250,000
Develop Additional Supply Reliability	\$ 100,000	\$ -	\$ -	\$ 350,000	\$ 1,000,000	\$ 1,450,000
Big Wave NPA Water Main Extension	\$ -	\$ 2,500,000	\$ -	\$ -	\$ -	\$ 2,500,000
NEW CUSTOMER CIP TOTAL	\$ 505,000	\$ 3,400,000	\$ 1,152,500	\$ 1,434,075	\$ 2,466,597	\$ 8,958,172
Total Annual Capital Cost	\$ 1,106,000	\$ 3,894,565	\$ 1,650,664	\$ 1,629,892	\$ 2,690,124	\$ 10,971,245



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: **May 31, 2018**

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

SUBJECT: Review and Possible Action Concerning Award of Bid for 2017-18 SEWER IMPROVEMENT PROJECT AND SPOT REPAIRS.

In accordance with the revised 10-year Capital Improvement Plan (CIP), advertisement for bids was published for the 2017-18 SEWER IMPROVEMENT PROJECT AND SPOT REPAIRS project. The current Fiscal Year CIP continues rehabilitation of Medium and High Priority Sewer Mains as well as miscellaneous maintenance, spot repairs and CCTV activities. The work includes replacement and repair of sanitary sewer mains, primarily by pipebursting, near Harte, Hawthorn, Irving and Hill Streets, and Buena Vista Ave, including lower, and where possible, upper lateral repairs; spot repairs; and CCTV of sewers, including SAM "hotspots." The goal of the project is elimination of inflow and infiltration and reduction of Sanitary Sewer Overflows

The 2017-18 SIP budget allocated \$610,000 for the project. During review of maintenance work with SAM, additional CCTV pipe footage, lateral repairs and spot repairs were added to the project. The bid documents provide an Additive Alternate estimated at \$295,000. The remainder of the \$1.64M CIP budget covers routine and planned system repairs and improvements, with the largest portion to be spent on the Cabrillo Highway Crossing project, Phase 1A, previously presented to the Board of Directors. The remaining costs are to be funded from reserves. Sealed bids for the project were submitted to the District on May 10th 2018.

Two bids were received with Pacific Trenchless' bid at \$595,391 for the Base Bid and \$286,060 for the Additive Alternate being the apparent lower responsive bid. Notably, the addition of upper lateral repairs to the project allows for an estimated 45 such repairs for an estimated incremental cost of about \$675 to \$725 per each. This represents a cost of about only 90% below the private market rate for similar work.

Pippin Cavagnaro, P.E. from Nute Engineering, will be available to present the Project and answer any questions the Board might have.

RECOMMENDATION:

Adopt Resolution No. __ Resolution of the Montara Water and Sanitary District Accepting Bid for 2017-18 Sewer Improvement Project and Spot Repairs; Declaring Lowest Responsible Bidder for Said Work, Rejecting all other Bids, Approving and Authorizing Execution of Agreement for said Work, Directing Return of Security Deposits and Filing of Notice of Exemption under the California Environmental Quality Act.

Attachment

RESOLUTION NO.

RESOLUTION OF THE MONTARA WATER AND SANITARY DISTRICT ACCEPTING BID FOR FISCAL YEAR 2017-18 SEWER IMPROVEMENT PROJECT AND SPOT REPAIRS, DECLARING LOWEST RESPONSIBLE BIDDER FOR SAID WORK, REJECTING ALL OTHER BIDS, APPROVING AND AUTHORIZING EXECUTION OF AGREEMENT FOR SAID WORK, DIRECTING RETURN OF SECURITY DEPOSITS AND FILING NOTICE OF EXEMPTION UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

WHEREAS, in response to advertisement for sealed bids two bids were received for the construction of the 2017-2018 Sewer Improvement Project and Spot Repairs; and

WHEREAS, the bid of Pacific Trenchless, Inc. constitutes the lowest responsible bid;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF THE MONTARA WATER AND SANITARY DISTRICT, A PUBLIC AGENCY IN THE COUNTY OF SAN MATEO, CALIFORNIA, AS FOLLOWS:

1. The bid of Pacific Trenchless, Inc. received on May 10, 2018 in the Base Bid amount of Five Hundred Ninety Five Thousand Three Hundred Ninety-One and No One-Hundredths Dollars (\$595,391.00), and the Additive Alternate Bid in the amount of Two Hundred Eighty Six Thousand Sixty and No One-Hundredths Dollars (\$286,060.00) is hereby accepted and said bidder is hereby declared to be the lowest responsible bidder for said work.

2. Any and all informalities in the aforementioned bid of Pacific Trenchless, Inc. are hereby waived.

3. The President and Secretary of the Board, Montara Water and Sanitary District, are hereby authorized and directed to execute and to countersign, respectively, that certain Agreement for said work by and between Pacific Trenchless, Inc. and the Montara Water and Sanitary District, a copy of which Agreement is on file in the Administrative Offices of the District, to which copy reference is hereby made for the full particulars thereof.

4. The District Secretary is hereby authorized and directed to return to all unsuccessful bidders the bid security furnished by them, and to return the bid

RESOLUTION NO.

RESOLUTION OF THE MONTARA WATER AND SANITARY DISTRICT ACCEPTING BID FOR FISCAL YEAR 2017-18 SEWER IMPROVEMENT PROJECT AND SPOT REPAIRS, DECLARING LOWEST RESPONSIBLE BIDDER FOR SAID WORK, REJECTING ALL OTHER BIDS, APPROVING AND AUTHORIZING EXECUTION OF AGREEMENT FOR SAID WORK, DIRECTING RETURN OF SECURITY DEPOSITS AND FILING NOTICE OF EXEMPTION UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

security submitted by Pacific Trenchless, Inc. to said bidder upon execution of the agreement described in paragraph 3 hereof.

President, Montara Water and Sanitary District

COUNTERSIGNED:

Secretary, Montara Water and Sanitary District

* * * *

I HEREBY CERTIFY that the foregoing Resolution No. was duly and regularly adopted and passed by the Board of the Montara Water and Sanitary District, San Mateo County, California, at a meeting thereof held on the 31th day of May, 2018, by the following vote:

AYES, Directors:

NOES, Directors:

ABSENT, Directors:

Secretary, Montara Water and Sanitary District

MWSD SANITARY DISTRICT - Bid Summary		2017-2018 SIP and Spot Repairs Project - Submitted 2 PM May 10th, 2018				ENGINEERS ESTIMATE	
BID ITEMS		Contractors					
No.	Description/Caption	Item Count BASE BID	U/M	Pacific Trenchless, Inc.	Darcy & Harty Construction, Inc.		
1	MOBILIZATION, DEMOBILIZATION, SWPPP, PERMITS & LICENSES, AND INSTALL PROJECT SIGNS	1	LS	\$7,894	\$25,000	ENGINEERS ESTIMATE	
2	PRECONSTRUCTION CLEANING AND TELEVISIONING AND LOCATION OF EXISTING SEWER MAINS	2,641	LF	\$7,923	\$13,205		
3	PIPEBURST (E) 6" VCP SEWER WITH 6.63" OD DR17 HDPE	1,801	LF	\$343,991	\$324,180		
4	REMOVE (E) SEWER RODHOLE	3	EA	\$1,365	\$300		
5	INSTALL NEW RODHOLE AND RAISE TO GRADE	3	EA	\$5,385	\$7,500		
6	CONNECT TO (E) MANHOLE AND REBUILD MANHOLE CHANNEL(S)	17	EA	\$5,355	\$8,500		
7	REPLACE MANHOLE FRAME & COVER AND RAISE TO GRADE	10	EA	\$27,950	\$18,000		
8	FIELD LOCATE AND POTHOLE (E) SEWER LATERALS	27	EA	\$20,115	\$540		
9	INSTALL NEW 4" LATERAL TWO WAY CLEANOUT, SEWER RELIEF VALVE AND CLEANOUT BOX	27	EA	\$21,735	\$13,500		
10	REPLACE 4" LOWER LATERALS And To HOUSE	840	LF	\$840	\$4,200		
11	REMOVE AND REPLACE CONCRETE ROAD OR CONCRETE DRIVEWAY	500	SF	\$5,500	\$10,000		
12	ASPHALT CONCRETE TRENCH REPAIR AND RESTORATION	35	TON	\$13,825	\$14,000		
13	REPLACE PAVEMENT MARKINGS	1	LS	\$4,605	\$2,000		
14	SHORING FOR ALL EXCAVATIONS	1	LS	\$7,305	\$45,000		
15	TRAFFIC CONTROL AND PUBLIC NOTIFICATIONS	1	LS	\$5,395	\$20,000		
16	EXCAVATE AND SPOT REPAIR SEWER PIPE	7	EA	\$60,655	\$52,500		
17	POTHOLE UTILITY MAINS	12	EA	\$12,420	\$3,600		
18	INTERNAL TELEVISIONING OF NEW SEWER MAINS AND ADDITIONAL SEWERS, PACP	12,126	LF	\$36,378	\$60,630		
19	INTERNAL TELEVISIONING OF NEW SEWER LATERALS	28	EA	\$420	\$28		
20	PERMITS AND LICENCES	1	LS	\$1,335	\$2,500		ENGINEERS ESTIMATE
21	RECORD DRAWING	1	LS	\$5,000	\$5,000		
SUBTOTAL				\$595,391	\$630,183	\$585,000	
Additive Alternate Total (Same Unit Costs)				\$286,060	\$315,201	\$295,000	
GRAND TOTAL				\$881,451	\$945,384	\$880,000	

Addendum Acknowledge	y	y
Contract Signed	y	y
License Number ('A' Required)	776788	474146
SUBCONTRACTORS:	Not Listed	Not Listed
Site Visit Affidavit	in contract	in contract
Builder's Statement Financial Responsibility & Experience	y	y
Financial Statement Submitted	y	n
EMR AVG # 3YR (1.1 or less)	0.83	0.827
RIR AVG # 3YR (5.4 or less)	0.00	3.50
LTIR AVG # 3YR (3.1 or less)	0.00	2.70
sub safty submitted, pass	NA	NA
Affidavit Non-Collusion	y	y
Affidavit Safety Compliance	NA	NA
Safety Programs	NA	NA
Bid Bond	y	y

AGREEMENT

MONTARA WATER AND SANITARY DISTRICT

San Mateo, California

2017-2018 SEWER IMPROVEMENT PROJECT AND SPOT REPAIRS

THIS AGREEMENT, made and entered into this ____ day of _____, 2018, by and between Pacific Trenchless, Inc, hereinafter called "Contractor" and the Montara Water and Sanitary District, a public entity in San Mateo County, California, hereinafter called "District":

W I T N E S E T H:

WHEREAS, the Board of Directors of the District has awarded a contract to Contractor for performing work hereinafter mentioned in accordance with the sealed bid of said Contractor.

NOW, THEREFORE, IT IS AGREED as follows:

1. Scope of Work: The Contractor shall perform, within the time stipulated, the contract as herein defined, of which this agreement is a component part, and shall provide and furnish all of the labor, materials, methods of processes, equipment, implements, tools, machinery and equipment and all utility, transportation and other services required to perform all of the work covered by the contract in connection with the construction of improvements for the District, in strict accordance with the specifications therefor entitled, "2017-2018 Sewer Improvement Project and Spot Repairs" dated March 2018, prepared by Nute Engineering, Civil and Sanitary Consultants, on file in the District's office, including any and all addenda issued by the District, the items and quantities of which are more particularly set forth in Contractor's bid therefor, and with the other contract documents hereinafter enumerated.

2. Time of Performance and Liquidated Damages: The Contractor shall not commence any work prior to the date of the Notice to Proceed and thereafter shall diligently prosecute the work to completion. The provisions with regard to said time of completion and liquidated damages are set forth in the specifications, which provisions are hereby referred to and incorporated herein by reference.

3. Payments: Payments will be made by the District to Contractor for said work preformed at the times and in the manner provided in the specifications and at the prices stated in Contractor's Base Bid in the amount of Five Hundred ninety five thousand, three hundred and ninety one dollars (\$595,391.00), and the Additive Alternate Bid in the amount of Two hundred eighty six thousand, and sixty dollars (\$286,060.00). For any monies earned by the Contractor and withheld by the District to ensure the performance of the contract, the Contractor may, at his/her request and expense, substitute securities equivalent to the amount withheld in the form and manner and subject to the conditions provided in Section 22300 of the Public Contract Code of the State of California.

4. Component Parts: This contract shall consist of the following documents, each of which is on file in the office of the District Secretary and all of which are incorporated herein and made a part hereof by reference thereto:

- a) This Agreement
- b) Notice Inviting Sealed Bids
- c) Instructions to Bidders
- d) Accepted Bid
- e) Faithful Performance Bond and Payment Bond
- f) General Conditions
- g) Special Provisions
- h) Technical Provisions
- i) Appendices
- j) Design Standards
- k) Plans, Profiles and Detailed Drawings
- l) Written Addenda
- m) Written Amendments to the Contract signed by both parties

- n) Executed Change Orders, if any
- o) Written Interpretations issued by the District

5. Wage Scale: Reference is hereby made to the "General Prevailing Wage Determination made by the Director of Industrial Relations pursuant to California Labor Code Division 2, Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1," a copy of which is on file in the office of the District Secretary, the provisions of which are hereby specified as the rate of prevailing wage to be paid workers on this project.

6. Hours of Labor: The Contractor shall forfeit, as penalty to the District, Twenty-Five Dollars (\$25.00), for each worker employed in the execution of the contract by him/her or by any subcontractor, for each calendar day during which any worker is required or permitted to labor more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week, in violation of the provisions of Division 2, Part 7, Chapter 1, Article 3, (commencing with Section 1810) of the Labor Code of the State of California. Every Contractor and subcontractor shall keep an accurate payroll record, certify the records, and make them available for inspection pursuant to Labor Code Section 1776 and 1812.

7. Apprentices: In accordance with the provisions of Section 1777.5 of the Labor Code and in accordance with the rules and procedures of the California Apprenticeship Council, properly indentured apprentices shall be employed in the prosecution of the work. Civil Penalties of \$100 per day shall be assessed in accordance with Section 1777.7 of the Labor Code of the State of California for violation of Labor Code Section 1777.5. Furthermore, a Contractor who knowingly violates Section 1777.5 shall be denied the right to bid on future public works contracts by the Administrator of Apprenticeship.

Information relative to number of apprentices, identifications, wages, hours of employment and standards of working conditions shall be obtained from Administrative of Apprenticeship.

8. Labor Discrimination: Attention is directed to Section 1735 of the Labor Code, which reads as follows:

"No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status or sex of such persons, except as provided in Section 12940 of the Government Code, and every contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter."

9. Workers' Compensation Insurance: In accordance with the provisions of Division 2, Part 7, Chapter 1, Article 5 (commencing with Section 1860) and Division 4, Part 1, Chapter 4 (commencing with Section 3700) of the Labor Code of the State of California, the Contractor is required to secure the payment of employee compensation and shall for that purpose obtain and keep in effect adequate Workers' Compensation Insurance.

The undersigned Contractor is aware of the provisions of Section 3700 of the Labor Code, which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that Code, and will comply with such provisions before commencing performance of the work of this contract.

IN WITNESS WHEREOF the Montara Water and Sanitary District, has caused these presents to be executed by its officers, thereunto duly authorized, and Contractor has subscribed same, all on the day and year first above written.

CONTRACTOR

By _____

By _____

ATTEST:

MONTARA WATER AND SANITARY DISTRICT
a Public Entity

By _____

By _____

(SEAL)



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: **May 31, 2018**

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

SUBJECT: Review and Possible Action Concerning Approval of Purchase Order for 2018 Chevrolet Colorado (Replacement) Through California State Contract 1-18-23-20D

The District Currently has five water utility trucks. Three of which are light duty 4X4 two that are heavy-duty 4X4. One of the trucks the heavy-duty trucks in particular is in need of replacement due to normal usage and has come to the end of its functional life. This truck is a 2006 Ford F-250 with 25337 miles on the odometer. A typical lifespan for a fleet vehicle is 5-7 years depending on conditions.

We would like to replace this vehicle using the State of California bid process. For over 30 years, the State has competitively bid and made vehicle contracts available to California governmental entities. These vehicle contracts leverage pricing based upon California government business volume enhanced by manufacturer and dealer incentive programs provided to government. These contracts provide a broad spectrum of vehicles at an 8 to 12 percent cost savings over volume commercial fleet pricing. Generally, contract ordering begins in October and extends through the following March to June timeframe of the Model Year, depending upon manufacturer production schedules.

The District would order directly from the contract dealer with a copy of the order going to the California Department of General Services (DGS) Procurement Division. DGS charges an administrative fee which is minimal when considering the time and cost savings agencies incur by avoiding the specification development, negotiation and the bid process. The service charge for use of this contract is 1.98% of the total purchase order before tax or cash discount. There is however a \$500 discount for payments made within 20 days of purchase.

After reviewing the various makes and models available through this program, the best fit for our needs as well as being the best value is a 2019 Chevrolet Colorado, which is offered through Winner Chevrolet in Elk Grove California. The District has contacted Fleet Manager Jerry Powers about this purchase and he has provided price and a summary of specifications for the vehicle we wish to purchase.



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: **May 31, 2018**

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

A copy of the District purchase order with the specifications is attached. The following are some of the highlights of the vehicle we specified:

- 2018 Chevrolet Colorado Ext Cab work truck; white exterior
- Engine, 2.5L I4, DI, DOHC, VVT
- Automatic transmission 6-speed automatic, HMD, 6L50
- 4 wheel drive
- Factory-installed towing package
- Dealer installed bed liner
- 3yr/36,000 mile bumper to bumper warranty
- 5yr/100,000 mile drive-train warranty

RECOMMENDATION:

Authorize the District Manager to issue the attached Purchase Order to Coalinga Motors in the amount of \$26,693.00 (excluding tax and licenses).

Attachment



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: **May 31, 2018**

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

**SUBJECT: Review of the Department of Water Resources
Reclassification of the Half Moon Bay Terrace to
High Priority.**

In the past decade two new State laws CASGEM and SGMA have reshaped the world of Groundwater in California. CASGEM requires that all DWR Bulletin 118 defined basins need to be monitored through monitoring wells of participating agencies and the data collected and published in a State Database. MWSD is a participating agency and provides Groundwater levels from monitoring wells in the HMB Terrace.

SGMA requires that all stakeholder agencies using Groundwater from basins classified as medium or high priority need to form Groundwater Sustainability Agencies (GSA) by 2017. The Half Moon Bay Terrace was so far classified as low priority.

Now the State has announced the reclassification to High Priority and is asking to implement GSA within 2 years, and a Groundwater Monitoring Plan within 5 years.

Staff in conjunction with Balance Hydrologics is currently reviewing the available documents. All stakeholders can submit comments within 60 days. MWSD also is in close contact with other stakeholders within the HMB Terrace.

Since Prop 1 funds dried up and no funding for the process is available the timing of this reclassification is problematic. The process can be costly for all involved agencies.

RECOMMENDATION:

This is for information only.



MONTARA WATER AND SANITARY DISTRICT AGENDA

For Meeting Of: **May 31, 2018**

TO: BOARD OF DIRECTORS

FROM: Clemens Heldmaier, General Manager

**SUBJECT: Review and Possible Action Concerning
Cancellation of Next Regular Scheduled
Meetings June 7, June 21, and July 5 2018;
Scheduling of Alternative Meetings.**

At the May 3 meeting this District announced the Cancellation of the June 7 meeting and scheduled this May 31 meeting to handle District business.

The manager will not be available on June 21. We additionally ask to clarify the availability of Directors for the July 5 meeting. If needed Special Meetings can be scheduled.

RECOMMENDATION:

Discuss and provide alternative meeting times.