

FINAL  
Evaluation of Sewer Service Charges

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Prepared for  
Valley Sanitary District, California  
May 2019

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## List of Abbreviations

Ccf	Hundred Cubic Feet
CCI	Construction Cost Index
CIP	Capital Improvement Program
District	Valley Sanitary District
EDU	Equivalent Dwelling Unit
FY	Fiscal year (July 1 to June 30)
FY20	July 1, 2019 to June 30, 2020
gpd	Gallons per Day
HCF	Hundred Cubic Feet
VSD	Valley Sanitary District
O&M	Operation and maintenance
R&R	Renewal and Replacement
SSC	Sewer Service Charge

# Executive Summary

In September 2018 the Valley Sanitary District (VSD or District) contracted with Municipal Financial Services to evaluate sewer service charges and recommend a revised schedule of sewer service charges.

## Purpose of the Study

The purpose of the study was to evaluate sewer service charges for the Valley Sanitary District. Sewer service charges are intended to recover revenues sufficient to adequately fund sewer utility operations, maintenance, and capital program expenditures, and meet debt service obligations, while keeping rates as competitive as possible and maintaining a prudent level of reserves.

Evaluation of Capital Improvement Program (CIP) projects extends through Fiscal Year 2028 – 2029 (FY29). This 10-year time-period was selected to include the impact of \$163.4 million in CIP expenditures which include the Phase 3 wastewater treatment plant projects. It is recommended that the District adopt sewer service charges for FY20 – FY24 (five years).

The evaluation includes estimates of future operating and non-operating revenues, operating and maintenance expenses, debt service obligations, and capital program expenditures. Like all projections, the evaluation is based on several assumptions including interest and inflation rates as well as future operating and program costs. The evaluation reflects current policies as well as potential changes to sewer service charges and sewer capacity charges, and other sources of revenues. To the extent that actual conditions differ from those incorporated in the evaluation, actual results may differ from the findings developed in this study.

## Projected Cash Flow

Operating and capital funds cash flow for the five-year period of FY20 – FY24 is shown in Figure ES-1. The revenues from sewer service charges and sewer capacity charges include additional revenues from

<b>Beginning Balance, July 1, 2019</b>	<b>\$46,672</b>
<b>Revenues</b>	
Sewer Service Charges	\$61,431
Other Operating	\$120
Nonoperating	\$3,959
Interest Earnings	\$3,375
Capacity Charges	\$5,780
Loan Disbursements	\$59,356
<b>Total Revenues</b>	<b>\$134,021</b>
<b>Expenditures</b>	
Fund 11 Operating & Maintenance	\$38,710
Fund 11 Capital	\$2,187
Fund 12 Capital	\$69,908
Fund 13 Capital	\$23,742
Debt Service	\$14,440
<b>Total Expenditures</b>	<b>\$148,988</b>
<b>Revenues less Expenditures</b>	<b>(\$14,967)</b>
<b>Ending Balance, June 30, 2024</b>	<b>\$31,705</b>

annual increases in charges. Note that during this five-year period, total expenditures exceed total revenues by approximately \$15 million. Expenditures not funded by revenues are funded by use of cash from the fund balance.

Revenues from sewer service charges and sewer capacity charges are required to fund the projected \$95.8 million in CIP expenditures during the five-year period. Approximately 63 percent of the CIP expenditures (\$59.4 million) are projected to be funded from issuance of new debt with the remainder from cash. After issuance of new debt, the annual debt service principal and interest payments are projected to total approximately \$4.1 million per year.

Figure ES-1. Cash Flow Summary, FY20 – FY24

## Recommended Sewer Service Charges

During the past nine years, sewer service charges have been adjusted twice. In 2014, sewer service charges were increased from \$259 per unit of service to \$270 (an increase of approximately 4 percent). The most recent adjustment was in 2016 when sewer service charges were increased by 16 percent to \$313 per unit of service.

The District’s historical and recommended sewer service charges are shown in the table below. The recommended sewer service charges for FY20 and FY21 are \$330 per unit (an initial increase of about 5.4 percent). The recommended sewer service charges for FY22 – FY24 are \$350 per unit (an increase of about 6.1 percent).

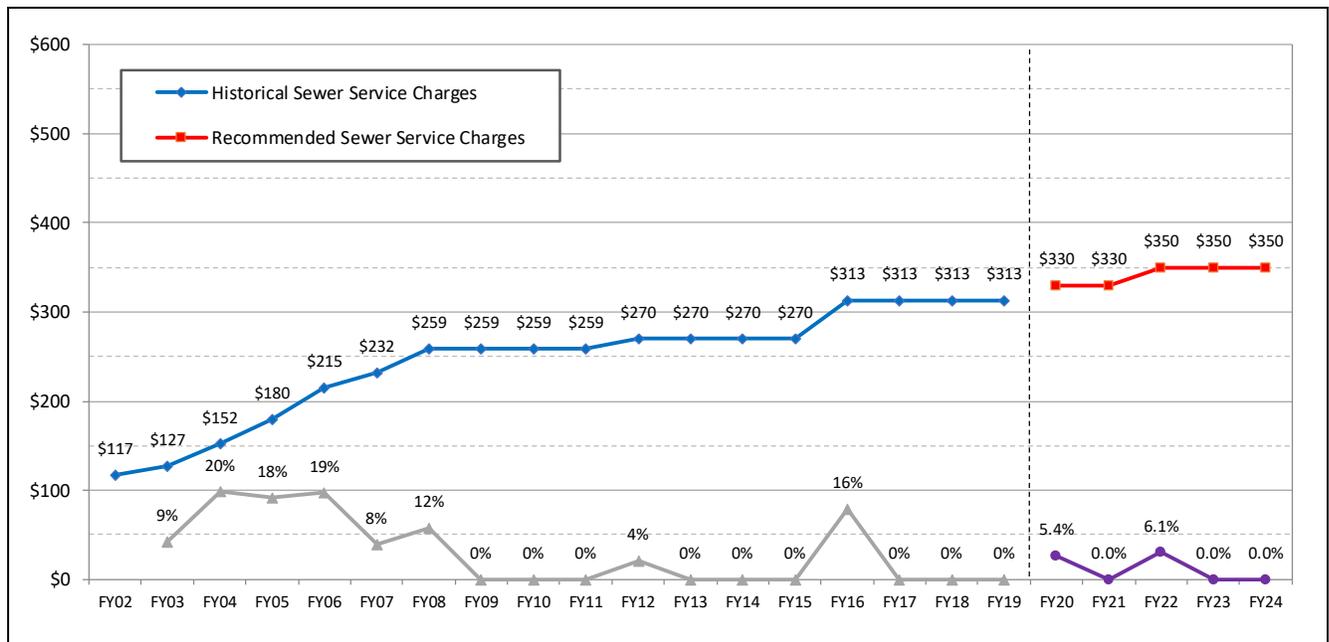


Figure ES-2. Historical and Projected Residential Annual Sewer Service Charges

It is recommended that in FY22, the District evaluate whether revenue from sewer service charges developed in this five-year rate plan will be sufficient to fund capital expenditure increases projected for FY25 – FY29.

## Section 1

# Introduction

Sewer Service Charges are intended to recover revenues sufficient to adequately fund sewer utility operations, maintenance, and capital replacement expenditures, and meet debt service obligations, while keeping rates as competitive as possible and maintaining a prudent level of reserves.

## 1.1 District Structure and Leadership

The Valley Sanitary District is an independent special district, which operates under the authority of the Health and Safety Code, Sanitary District act of 1923, section 6400 *Et. Sequentia*. The District was formed June 1, 1925 and is governed by a five-member Board of Directors, elected at large from within the District's service area. The General Manager administers the day-to-day operations of the District in accordance with policies and procedures established by the Board of Directors. The District employs approximately 27 regular employees organized in three departments.

## 1.2 Wastewater Management System Description

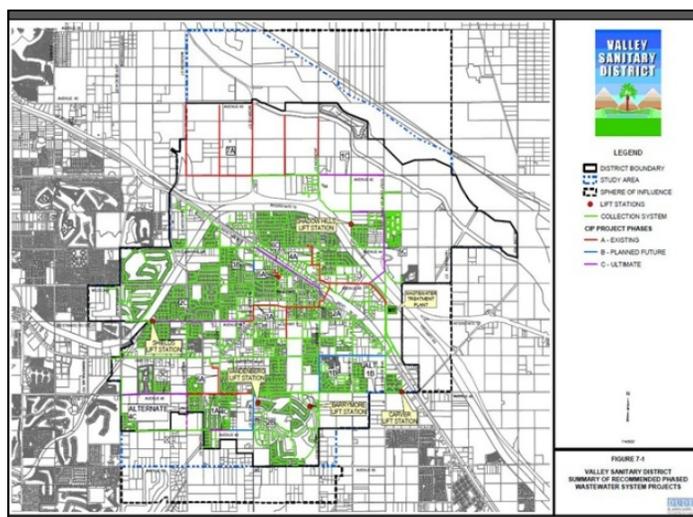
The District provides sewer services to approximately 27,850 connections within its 19.5 square mile service area, located in the eastern desert area of Riverside County. The VSD service area primarily consists of residential areas with moderate commercial, industrial, and public land use encompassing much of the City of Indio, portions of the City of La Quinta and City of Coachella, and unincorporated areas of the County of Riverside.

A vast wastewater management system has been built to collect, transport, treat and dispose wastewater. The wastewater treatment, collection and disposal system comprise approximately:

- 254 miles of sanitary sewer pipe;
- 4,910 sewer manholes;
- 4 sewage pump stations;
- 12.5 mgd capacity secondary treatment plant; and
- Administrative Headquarters Building.

Wastewater is collected from the thousands of customers, transported to the Wastewater Treatment Facility for treatment and subsequently discharged into the Whitewater Channel via an outfall.

The Valley Sanitary District is exploring the possibility with the Indio Water Authority of a recycled / reclaimed water project. This project will reuse tertiary treated water as a new water source for sustainable and beneficial use. The City of Indio and the Valley Sanitary District have created a Joint Powers Authority for this purpose, the East Valley Reclamation Authority. This project is in the preliminary exploration stage.



## 1.3 Regulatory Requirements

The updated Sewer Service Charges recommended in this study should fulfill the requirements found in the *Revenue Program Guidelines* published by the California Environmental Protection Agency's State Water Resource Control Board from its Policy for Implementing the State Revolving Fund for Construction of Wastewater Treatment Facilities.

## 1.4 Overview of Utility Rate Setting Process

Sewer rate studies classically have three categories of technical analysis – the development of revenue required from rates, the allocation of costs among functional cost categories (cost-of-service analysis) and the design of a rate structure. An overview of the rate-setting analytical steps is shown in Figure 1-1.

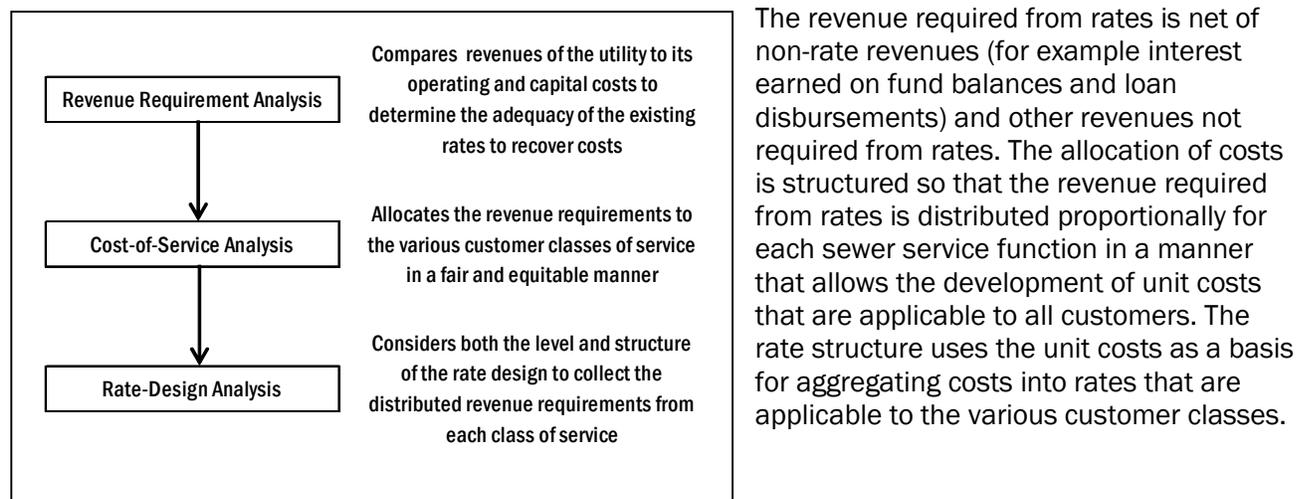


Figure 1-1. Overview of Rate Setting Analytical Steps

## 1.5 Reserve Policy and Sewer Account Funds

The District adopted a Financial Reserve Policy on April 9, 2013 (Reserve Fund Policy).<sup>1</sup> The Reserve Fund Policy established reserve funds for its long term organizational operational stability and the reserve funds enable the District to minimize significant rate fluctuations due to unforeseen and expected cash flow requirements. The Reserve Fund Policy is to ensure that the District accumulates, manages, maintains, and uses certain financial resources only for specific purposes. The District manages the following reserves:

- Capital Replacement Reserve Fund;
- Capital Improvement Reserve Fund;
- Debt Service Reserve Fund;
- Emergency Reserve Fund;
- Operating Reserve Fund; and
- Vehicle & Equipment Replacement Reserve Fund.

<sup>1</sup> See Resolution No. 2013-1040.

The projected sewer service charges are sufficient to maintain reserves at levels that meet Reserve Fund Policy objectives.

## 1.6 Methodology for Determination of Sewer Service Charges

Calculation of a Sewer Service Charge is a simple mathematical operation. Defining the wastewater characteristics and revenue requirements data required for that operation are more complex and represent a major emphasis of the Sewer Service Charges study. Basic steps in defining the basis for and computing the Sewer Service Charge are as follows:

**Define revenue required from Sewer Service Charges.** The District's most recent operating budget, multi-year Capital Improvement Project budget, and target levels of reserve funds are used to project annual expenditures and revenues required from Sewer Service Charges.

**Define user wastewater system characteristics.** Prior estimates of user characteristics are updated and used to estimate average annual Equivalent Dwelling Units.

**Develop Sewer Service Charges.** Revenue required from Sewer Service Charges is divided by the estimated number of Equivalent Dwelling Units to yield the Equivalent Dwelling Unit fee. The fee is applied to the estimated number of Equivalent Dwelling Units for each account.

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## Section 2

# Summary of Users and Wastewater Discharge Characteristics

The purpose of this section is to summarize the identification of residential and commercial users and their corresponding wastewater discharge characteristics.

### 2.1 Equivalent Dwelling Units

The District's current sewer use fees are shown in Resolution No. 2018-1100. Section 1 of the Resolution defines the "Equivalent Dwelling Unit" (EDU) for single family household accounts. The EDU for single family household accounts is based on estimates of the average daily wastewater flow per household (300 gallons per day).

The District charges sewer use fees using the County of Riverside assessment rolls and, for users that are not billed by the County Tax Collector, the District issues a bill directly to the user.

The number of estimated EDUs on tax rolls and accounts receivable is the sum of the number of single family dwelling units (single family dwellings, condominiums, townhouses, apartments, permanent mobile homes and duplex units) plus the equivalent number of EDUs for non-household accounts.

Section 2 of the Resolution No. 2018-1100 lists the equivalent number of EDUs for the various categories of non-household accounts. Categories include those for different businesses (restaurants, car washes, retail stores, etc.), schools, institutions, industries/manufacturing, Cabazon Band of Mission Indian facilities, movie theaters and RV dump stations. A list of non-household account categories from Section 2 of the Resolution are shown in the table on the next page.

The number of estimated EDUs on tax rolls and accounts receivable used to develop the current (FY 2018-2019) Equivalent Dwelling Unit fee is approximately 35,160.

Table 2-1. Equivalent Dwelling Unit Assignments

User Classification	EDU	per	Unit
1 Single Family Dwellings *	1		each
2 Recreation Vehicle/Motel Rooms	0.5		each
3 Recreation Vehicle w/sewer service connection	1		each
4 Library/Church	1		each
5 Church with Kitchen	2		each
6 Professional Building (Tenant)	1		each
7 Administrative Offices-city, county, state	1	5	employees
8 Hospital	1	2	beds
9 Rest Homes	1	3	beds
10 Laundry/Laundromat	1	3	washers
11 Restaurant/Tavern	3		blank
12 Restaurant and Tavern or Drive-Thru	4		blank
13 Gas Station	2		blank
14 Gas Station with Wash Rack	3		blank
15 Car Wash	3		blank
16 Animal Hospital/Clinic/Kennel	3		blank
17 Barber Shop/Beauty Shop	1	2	sinks
18 Retail Stores	1	2000	square feet
19 Warehousing	1		restroom
20 Food Markets	1	2000	square feet
Plus	12		food grinder
SCHOOLS			
21 Pre-School, K-5	1	23	students
22 Junior High/High/Continuation/Adult	1	14	students
MOVIE THEATERS			
23 Theaters	1	100	seats
24 Other theaters	1	100	seats
INSTITUTIONAL			
25 County Sheriff substation/County Jail	1	3.5	employees
26 County Juvenile Hall	1	5	employees
27 County administration, courts, clinics, mental health	1	20	gallons/fixture
28 Restrooms in parks	1		restroom
INDUSTRIES/MANUFACTURING			
29 For domestic wastewater	1	20	gallons/fixture
For non-domestic wastewater			non-domestic wastewater formula
CABAZON BAND OF MISSION INDIANS FACILITIES			
All uses specifically on this schedule shall be charged the same UOS as others			
30 Casino Facilities	1	20	gallons/fixture
RV DUMP STATIONS			
31 Recreational vehicle park w/hook-up; w/o dump stations	1	6	spaces
32 Recreational "rally field" with dump stations	0.5		acre
33 Dump stations for RV's and buses	15		station

## 2.2 Current Equivalent Dwelling Unit Fee

The formula for the EDU User Fee of domestic wastewater from Resolution No. 2018-1100 is shown in the table below.

Table 2-2. Calculation Summary of 2018/2019 Equivalent Dwelling Unit Fee				
Balance of Revenue to be Collected	<i>divided by</i>	Estimated EDUs on Tax Rolls and Accounts Receivable	<i>equals</i>	Equivalent Dwelling Unit Fee
\$11,011,086	/	35,160	=	\$313

Estimates of projected revenue requirements are developed in Section 3. Estimates of projected EDUs are developed in the next subsection.

## 2.3 Projected Equivalent Dwelling Units

Current and projected EDUs are shown in the table below. Projected EDUs are based on annual increases of 245 EDUs for accounts billed on the tax rolls and 5 EDUs for accounts that are direct bills.

Table 2-3. Current and Projected Equivalent Dwelling Units									
Item	Current	Five-Year Rate Plan					Projected		
	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27
Equivalent Dwelling Units									
Tax Rolls	32,842	32,842	33,087	33,332	33,577	33,822	34,067	34,312	34,557
<i>annual growth &gt;</i>		245	245	245	245	245	245	245	245
Direct Billing	2,318	2,318	2,323	2,328	2,333	2,338	2,343	2,348	2,353
<i>annual growth &gt;</i>		5	5	5	5	5	5	5	5
Total EDUs	35,160	35,410	35,660	35,910	36,160	36,410	36,660	36,910	37,160
Unit increase		250	250	250	250	250	250	250	250
Percent increase		1%	1%	1%	1%	1%	1%	1%	1%

## 2.4 Equivalent Dwelling Unit Definition

The District's Board annually adopts resolutions related to rates for sewer use. The District's current sewer use fees are shown in Resolution No. 2018-1100 (Resolution).

Section 1 of the Resolution defines an "Equivalent Dwelling Unit" (EDU). One (1) EDU represents an average daily wastewater flow of 300 gallons from one single family household. For non-household uses, the value of equivalency to a household is used for purposes of computing uniform financial obligations.

Section 2 of the Resolution lists assignments of EDUs for classifications of types of property and use (see Table 2-1, above).

Section 3 of the Resolution describes calculation of a Non-domestic Sewer User Fee. A formula for calculating the industrial wastewater treatment surcharge (Non-domestic Sewer User Fee) from Section 3 is shown in the table below. Note that the formula requires detailed information of the wastewater flow and concentration of the discharge and general information of the District's annual expenditures.

**Table 2-3. Industrial Wastewater Treatment Surcharge Formula**

$$\text{EDU} = \frac{Q}{300} \left[ 0.42 \begin{matrix} \text{(A)} \\ \text{+} \end{matrix} 0.36 \begin{matrix} \text{(B)} \\ \frac{(\text{COD})}{500} \end{matrix} + 0.22 \begin{matrix} \text{(C)} \\ \frac{(\text{SS})}{240} \end{matrix} \right]$$

Where:

Q = daily sewage flow in gallons

COD = quarterly 92-day average COD concentration in mg/L for COD in excess of 500 mg/L  
concentrations of 500 mg/L or less will be calculated at 500 mg/L

SS = quarterly 92-day average SS concentration in mg/L for SS in excess of 240 mg/L  
concentrations of 240 mg/L or less will be calculated at 240 mg/L

(A) = the portion of annual expenditures related to sewage flow

(B) = the portion of annual expenditures related to sewage COD loadings

(C) = the portion of annual expenditures related to sewage SS loadings

It is recommended that the District update the: 1) definition of an EDU and the wastewater discharge characteristics for a single family household (Section 1 of the annual rate resolution); 2) list of EDU assignments (Section 2 of the annual rate resolution); and 3) formula for calculating the industrial wastewater treatment surcharge (Section 3 of the annual rate resolution).

## 2.5 Equivalent Dwelling Unit Assignments

The District received water use data from Indio Water Authority for its water meters within the District's sewer service area.

It is recommended that the District evaluate and update Equivalent Dwelling Unit assignments for establishments that have food service functions. The evaluation should include determination of wastewater discharge characteristics of those type of establishments and equating those characteristics to those for a single family dwelling.

## Section 3

# Revenue Required from Sewer Service Charges

Sewer Service Charges must adequately fund sewer utility operations, capital costs, reserves, and bonded debt related to the provision of sewer service. The revenue required from Sewer Service Charges is developed in this section.

### 3.1 10-Year Capital Improvement Program

The District's current Capital Improvement Program for FY20 – FY29 is summarized in the table below. CIP projects are to be funded by cash except for the projects related to the Plant Expansion 2B/2C. Projects related to the Plant Expansion 2B/2C totaling approximately \$59,356,000 are anticipated to be funded through a low interest loan from the State of California State Water Resources Control Board.

**Table 3-1. Ten-Year Capital Improvement Program**

Year Number >	<i>(all values in \$thousands)</i>										Total
	1	2	3	4	5	6	7	8	9	10	
<b>Funds 12 &amp; 13</b>	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	
Sewer Main Repair & Replace	1,090	3,073	5,754	8,113	8,409	8,691	8,983	9,284	6,443	3,401	63,241
Plant Expansion 2B/2C	5,057	27,149	27,149	0	0	0	0	0	0	0	59,356
Plant Expansion Phase 3	60	0	0	0	0	0	0	3,817	14,418	14,851	33,146
Vehicle & Major Equipment	610	610	610	610	610	610	610	610	610	610	6,100
Sewer Siphon Replacement	0	4,000	0	0	0	0	0	0	0	0	4,000
Lateral Grant Program	53	54	55	56	57	59	60	61	62	63	580
Contingency	90	92	94	96	97	99	101	103	105	108	985
<b>Total</b>	<b>6,960</b>	<b>34,979</b>	<b>33,662</b>	<b>8,875</b>	<b>9,174</b>	<b>9,459</b>	<b>9,754</b>	<b>13,875</b>	<b>21,639</b>	<b>19,032</b>	<b>167,409</b>
<b>Cumulative</b>	<b>6,960</b>	<b>41,939</b>	<b>75,602</b>	<b>84,476</b>	<b>93,650</b>	<b>103,109</b>	<b>112,862</b>	<b>126,738</b>	<b>148,377</b>	<b>167,409</b>	

## 3.2 Current and Projected Debt Service

### Wastewater Revenue Refunding Bonds, Series 2015

On August 26, 2006, the District issued the 2006 Certificates of Participation in the amount of \$12,915,000. The purpose of the Certificates was to fund Phase I of the District's treatment plant expansion. Interest ranging from 3.50% to 4.375% is payable semi-annually on February 1st and August 1st commencing February 1, 2007.

On June 18, 2015, the District issued Wastewater Revenue Refunding Bonds, Series 2015 in the amount of \$7,540,000. The purpose of the bond issuance was to provide funds to defease and refund on current basis the District's outstanding 2006 Certificates of Participation (Treatment Plan Expansion) and pay the costs of issuing the bonds. The bonds are payable from and secured by a lien on net revenue of the wastewater system of the District. The aggregate difference in debt service as result of the refinancing was in the amount of \$1,596,780. The economic gain on the refinancing was \$500,181. Interest rate of 5% (except for 2.125% in 2023) is payable semi-annually on each December 1 and June 1 beginning December 1, 2015. The bonds are not subject to redemption prior to maturity. The outstanding balance as of June 30, 2018 was \$5,835,000. The term of the certificates which run through 2026. Repayment of the debt is funded through sewer use fees of the District.<sup>2</sup>

### Clean Water State Revolving Fund Low Interest Loan

The District executed an installment sale agreement with the State Water Resources Control Board (the "SWRCB") for the construction of the Requa Avenue Sewer Interceptor Project. As part of the Requa Avenue Sewer Interceptor Project, the District constructed 4.2 miles of new gravity flow sewer pipeline and related utility improvements designed to collect and convey sanitary sewer flow within an existing public right-of-way through central Indio, California to the existing District's Water Reclamation Plant. The SWRCB provided financial assistance through a Clean Water State Revolving Fund loan - Project No. C-06-8116-110, Agreement No. D1601003-550-0. The total amount of the loan funded was \$12,746,147. Beginning June 2019, the District will repay the principal of the project funds, together with all interest accruing thereon, annually to the SWRCB. As of June 30, 2018, the outstanding balance of the SWRCB revolving fund loan was in the amount of \$12,920,155.<sup>3</sup>

A reserve account is required to be maintained equal to one (1) year of the SWRCB revolving fund loan debt service payments from unrestricted net revenues. As of June 30, 2018, the reserve requirement was \$553,360. The balance held in the reserve at June 30, 2018 was \$1,059,648. Debt covenants of the SWRCB revolving fund loan require that the District have net revenues that are at least 125% of the total debt service payments (including 2015 Wastewater Revenue Refunding Bonds). Net revenue and total debt service paid during the year ended June 30, 2018 were in the amounts of \$5,690,579 and \$889,687, respectively, which resulted in ratio of 640%.

### Projected Low Interest Loan and Debt Service

Projects related to the Plant Expansion 2B/2C totaling \$59,356,000 are anticipated to be funded through a low interest loan from the State Water Resources Control Board. The loan terms are projected to be a 30-year payback period and a 2.0 percent interest rate with the first years' \$2,650,000 principal and interest payments due in FY23.

Detailed debt service schedules are included in Appendix A, Table A-1 (current debt service) and Table A-2 (projected debt service).

<sup>2</sup> See the Valley Sanitary District Comprehensive Annual Financial Report (CAFR) for the Year Ended June 30, 2018, page 13.

<sup>3</sup> Ibid, page 13.

### 3.3 Operating and Capital Funds Cash Flow

Cash flow for Fund 11, Fund 12 and Fund 13 is summarized in the following sections.

#### 3.3.1 Fund 11 Cash Flow

Cash flow for the Operating Fund (Fund 11), is summarized in the table below. Detailed expenditure and revenue projections are included in Appendix A, Table A-3 (expenditures) and Table A-4 (revenues). Note that expenditures include \$9,000,000 in transfers from Fund 11 to Fund 12 from FY25-FY27 for funding capital projects.

All Values in \$thousands Item	Budget FY19	Five-Year Rate Plan					Projected			Total FY20-FY24
		FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	
Beginning Balance, July 1	\$20,445	\$20,462	\$20,462	\$20,182	\$20,332	\$20,162	\$19,672	\$14,332	\$10,232	
<b>Expenditures</b>										
O & M (net of depreciation)	7,024	7,253	7,489	7,734	7,986	8,248	8,518	8,797	9,086	\$38,710
Capital	400	412	424	437	450	464	478	492	507	2,187
Debt Service 2015 Refunding Bond	499	464	465	463	463	462	463	463	0	2,317
Debt Service 2019 SRF Loan		553	553	553	553	553	553	553	553	2,767
Capital Reserve Transfer to Fund 12	3,973	4,099	4,230	4,364	4,503	4,647	4,795	4,949	5,107	21,843
Add'l Reserve Transfer to Fund 12							3,000	3,000	3,000	0
<b>Total Expenditures</b>	<b>11,896</b>	<b>12,781</b>	<b>13,162</b>	<b>13,551</b>	<b>13,955</b>	<b>14,374</b>	<b>17,807</b>	<b>18,254</b>	<b>18,253</b>	<b>67,824</b>
<b>Revenues</b>										
Sewer Service Charges	11,005	11,691	11,776	12,583	12,648	12,733	14,306	16,056	18,028	61,431
Other Operating	23	23	24	24	24	25	25	26	26	120
Nonoperating	745	760	776	792	808	824	841	858	875	3,959
Interest	140	307	307	303	305	302	295	215	153	1,524
<b>Total Revenues</b>	<b>11,913</b>	<b>12,781</b>	<b>12,882</b>	<b>13,701</b>	<b>13,785</b>	<b>13,884</b>	<b>15,467</b>	<b>17,154</b>	<b>19,083</b>	<b>67,034</b>
Net Revenue	17	0	(280)	150	(170)	(490)	(2,340)	(1,100)	830	(790)
Ending Balance, June 30	20,462	20,462	20,182	20,332	20,162	19,672	14,332	10,232	8,062	

#### 3.3.2 Fund 12 Cash Flow

Cash flow for the Capital Fund (Fund 12), is summarized in the table below. Note that during FY25-FY27 the fund balance becomes negative. It is recommended that the District monitor its projected capital expenditure plan so that additional funds can be made available from rates, loans or some other source.

All Values in \$thousands Item	Budget FY19	Five-Year Rate Plan					Projected			Total FY20-FY24
		FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	
Beginning Balance, July 1	\$19,867	\$21,155	\$23,182	\$19,118	\$16,119	\$9,975	\$3,584	-\$41	-\$3,860	
<b>Expenditures</b>										
Capital Projects	2,557	4,938	24,119	22,803	8,875	9,174	9,459	9,754	11,585	\$69,908
SRF Loan Disbursement	0	-3,034	-16,290	-16,290	0	0	0	0	0	-35,613
SRF New Debt Service	0	61	386	712	1,590	1,590	1,590	1,590	1,590	4,340
Current Debt Service	426	425	426	424	424	424	424	424	0	2,124
<b>Total Expenditures</b>	<b>2,983</b>	<b>2,389</b>	<b>8,642</b>	<b>7,650</b>	<b>10,889</b>	<b>11,187</b>	<b>11,474</b>	<b>11,768</b>	<b>13,175</b>	<b>40,758</b>
<b>Revenues</b>										
Annual Transfer from Fund 11	3,973	4,099	4,230	4,364	4,503	4,647	4,795	4,949	5,107	21,843
Variable Transfer from Fund 11	0	0	0	0	0	0	3,000	3,000	3,000	0
Interest	298	317	348	287	242	150	54	-1	-58	1,343
<b>Total Revenues</b>	<b>4,271</b>	<b>4,416</b>	<b>4,578</b>	<b>4,651</b>	<b>4,745</b>	<b>4,797</b>	<b>7,849</b>	<b>7,948</b>	<b>8,049</b>	<b>23,186</b>
Net Revenue	1,288	2,027	(4,065)	(2,999)	(6,144)	(6,391)	(3,625)	(3,820)	(5,126)	
Ending Balance, June 30	21,155	23,182	19,118	16,119	9,975	3,584	-41	-3,860	-8,987	

### 3.3.3 Fund 13 Cash Flow

Cash flow for the Capital Fund (Fund 13), is summarized in the table below.

Table 3-4. Fund 13 Cash Flow FY 2019 – FY 2027										
All Values in \$thousands Item	Budget FY19	Five-Year Rate Plan					Projected			Total FY20-FY24
		FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	
Beginning Balance, July 1	\$4,305	\$5,054	\$5,970	\$6,951	\$7,781	\$8,088	\$8,449	\$8,855	\$9,308	
<b>Expenditures</b>										
Capital Projects	211	2,023	10,860	10,860	0	0	0	0	2,290	\$23,742
SRF Loan Disbursement	0	-2,023	-10,860	-10,860	0	0	0	0	0	-23,742
SRF New Debt Service	0	40	258	475	1,060	1,060	1,060	1,060	1,060	2,893
Current Debt Service	0	0	0	0	0	0	0	0	0	0
Total Expenditures	211	40	258	475	1,060	1,060	1,060	1,060	3,350	2,893
<b>Revenues</b>										
Interest	65	76	90	104	117	121	127	133	140	508
Capacity Charges	896	880	1,150	1,200	1,250	1,300	1,340	1,380	1,423	5,780
Total Revenues	960	956	1,240	1,304	1,367	1,421	1,467	1,513	1,562	6,288
Net Revenue	749	915	982	829	307	361	407	453	(1,788)	
Ending Balance, June 30	5,054	5,970	6,951	7,781	8,088	8,449	8,855	9,308	7,520	

### 3.3.4 Cash Flow and Coverage Ratio – All Funds

Cash flow and coverage ratio for the current fiscal year (2018-19) and the next five fiscal years is summarized in the figure below. Detailed debt service coverage calculations are included in Appendix A, Table A-5. Note that the Fund 12 balance is projected to be depleted during FY25.

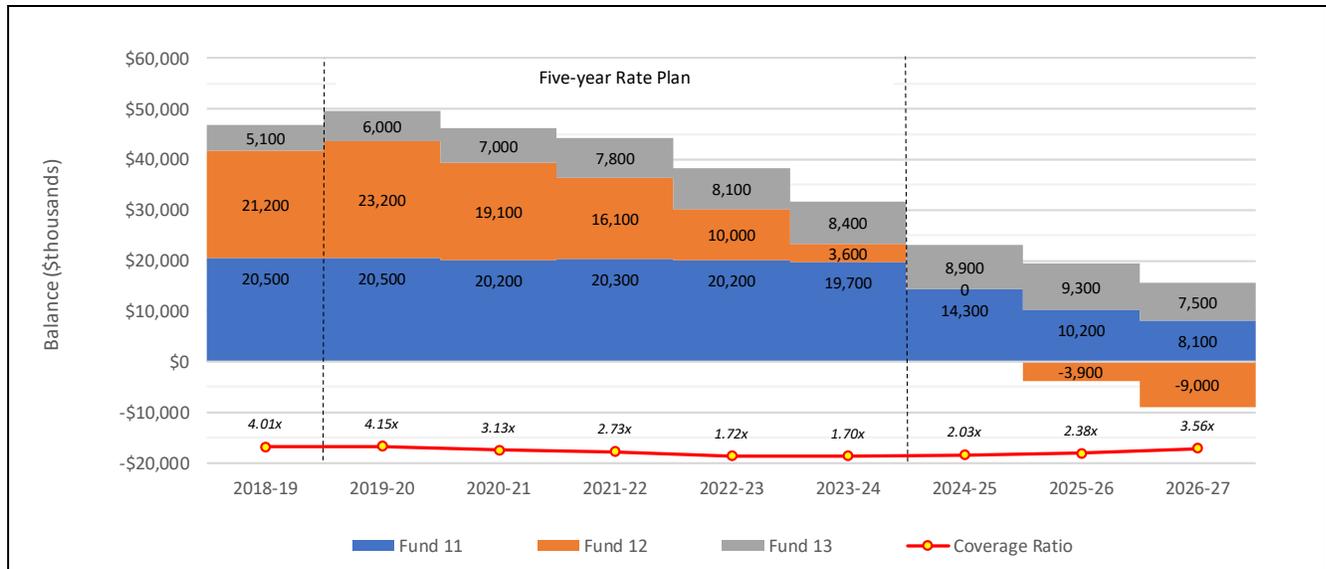


Figure 3-1. Fund Cash Flow and Coverage Ratio, FY 2019 – FY 2027

## Section 4

# Sewer Service Charges

Sewer Service Charges are developed based on the projected number of Equivalent Residential Dwelling Units and the revenue required from the charges.

### 4.1 Development of Sewer Service Charges

The annual amount of revenue required from sewer service charges, number of equivalent dwelling units and the calculation of the sewer service charge per Equivalent Dwelling Unit are shown in the table below for FY19 – FY27.

Table 4-1. Current, Recommended and Projected Sewer Service Charges										
All Cash in \$thousands Item	Current FY19	Five-Year Rate Plan					Projected			Total FY20-FY24
		FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	
Revenue Required										
Fund 11 O & M	7,024	7,253	7,489	7,734	7,986	8,248	8,518	8,797	9,086	38,710
Fund 11 Capital	400	412	424	437	450	464	478	492	507	2,187
Debt Service	499	1,017	1,019	1,016	1,016	1,015	1,016	1,016	553	5,084
Capital reserve fund	3,973	4,099	4,230	4,364	4,503	4,647	4,795	4,949	5,107	21,843
<i>Less other taxes, interest &amp; non-operating income</i>	<i>(885)</i>	<i>(1,090)</i>	<i>(1,106)</i>	<i>(1,118)</i>	<i>(1,137)</i>	<i>(1,151)</i>	<i>(1,161)</i>	<i>(1,098)</i>	<i>(1,055)</i>	<i>(5,603)</i>
Add/Use Fund Balance	0	0	-280	150	-170	-490	660	1,900	3,830	-790
Total Revenue Required	11,011	11,691	11,776	12,583	12,648	12,733	14,306	16,056	18,028	61,431
Dollar increase		680	85	808	65	85	1,573	1,750	1,972	
Percent increase		6%	1%	7%	1%	1%	12%	12%	12%	
Equivalent Dwelling Units										
Tax Rolls	32,842	32,842	33,087	33,332	33,577	33,822	34,067	34,312	34,557	
<i>annual growth &gt;</i>		245	245	245	245	245	245	245	245	
Direct Billing	2,318	2,318	2,323	2,328	2,333	2,338	2,343	2,348	2,353	
<i>annual growth &gt;</i>		5	5	5	5	5	5	5	5	
Total EDUs	35,160	35,410	35,660	35,910	36,160	36,410	36,660	36,910	37,160	
Unit increase		250	250	250	250	250	250	250	250	
Percent increase		1%	1%	1%	1%	1%	1%	1%	1%	
EDU Fee										
Revenue Required (\$thousands)	11,011	11,691	11,776	12,583	12,648	12,733	14,306	16,056	18,028	
EDUs	35,160	35,410	35,660	35,910	36,160	36,410	36,660	36,910	37,160	
EDU Fee (round to \$5)	\$313.00	\$330.00	\$330.00	\$350.00	\$350.00	\$350.00	\$390.00	\$435.00	\$485.00	
Fee increase		\$17.00	\$0.00	\$20.00	\$0.00	\$0.00	\$40.00	\$45.00	\$50.00	
Percent increase		5.4%	0.0%	6.1%	0.0%	0.0%	11.4%	11.5%	11.5%	

The figure below shows historical annual Residential Sewer Service Charges from FY02 through FY19 (18 years), recommended annual Sewer Service Charges for FY20 through FY24 (five years) and projected annual Sewer Service Charges for FY25 through FY27 (three years). The annual average percent increase over FY02-FY24 (23 years) is approximately 5.1 percent.

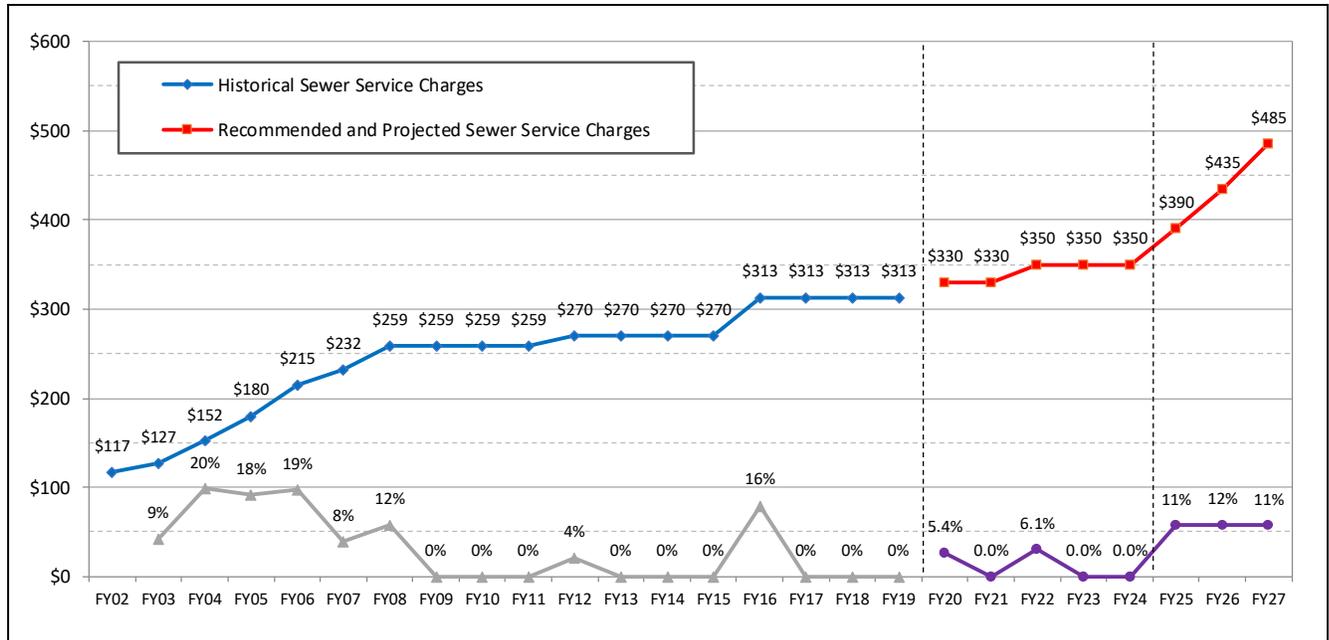


Figure 4-1. Historical, Recommended and Projected Residential Annual Sewer Service Charges

## 4.2 Residential Sewer Service Charge Survey

The District’s current (FY 2018-19) and recommended (FY 2019-20) Sewer Service Charges were compared to the sewer service charges for other nearby agencies. The comparison is for single family dwelling units. Results of the survey are shown in Table 4-2.

Table 4-2. Residential Sewer Service Charge Survey		
Mission Springs Water District	\$602	
City of Coachella	\$552	
California Statewide Average (FY 2016-17)	\$529	
City of Beaumont	\$489	
Cathedral City (Desert Water Agency)	\$345	
<b>Valley Sanitary District (recommended)</b>	<b>\$330</b>	
Coachella Valley Water District	\$324	
<b>Valley Sanitary District (current)</b>	<b>\$313</b>	
City of Palm Springs	\$288	increases to \$420 by 2031
City of Banning	\$235	



## Section 5

# Limitations

This document was prepared solely for the Valley Sanitary District in accordance with professional standards at the time the services were performed and in accordance with the contract between Valley Sanitary District and Municipal Financial Services. This document is governed by the specific scope of work authorized by Valley Sanitary District; it is not intended to be relied upon by any other party. We have relied on information or instructions provided by Valley Sanitary District and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

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# Appendix A: Sewer Service Charges Development Tables

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Table A-2  
Projected Debt Service Schedule

	CIP Escalated	Issuance Amount	Interest Rate	Number of Years	Annual Payments	Payments				Debt Reserve						
						FY22	FY23	FY24	FY25	Cumulative Annual	Interest Rate					
<b>SRF Loan (\$ Thousands)</b>																
State Maximum Loan	\$33,086															
Adjustments	\$0															
Projected Funding Parameters	\$33,086	\$33,086	2.000%	30	\$1,477						1.00%					
Cash Flow (\$ Thousands)		FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33
Capital Costs										\$3,817	\$14,418	\$14,851	\$1,477	\$1,477	\$1,477	\$1,477
Percent Funded by SRF										100%	100%	100%				
Dollars Funded by SRF										\$3,817	\$14,418	\$14,851				
Annual Disbursement										\$3,817	\$14,418	\$14,851				
Cumulative Disbursement										\$3,817	\$18,235	\$33,086				
Interest rate										2.000%	2.000%	2.000%				
Interest Only Payments										\$76	\$365	\$662				
Principal & Interest Payment Year Number													1	2	3	4
Principal & Interest Payments													\$1,477	\$1,477	\$1,477	\$1,477
Debt reserve contribution																
Annual Accumulation %													0%	0%	0%	0%
Annual Accumulation \$													\$0	\$0	\$0	\$0
Cumulative Accumulation \$													\$0	\$0	\$0	\$0
Debt reserve interest rate													1.00%	1.00%	1.00%	1.00%
Debt reserve interest earnings Summary (\$33,086)													\$0	\$0	\$0	\$0
Interest Only Payments													\$0	\$0	\$0	\$0
Principal Payment													\$816	\$832	\$849	\$865
Principal Portion Outstanding													\$32,271	\$31,439	\$30,590	\$29,725
Principal & Interest Payments													\$1,477	\$1,477	\$1,477	\$1,477
Reserve Fund Accumulation													\$0	\$0	\$0	\$0
Less: Reserve Fund Interest Earnings													\$0	\$0	\$0	\$0
Less: Reserve Fund Accumulation													\$0	\$0	\$0	\$0
SRF Loan Totals													\$1,477	\$1,477	\$1,477	\$1,477

Table A-3  
Fund 11 O&M Expenditures

All Expenditures, \$thousands Expenditure Category	Adoptec Prelim		Projected														
	Budget FY19	Budget FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27
<b>Engineering &amp; Maintenance</b>																	
Salaries & Benefits	1,782	1,836	1,891	1,948	2,006	2,066	2,128	2,192	2,258	3%	3%	3%	3%	3%	3%	3%	3%
Services & Supplies [1]	886	912	939	967	996	1,026	1,057	1,089	1,122	3%	3%	3%	3%	3%	3%	3%	3%
Chemicals & Electricity	4	4	4	4	4	4	4	4	4	3%	3%	3%	3%	3%	3%	3%	3%
Depreciation	605	623	642	661	681	701	722	744	766	3%	3%	3%	3%	3%	3%	3%	3%
Total Collection	3,277	3,375	3,476	3,580	3,687	3,797	3,911	4,029	4,150								
<b>Operations</b>																	
Salaries & Benefits	1,085	1,117	1,151	1,186	1,222	1,259	1,297	1,336	1,376	3%	3%	3%	3%	3%	3%	3%	3%
Services & Supplies [1]	587	605	623	642	661	681	701	722	744	3%	3%	3%	3%	3%	3%	3%	3%
Chemicals & Electricity	871	915	961	1,009	1,059	1,112	1,168	1,226	1,287	5%	5%	5%	5%	5%	5%	5%	5%
Depreciation	1,900	1,957	2,016	2,076	2,138	2,202	2,268	2,336	2,406	3%	3%	3%	3%	3%	3%	3%	3%
Total Operations	4,443	4,594	4,751	4,913	5,080	5,254	5,434	5,620	5,813								
<b>Administration/Board</b>																	
Salaries & Benefits	755	778	801	825	850	876	902	929	957	3%	3%	3%	3%	3%	3%	3%	3%
Services & Supplies [1]	1,054	1,086	1,119	1,153	1,188	1,224	1,261	1,299	1,338	3%	3%	3%	3%	3%	3%	3%	3%
Chemicals & Electricity	0	0	0	0	0	0	0	0	0	3%	3%	3%	3%	3%	3%	3%	3%
Depreciation	3	3	3	3	3	3	3	3	3	3%	3%	3%	3%	3%	3%	3%	3%
Total Administration	1,812	1,867	1,923	1,981	2,041	2,103	2,166	2,231	2,298								
<b>Combined</b>																	
Salaries & Benefits	3,622	3,731	3,843	3,959	4,078	4,201	4,327	4,457	4,591	3%	3%	3%	3%	3%	9%	3%	3%
Services & Supplies [1]	2,527	2,603	2,681	2,762	2,845	2,931	3,019	3,110	3,204	3%	3%	3%	3%	3%	9%	3%	3%
Chemicals & Electricity	875	919	965	1,013	1,063	1,116	1,172	1,230	1,291	5%	5%	5%	5%	5%	16%	5%	5%
Depreciation	2,508	2,583	2,661	2,740	2,822	2,906	2,993	3,083	3,175	3%	3%	3%	3%	3%	9%	3%	3%
Total Combined	9,532	9,836	10,150	10,474	10,808	11,154	11,511	11,880	12,261								
<b>Reserve [2]</b>	3,973	4,099	4,230	4,364	4,503	4,647	4,795	4,949	5,107								
<b>Totals</b>	13,505	13,935	14,380	14,838	15,311	15,801	16,306	16,829	17,368								
Annual Dollar Change		430	445	458	473	490	505	523	539								
Annual Percent Change		3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%								

Notes:

- The District's budget includes Chemicals and Electricity in the Services & Supplies category  
Expenditure projections in this model list Chemicals and Electricity in a separate category  
Depreciation is excluded
- The reserve amount is calculated as shown below:

<u>Expense Category</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>	<u>FY25</u>	<u>FY26</u>	<u>FY27</u>								
O&M	9,532	9,836	10,150	10,474	10,808	11,154	11,511	11,880	12,261								
<b>Fund 11 Capital</b>																	
E&M - Facilities	340	350	361	372	383	394	406	418	431	3%	3%	3%	3%	3%	3%	3%	3%
Operations	0	0	0	0	0	0	0	0	0	3%	3%	3%	3%	3%	3%	3%	3%
General Facilities	0	0	0	0	0	0	0	0	0	3%	3%	3%	3%	3%	3%	3%	3%
Admin	60	62	64	66	68	70	72	74	76	3%	3%	3%	3%	3%	3%	3%	3%
Total Fund 11 Capital	400	412	424	437	450	464	478	492	507								
Total Expense Base	9,932	10,248	10,574	10,911	11,258	11,618	11,989	12,372	12,768								
% of Base to Reserve	40%	40%	40%	40%	40%	40%	40%	40%	40%								
Reserve Contribution	3,973	4,099	4,230	4,364	4,503	4,647	4,795	4,949	5,107								

Sources:

Adopted Budget: Operation and Maintenance Budget and Capital Improvement Program, Fiscal Year 2018/2019  
Preliminary Budget: Draft Operation and Maintenance Budget and Capital Improvement Program, Fiscal Year 2019/2020

Table A-4  
Fund 11 Revenue Projections

All Revenues, \$thousands Expenditure Category	Adoptec Prelim		Projected														
	Budget FY19	Budget FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27
<b>Operating Revenues</b>																	
Sewer Service	11,005	11,691	11,776	12,583	12,648	12,733	14,306	16,056	18,028			varies					
Penalties	1	1	1	1	1	1	1	1	1	2%	2%	2%	2%	2%	2%	2%	2%
Permit/Inspection Fees	10	10	10	11	11	11	11	11	12	2%	2%	2%	2%	2%	2%	2%	2%
Plan Check Fees	10	10	10	11	11	11	11	11	12	2%	2%	2%	2%	2%	2%	2%	2%
Other Services	2	2	2	2	2	2	2	2	2	2%	2%	2%	2%	2%	2%	2%	2%
<b>Total Operating</b>	<b>11,028</b>	<b>11,714</b>	<b>11,799</b>	<b>12,607</b>	<b>12,673</b>	<b>12,758</b>	<b>14,331</b>	<b>16,081</b>	<b>18,054</b>								
<b>Nonoperating Revenues</b>																	
Interest revenue	140	143	146	149	152	155	158	161	164	2%	2%	2%	2%	2%	2%	2%	2%
Taxes-current secured	700	714	728	743	758	773	789	804	820	2%	2%	2%	2%	2%	2%	2%	2%
Taxes-current unsecured	21	22	22	23	24	24	25	26	27	3%	3%	3%	3%	3%	3%	3%	3%
Taxes-prior secured	6.0	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	2%	2%	2%	2%	2%	2%	2%	2%
Taxes-prior unsecured	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
Taxes-penalties	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5								
Taxes-supplemental current	7.0	7.2	7.4	7.6	7.8	8.0	8.2	8.4	8.7	3%	3%	3%	3%	3%	3%	3%	3%
Taxes-supplemental prior	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	2%	2%	2%	2%	2%	2%	2%	2%
Homeowner's Tax Relief	6.0	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	2%	2%	2%	2%	2%	2%	2%	2%
Non-operating income	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2%	2%	2%	2%	2%	2%	2%	2%
<b>Total Nonoperating</b>	<b>885</b>	<b>903</b>	<b>921</b>	<b>940</b>	<b>959</b>	<b>979</b>	<b>998</b>	<b>1,019</b>	<b>1,039</b>								
<b>Totals</b>	<b>11,913</b>	<b>12,617</b>	<b>12,721</b>	<b>13,547</b>	<b>13,632</b>	<b>13,736</b>	<b>15,330</b>	<b>17,100</b>	<b>19,094</b>	<b>6%</b>	<b>1%</b>	<b>6%</b>	<b>1%</b>	<b>1%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>
Annual Dollar Change		704	104	827	84	105	1,593	1,770	1,994								
Annual Percent Change		5.9%	0.8%	6.5%	0.6%	0.8%	11.6%	11.5%	11.7%								

Sources:

Adopted Budget: Operation and Maintenance Budget and Capital Improvement Program, Fiscal Year 2018/2019

Preliminary Budget: Draft Operation and Maintenance Budget and Capital Improvement Program, Fiscal Year 2019/2020

Table A-5  
Debt Service Coverage

All Dollars in \$thousands Item	Budget	Projected							
	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27
<b>Income</b>									
Sewer Service	11,005	11,691	11,776	12,583	12,648	12,733	14,306	16,056	18,028
Other Operating	23	23	24	24	24	25	25	26	26
Nonoperating	745	760	776	792	808	824	841	858	875
Interest	140	307	307	303	305	302	295	215	153
Connection Fees	896	880	1,150	1,200	1,250	1,300	1,340	1,380	1,423
Total Income	12,809	13,661	14,032	14,901	15,035	15,184	16,807	18,534	20,506
<i>Operating Expenses</i>	<i>7,024</i>	<i>7,253</i>	<i>7,489</i>	<i>7,734</i>	<i>7,986</i>	<i>8,248</i>	<i>8,518</i>	<i>8,797</i>	<i>9,086</i>
Net Income	5,784	6,408	6,543	7,167	7,049	6,936	8,289	9,737	11,420
<b>Debt Service Principal &amp; Interest</b>									
Wastewater Revenue Refunding Bonds, Series 2015	890	889	892	887	887	886	888	887	0
Clean Water State Revolving Fund Project No. C-06-8116-110	553	553	553	553	553	553	553	553	553
2023 SRF Low Interest Loan	0	101	644	1,187	2,650	2,650	2,650	2,650	2,650
Total	1,444	1,544	2,089	2,628	4,090	4,089	4,091	4,091	3,204
Coverage Ratio	4.01x	4.15x	3.13x	2.73x	1.72x	1.70x	2.03x	2.38x	3.56x
Amount Over / (Under) 1.5x Coverage									