



**TO:** Maurice Kaufman, Director of Public Works / City Engineer  
**FROM:** Bartle Wells Associates  
**DATE:** September 7, 2016  
**SUBJECT:** City of Emeryville - Sewer Rate Study

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MEMORANDUM

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## Introduction

The City of Emeryville (City) provides sewer sanitary collection services to a population of approximately 12,000. The collection system serves the entire City and includes about 15 miles of sewer mains. In addition, approximately 11 miles of sanitary sewer mains from 370 acres of primarily residential property in the City of Oakland and 0.25 acres of residential property in the City of Berkeley drain into Emeryville's sanitary sewer system. The City's sewer collection system feeds into treatment facilities managed by East Bay Municipal Utility District (EBMUD).

The City last conducted a detailed review of collection rates in the early 1990's and has not increased rates since 1996. The City engaged Bartle Wells Associates (BWA) to analyze and update the City's sewer collection rates to reflect the City's up to date operating and capital costs. Based on the user classifications set forth in Section 7-8.502 and the rates established by Resolution No. 94-164, the City currently charges all single family residential customers a flat \$8 per month rate and all multiple family and non-residential customers a volumetric rate of \$1.25 per hundred cubic feet of water consumed (ccf). An overview of current and proposed rates with 9% annual increases based on the preliminary results of the study are shown in **Table ES-1**.

## Accounts and Wastewater Flow

As of December of 2015, the City serves about 538 single family residential accounts and 434 non-residential accounts (see **Table 1**). Water consumption has decreased due to the historic drought California is facing. Consumption has decreased from about 610,000 ccf in calendar year 2013 to 536,000 ccf in calendar year 2015. The State Water Resource Control Board has ordered a statewide cutback of water consumption for all agencies in California. For the City of Emeryville (as a satellite agency to EBMUD) this cutback is 16% (See **Figure 1**).

**Table ES-1: Executive Summary of Proposed Rates**

	Current	Proposed				
		<u>Jan 1</u> <u>2017</u>	<u>Jan 1</u> <u>2018</u>	<u>Jan 1</u> <u>2019</u>	<u>Jan 1</u> <u>2020</u>	<u>Jan 1</u> <u>2021</u>
Single Family Residential [1]						
Monthly (\$\$ / Month)	\$8.00	\$8.72	\$9.50	\$10.36	\$11.29	\$12.31
Bimonthly (\$\$ / Bimonthly)	\$16.00	\$17.44	\$19.01	\$20.72	\$22.59	\$24.62
Triplex / Duplex / Fourplex (\$\$ / ccf) [2]	\$1.25	\$1.36	\$1.49	\$1.62	\$1.76	\$1.92
All other Classes [3]	\$1.25	\$1.36	\$1.49	\$1.62	\$1.76	\$1.92
Minimum Charges						
Daily (\$\$ / day)	\$0.2667	\$0.2907	\$0.3168	\$0.3453	\$0.3764	\$0.4103
Monthly (\$\$ / month)	\$8.00	\$8.72	\$9.50	\$10.36	\$11.29	\$12.31
Bi-monthly (\$\$ / bimonthly)	\$16.00	\$17.44	\$19.01	\$20.72	\$22.59	\$24.62

[1] Accounts charged a flat rate monthly or bimonthly.

[2] Accounts charged a volumetric rate. Accounts are NOT charged a minimum daily rate.

[3] Accounts charged a volumetric rate. Accounts ARE charged a minimum daily rate.

**Table 1: Accounts and Water Consumption**

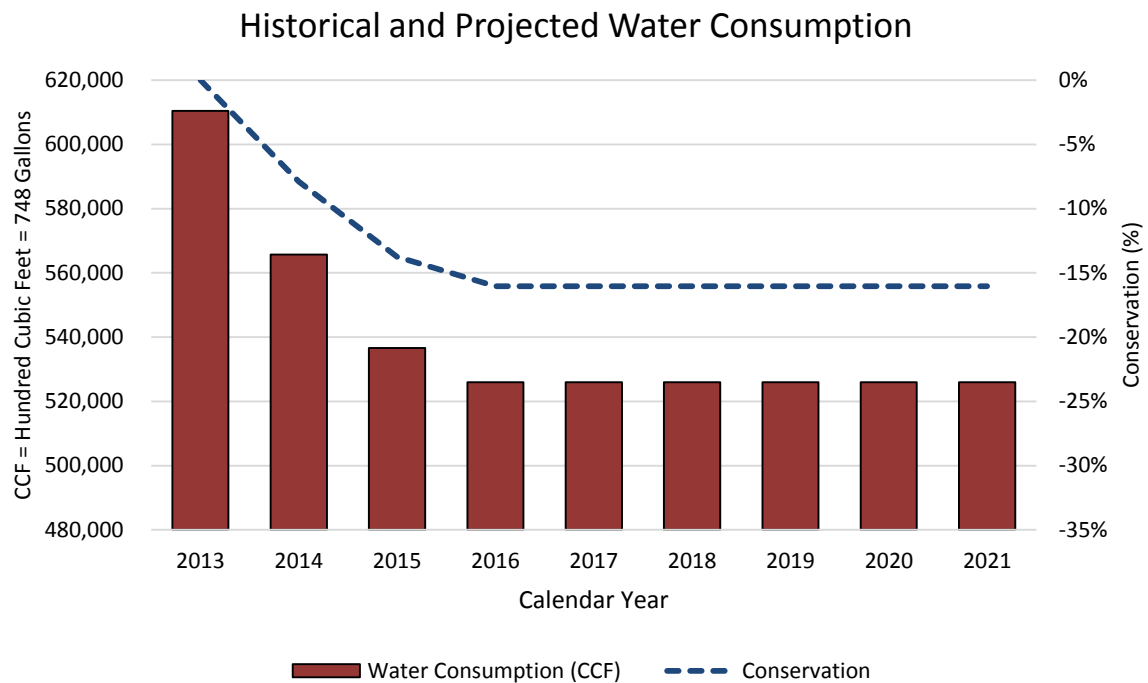
City of Emeryville  
Sewer Rate Study

	2013	2014	2015
Single Family Residential	538	538	538
All Other	<u>421</u>	<u>427</u>	<u>434</u>
Total Accounts	959	965	972
	2013	2014	2015
Wastewater Flow (ccf) [1]	610,400	565,700	536,600

[1] Does not include single family residential accounts

**Figure 1: Historical and Projected Wastewater Flow**

City of Emeryville  
Sewer Rate Study



-EBMUD Conservation Mandated by State Water Resource Control Board: 16%

-2013 to 2015: Actuals

-2016 to 2022: Projections (Based on 16% reduction in water consumption as mandated by the SWRCB)

## Revenue Based on Current Rates

Based on historical data provided by the City and EBMUD, an estimation of revenue for FY2016 is calculated, see **Table 2**. For this study, BWA assumes the City will continue to meet its water conservation goal in all projected years through FY2021, as shown in **Figure 1**. EBMUD is the water purveyor for Emeryville residents. Although water supply conditions have improved throughout the first two quarters of 2016, EBMUD reports that customers have continued to meet conservation targets through June. Over a longer-term planning horizon, water use does not typically rebound to pre-drought conditions when drought restrictions are relaxed. For example, customers may install water saving fixtures and plant drought-tolerant landscaping during drought conditions and maintain them during non-drought conditions.

As shown in Table 2, single family residential customers are charged a fixed sewer rate of \$8.00 per month. The typical single family residential customer is assumed to generate 6.4 ccf of sewer flow monthly. This equivalent generation rate was established in Resolution No. 94-164 and remains reasonable. Calendar year 2013 to 2015, single family sewer flow (based on winter water use) has ranged from 7.2 ccf to 6.2 ccf. For comparison, from 2012 to 2014, the City of Berkeley average water use (and assumed sewer flow) per single family home was 6.5 ccf per month. Indoor sewer flow from basic health and sanitation activities is about 50 to 60 gallons per day per capita. An assumed sewer flow of 6.4 ccf equates to a three person household generating about 53 gallons per day per capita. Typically, single family residences use water for both indoor and outdoor purposes. Indoor water use flows into the sewer system and is conveyed to EBMUD treatment facilities. Outdoor water use consists of landscape irrigation which does not return to the sewer system. Outdoor water use is not billed for sewer service. Therefore, estimated single family residential indoor water consumption of 6.4 ccf monthly is used as the basis for the residential monthly charge of \$8.00 (i.e. \$1.25 per ccf multiplied by 6.4 ccf).

Duplex, Triplex, and fourplex accounts are charged a volumetric rate of \$1.25 per ccf. These accounts are not charged a minimum. Multifamily customer parcels are higher density with very little outdoor water use. Nearly all multifamily metered water use is indoor use which flows into the sewer. Thus, it is appropriate to bill multifamily customers for sewer service directly based on metered water use. All other volumetric accounts (non-residential) are charged a volumetric rate or a minimum equal to \$0.2667 per day, whichever is greater. The current \$0.2667 per day charge is equivalent to \$8 per month based on a 30 day month. The minimum charge recovers the costs associated with the City providing base capacity in the sewer system for each connection. Customers with water use and corresponding sewer flow in excess of the minimum use are billed the volume rate in order to proportionally recover their use of the sewer system.

Overall, BWA finds the City's sewer rate structure to be appropriate and proposes to maintain the same user classifications over the next five-year planning horizon.

**Table 2: Current Rates and Estimated FY2016 Revenue**

City of Emeryville  
Sewer Rate Study

	Variable Revenue		
	WW Flow (ccf)	Rate (\$\$/ccf)	Revenue
Duplex/Triplex/Fourplex [1]	22,500	\$1.25	\$28,125.00
All other classes [2]	509,100	\$1.25	\$636,375.00
Minimum Charges [3]	2,900	N/A	\$9,121.87
	534,500		\$673,621.87
	Fixed Revenue		
	Accounts	Rate (\$\$/Month)	Revenue
Single Family Residential [4]	538	\$8.00	\$51,648
<b>Total Estimated Fiscal Year 2016 Revenue</b>			<b>\$725,270</b>

Source: Revenue estimated using flow data provided by East Bay Municipal Utility District

[1] Duplex/Triplex/Fourplex accounts are not charged a minimum and are charged based on actual volume.

[2] Charged a minimum of \$.2667 / day

[3] Usage that did not exceed the daily minimum. Revenue amount reflects the daily minimum amount collected at \$.2667 / day

[4] Charged a flat \$8 / month or \$16 / bimonthly

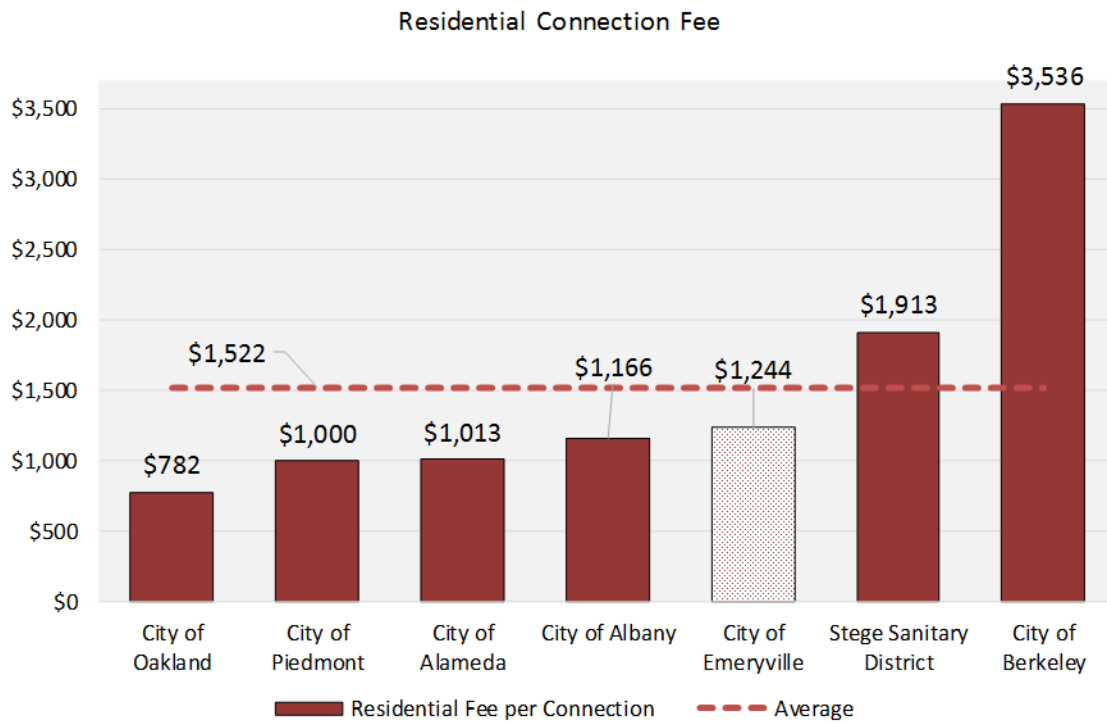
The City also collects revenues from new development via sewer connection fees. Connection fees are one-time hookup fees paid by new customers with their building permits. Connection fee revenues may only be used to fund sewer capital improvements that directly benefit development. The City's current residential sewer connection fee is \$1,244 per residential dwelling unit. Non-residential development is charged a connection fee of \$249 per sewer trap. In the past, connection fee revenues have funded expansion related sewer improvements and projects that benefitted both existing and new customers. Into the future, the City expects a slower rate of growth and a greater portion of improvements will benefit existing customers. Projects benefitting existing customers (such as repairs to correct deficiencies) must be funded through sewer rate revenues.

BWA conducted a sewer connection fee survey of the EBMUD satellite sanitation agencies. The City of Emeryville's fee is in the mid-range, see **Figure 2**.

**Figure 2: Regional Connection Fee Survey**

City of Emeryville

Sewer Rate Study



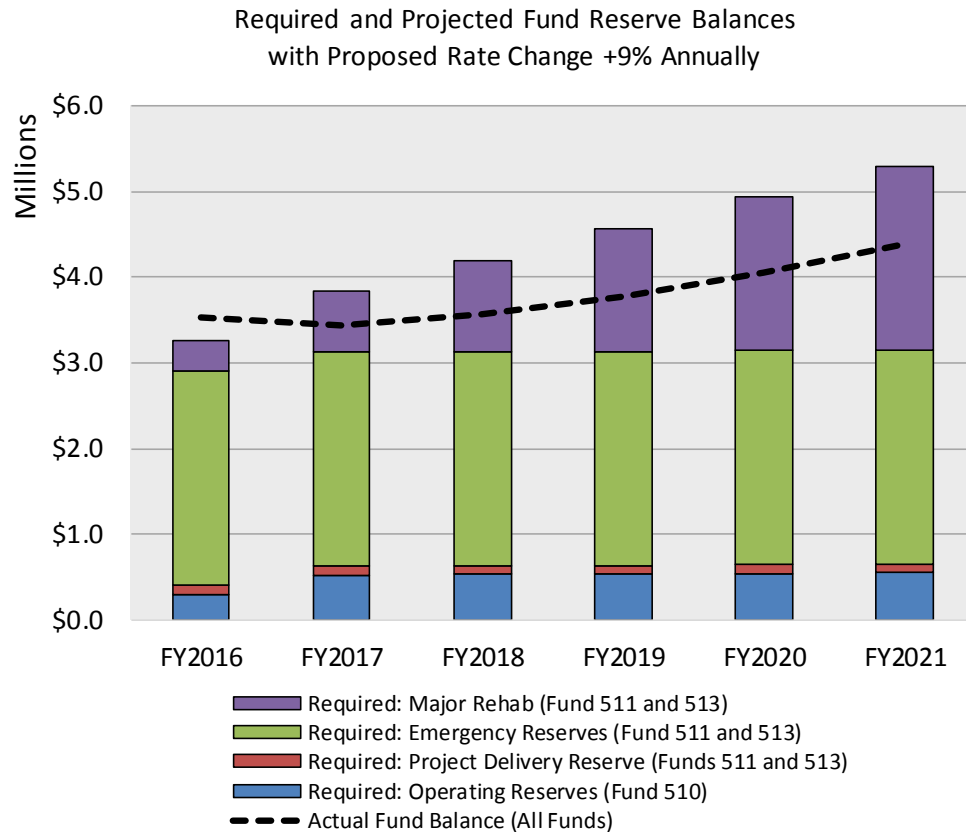
## Fund Reserves

The cost of providing wastewater collection service includes operating expenses, capital improvements, and building fund reserves for emergencies and major sewer projects. Bartle Wells Associates recommends that the City of Emeryville maintain four reserves: an operating fund reserve, a project delivery reserve, an emergency reserve, and a major project reserve (Powell Street sewer main). An overview of fund reserves is shown in **Figure 3**. The operating fund will maintain a reserve equal to 50% of that year's operating expenses. This is consistent with City policy, which recommends a 50% operating cost reserve for City funds. In its capital funds, it is recommended that the City maintain a \$100,000 reserve for project deliveries to be used for unanticipated change orders and project contingencies. The recommended reserve amount is based on staff's prior experience in delivering capital improvement projects. It is recommended that the City maintain a \$2.5 million reserve for catastrophic emergencies, such as an earthquake.

In addition to the catastrophic emergency reserve, there is also a need to set aside \$2.5 million in funds for the rehabilitation of the Powell Street sewer main west of Interstate 80. This project is anticipated to be necessary in the next seven to ten years due to soil conditions. It is anticipated that the City will accumulate the Powell Street rehabilitation reserve over time at a rate of \$357,000 annually. The total recommended reserve in FY2021 (the last year of the proposed rate increase) is about \$5.3 million, see **Table 3**. The five-year financial plan developed in this report is projected to result in the accumulation of about \$4.4 million in reserves by the end of FY2021, which misses the recommended target. However, the sewer rates are projected to continue to generate positive net revenues beyond the five-year planning horizon, which will continue to accumulate reserves.

**Figure 3: Fund Reserves (All Funds)**

City of Emeryville  
Sewer Rate Study



**Table 3: Recommended and Actual Reserve Balances**

City of Emeryville  
Sewer Rate Study

Fund	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021
Required: Operating Reserves (Fund 510)	301,750	525,100	528,600	535,421	542,413	549,580
Required: Project Delivery Reserve (Funds 511 and 513)	100,000	100,000	100,000	100,000	100,000	100,000
Required: Emergency Reserves (Fund 511 and 513)	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Required: Major Rehab (Fund 511 and 513)	<u>357,000</u>	<u>714,000</u>	<u>1,071,000</u>	<u>1,428,000</u>	<u>1,785,000</u>	<u>2,142,000</u>
Total recommended reserve	3,258,750	3,839,100	4,199,600	4,563,421	4,927,413	5,291,580
Actual Fund Balance (All Funds)	3,534,302	3,427,075	3,571,596	3,775,307	4,044,432	4,385,780



## Operating Expenses

The budgeted and projected operating expenses for the City are found in **Table 4**. The City has historically transferred about \$95,000 per year from the operations fund to the Sewer Rehab Fund. In order to meet fund cash balance targets, it is recommended the City increase the transfer to the sewer rehab expense to \$410,000 per year. A portion of this revenue will fund annual repair and replacements projects and a portion will accumulate as reserves to eventually fund the Powell Street project in FY2022.

**Table 4: Operating Expenses (Fund 510)**

City of Emeryville  
Sewer Rate Study

	Budget	Projected [1]				
<u>Operations / Maintenance</u>	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021
Depreciation	10,000	10,000	10,000	10,250	10,506	10,769
<u>Administration / Engineering</u>						
Salaries and Benefits	135,000	182,000	189,000	193,725	198,568	203,532
Insurance	50,000	50,000	50,000	50,000	50,000	50,000
Professional Fees/Services	45,000	105,000	105,000	107,625	110,316	113,074
Fees and Charges						
Sewer Collection Charges	0	27,000	27,000	27,675	28,367	29,076
Consent Decree Advisory Group	15,000	30,000	30,000	30,750	31,519	32,307
Administration and General [2]	51,500	51,500	51,500	51,500	51,500	51,500
<u>Maintenance</u>						
Sewer Fund Salaries & Benefits	35,000	42,000	42,000	43,050	44,126	45,229
Utilities	1,200	1,200	1,200	1,230	1,261	1,292
Maintenance [3]	77,800	132,000	132,000	135,300	138,683	142,150
Other [4]	88,000	9,500	9,500	9,738	9,981	10,230
Subtotal Operating Expenses	508,500	640,200	647,200	660,843	674,826	689,159
Transfer to Sewer Rehab Fund [5]	95,000	410,000	410,000	410,000	410,000	410,000
Total Operating Expenses	603,500	1,050,200	1,057,200	1,070,843	1,084,826	1,099,159

Source: Expense Budget from Maurice Kaufman 4-1-16

[1] FY2019 to FY2021 increased 2.5% each year to account for inflation.

[2] Finance Department services provided to the Sewer Fund (Finance staff salaries, benefits, and overhead)

[3] Major cleaning needed once every 5 years. \$132K is a 5 year average.

[4] Sewer Fund allocation of Public Works maintenance expenses for supplies and utilities.

[5] To Sewer Rehab Fund to fund capital improvements, see Table 7.

## Capital Projects and Consent Decree

A complete list of completed and proposed/planned capital improvement projects is provided in **Table 5**. In November of 2009, the USEPA issued the City of Emeryville an Administrative Order to reduce Sanitary Sewer Overflows from its collection system and to control I/I into the collection as to not harm the EBMUD facilities. In September of 2014, after several years of negotiations, a final Consent Decree (CD) was approved in the US District Court. The CD contained “Work” requirements for the City and is reflected in many of the projects listed in Table 5. A complete description of work that was performed or is to be performed can be found in the City’s “Wastewater Collection System: Asset Management Implementation Plan (October 2014)”.

**Table 5: 10 Year Capital Improvement Project List**

City of Emeryville

Sewer Rate Study

	Completed		Proposed / Planned					Totals
	FY2012/13	FY2014/15	FY2017	FY2018	FY2019	FY2020	FY2021	
Year 1	1,600,000							1,600,000
Year 3		2,000,000						2,000,000
Year 5			500,000					500,000
Year 6				300,000				300,000
Year 7					300,000			300,000
Year 8						300,000		300,000
Year 9							300,000	300,000
Total	1,600,000	2,000,000	500,000	300,000	300,000	300,000	300,000	<b>5,300,000</b>

Source: City of Emeryville Asset Management and Implementation Plan with Keely Nelson notes

Year 1: Completed

Year 3: Completed

Year 5: Includes \$300K in spot repairs, final amount TBD

### Project Description

Year 1	-Rehabilitation of 307 linear feet of 24-inch diameter trunk sewer on Powell Street between Shellmound Street and Christine Avenue; 793 linear feet of 8-inch diameter pipe on Shellmound Street south Powell Street; and 295 linear feet of 8-inch diameter pipe on Shellmound Street = 1395 Powell Street -Rehabilitation of 316 feet of 8-inch diameter pipe on Halleck Street north of Park Avenue -Emeryville Industrial Sewer Project, Phase 1 (538 feet) -Repairs of defects identified by CCTV inspection
Year 3	-Rehabilitation of 2072 linear feet of 10- and 18-inch diameter sewer on Powell Street between Vallejo Street and Hollis Street -Rehabilitation of 618 linear feet of 8-inch diameter sewer between the City Limits on 54th Street and 53rd Street east of Spur Alley -Rehabilitation of 1110 linear feet of 6-inch diameter pipe in Subbasin 21-100 between the public restrooms at the end of the Powell Street by the Emeryville Marina and the Powell Street Pump Station -Rehabilitation of 615 linear feet of 10-inch diameter pipe on Horton Street north of Powell Street -Repairs of defects identified by CCTV inspection
Year 5	-Repair budget for pipes that have not been included in Year 1 and Year 3 and spot repairs
Year 6	-Annual repair budget for any significant defects identified in the Year 5 CCTV inspection
Year 7 -9	-Annual Repair Budget

### Cash Flow Projection

A cash flow projection for the sewer enterprise is constructed using the data from Tables 2, 4, and 5. Pursuant to Section 7-8.501, the City operates three funds for the enterprise. **Table 6** represents Fund 510 (Operating Fund) and accounts for all of the operational expenses associated with the collection system. Service charge revenue from collection services are deposited into this account on behalf of EBMUD. To fund the operating costs shown in Table 4, the capital costs shown in Table 5, and to build up fund reserves as discussed on page 6, BWA recommends annual rate increases of 9%. Absent a rate increase, the City may not be able to fund sewer improvement projects and would not have adequate funding to address repairs following a catastrophic event such as an earthquake.

The 9% annual rate increase is proposed to be applied to the sewer rates for all customer classes. As discussed on page 4, the City's existing rate structure proportionally allocates the cost of service to customers. Single family residential customers pay a fixed charge based on the average sewer flow across the class. Multifamily customers pay the same unit charge (\$/ccf) for sewer flow as single family residential and nonresidential customers. The nonresidential minimum daily charge is equivalent to the single family residential charge over a 30 day month. The volume rate, single family fixed charge, and nonresidential rates are all based on the same unit costs for sewer service, which is proposed to be increased by 9% annually.

**Table 7** represents fund 511 and 513 (Sewer Rehab Fund). The Sewer Rehab Fund collects connection fee revenue from developers in the City and also receives a transfer of funds from the operating fund.

<b>Table 6: Operating Cash Flow and Rate Proposal (Fund 510)</b>						
City of Emeryville Sewer Rate Study						
	<b>Budget</b>	<b>Projected</b>				
	<b>FY2016</b>	<b>FY2017</b>	<b>FY2018</b>	<b>FY2019</b>	<b>FY2020</b>	<b>FY2021</b>
		Jan 1, 2017	Jan 1, 2018	Jan 1, 2019	Jan 1, 2020	Jan 1, 2021
<b>Proposed Rate Increase</b>		<b>9.0%</b>	<b>9.0%</b>	<b>9.0%</b>	<b>9.0%</b>	<b>9.0%</b>
Single Family Accounts [1]		539	540	541	542	543
Wastewater Flow (ccf) [2]		526,000	526,000	526,000	526,000	526,000
Single Family Rate (\$\$/Month)	\$8.00	\$8.72	\$9.50	\$10.36	\$11.29	\$12.31
Volumetric Rate (\$\$/ccf)	\$1.25	\$1.36	\$1.49	\$1.62	\$1.76	\$1.92
<b>Beginning Cash Balance [3]</b>	<b>\$1,349,332</b>	<b>\$1,471,102</b>	<b>\$1,170,075</b>	<b>\$920,796</b>	<b>\$730,707</b>	<b>\$606,032</b>
Service Charge Revenue [4]						
Fixed	51,648	54,024	58,996	64,425	70,353	76,826
Volumetric	<u>673,622</u>	<u>695,148</u>	<u>748,925</u>	<u>816,329</u>	<u>889,798</u>	<u>969,880</u>
Total Service Charge Revenue	725,270	749,173	807,921	880,754	960,151	1,046,706
Investment Earnings						
Interest	5,000	5,000	5,000	5,000	5,000	5,000
Operating Expenditures	603,500	1,050,200	1,057,200	1,070,843	1,084,826	1,099,159
<b>Ending Cash Balance</b>	<b>\$1,471,102</b>	<b>\$1,170,075</b>	<b>\$920,796</b>	<b>\$730,707</b>	<b>\$606,032</b>	<b>\$553,580</b>
Minimum Reserve: Operating [5]	301,750	525,100	528,600	535,421	542,413	549,580
Total Minimum Reserves	301,750	525,100	528,600	535,421	542,413	549,580

[1] 1 single family account added each year to account for growth

[2] Based on 16% reduction in water consumption as mandated by the SWRCB

[3] FY2016: Balance as of June 30, 2015

[4] Collection Revenue only. Does not include connection fees

[5] 50% of annual operating expenditures

**Table 7: Sewer Rehab and Connection Fee Fund Cash Flow (Fund 511 and 513)**

City of Emeryville

Sewer Rate Study

	Fund	Budget FY2016	Projected				
		FY2016	FY2017	FY2018	FY2019	FY2020	FY2021
Beginning Balance [1]	511 and 513	<b>\$1,739,000</b>	<b>\$2,063,200</b>	<b>\$2,257,000</b>	<b>\$2,650,800</b>	<b>\$3,044,600</b>	<b>\$3,438,400</b>
Transfer In: Operating Fund	510	95,000	410,000	410,000	410,000	410,000	410,000
Interest	511 and 513	12,900	10,000	10,000	10,000	10,000	10,000
Connection Fees							
Residential [2]	513	100,000	246,700	246,700	246,700	246,700	246,700
Commercial [3]	513	18,300	27,100	27,100	27,100	27,100	27,100
Other [4]	513	400,000	0	0	0	0	0
Capital Projects	511	302,000	500,000	300,000	300,000	300,000	300,000
Ending Balance	511 and 513	<b>\$2,063,200</b>	<b>\$2,257,000</b>	<b>\$2,650,800</b>	<b>\$3,044,600</b>	<b>\$3,438,400</b>	<b>\$3,832,200</b>
Minimum Reserves							
Project Delivery Reserve [5]		100,000	100,000	100,000	100,000	100,000	100,000
Emergency Reserves [6]		2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Major Rehab [7]		<u>357,000</u>	<u>714,000</u>	<u>1,071,000</u>	<u>1,428,000</u>	<u>1,785,000</u>	<u>2,142,000</u>
Total Minimum Reserve		<b>\$2,957,000</b>	<b>\$3,314,000</b>	<b>\$3,671,000</b>	<b>\$4,028,000</b>	<b>\$4,385,000</b>	<b>\$4,742,000</b>

[1] Fund 511 and fund 513 combined fund balances as of June 30, 2015

[2] 1,190 dwelling units projected through FY2022 (six years) @ \$1,244 each. \$294,600 annual average

[3] 652 traps projected through FY2022 (six years) @ \$249 each. \$27,100 annual average

[4] City of Oakland Payment for previous capital Projects

[5] Reserve needed for under budgeted project

[6] Emergency reserves for catastrophic events (earthquake)

[7] Major rehab needed on Powell Street in FY2022, estimated at \$2,500,000. \$357,000 saved each year FY2016 to FY2022

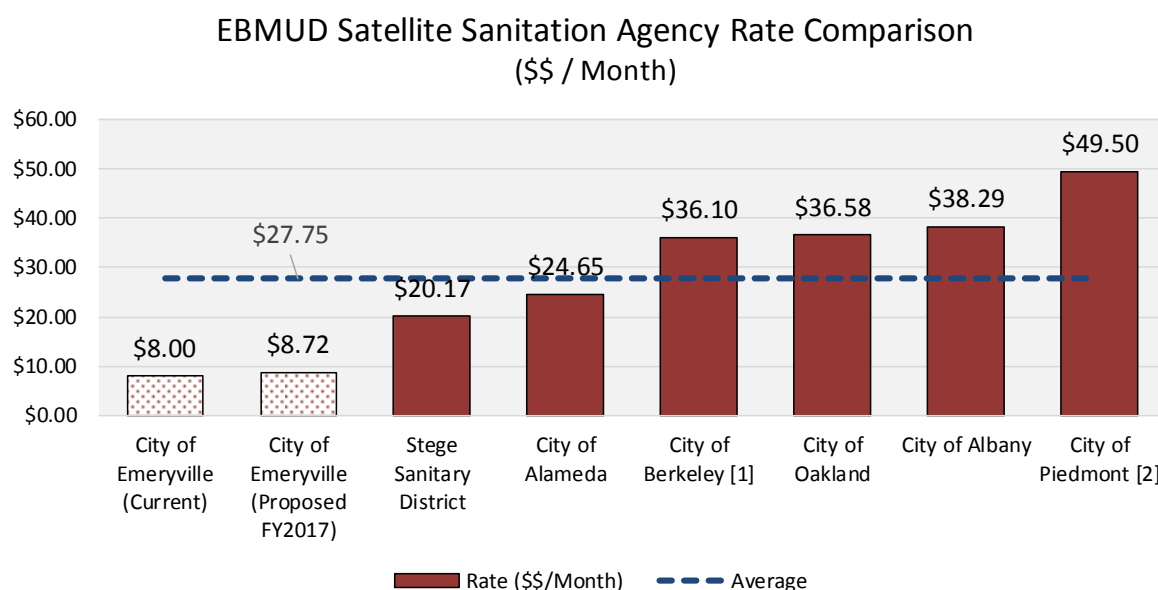
## Regional Collection Survey

**Figure 4** provides a collection rate survey of other EBMUD satellite sanitation agencies. Where available, the figure includes known FY2017 rates. Otherwise, the current FY2016 rates are provided. As shown, the City is by far the lowest in the area and far below the average in the surrounding area.

**Figure 4: Regional Sewer Collection Rate Survey**

City of Emeryville

Sewer Rate Study



[1] Based on 4,787 gallons per month or 160 gallons per calendar day; approved increase for FY2017

[2] Based on 5,000 to 9,999 square foot lot sizes

## Recommendation

Based on the need to fund operating costs, capital improvement costs, and to accumulate reserves, BWA recommends the City increase its current rates by 9% annually over the next five years. See **Table ES-1** for a summary of the proposed rates.

## Implementation

Proposition 218, the “Right to Vote on Taxes Act”, was approved by California voters in November 1996 and is codified as Articles XIII C and XIII D of the California Constitution. Proposition 218 establishes requirements for imposing or increasing property related taxes, assessments, fees and charges. For many years, there was no legal consensus on whether water and sewer rates met the definition of “property related fees”. In July 2006, the California Supreme Court essentially confirmed that Proposition 218 applies to water rates. The prevailing legal consensus is that Proposition 218 also applies to wastewater rates.

BWA recommends the City of Emeryville follow the procedural requirements of Proposition 218 for all sewer rate increases. These requirements include:

- **Noticing Requirement:** The City must mail a notice of proposed rate increases to all affected property owners. The notice must specify the basis of the fee, the reason for the fee, and the date/time/location of a public rate hearing at which the proposed rates will be considered/adopted.
- **Public Hearing:** The City must hold a public hearing prior to adopting the proposed rate increases. The public hearing must be held not less than 45 days after the required notices are mailed.
- **Rate Increases Subject to Majority Protest:** At the public hearing, the proposed rate increases are subject to majority protest. If more than 50% of affected property owners submit written protests against the proposed rate increases, the increases cannot be adopted.

## References

The following documents were used to develop this memorandum:

- City of Emeryville Water Consumption, Wastewater, and Revenue during 2013 – 2015 (from EBMUD)
- City of Emeryville Sewer Service Charges and Rates Effective 02/03/97
- Resolution No. 94-164 – Increasing Sanitary Sewer Use Fees Authorized by Ordinance No. 82-013
- Municipal Code Chapter 78: Wastewater Collection System
- Sewer System Capacity Analysis and Master Plan 2010
- 2015 Sanitary Sewer Rehabilitation - Capital Improvement Program
- Wastewater Collection System Asset Management Implementation Plan 2014
- Consent Decree - Case Nos. C09-00186 and 09-05684
- Sewer Funds 510, 511, and 513 Revenue Details Report April 1, 2016
- FY2017/18 Public Works Expense Worksheet March 31, 2016
- FY2017 Consent Decree Advisory Group (CDAG) Budget
- Finance Department – Time Estimates for Sewer Fund, August 11, 2016
- Comprehensive Annual Financial Report, Year Ended June 30, 2015
- FY2015/16 End of Year Estimates from Finance Department (September 7, 2016)
- Emeryville Projected Growth FY17-22 - Projects in approval process
- Workshops with staff members Maurice Kaufman, Public Works Director/City Engineer, and Keely Nelson, Associate Civil Engineer