



FINAL

Wastewater Capacity Charges Study

Prepared for
Rodeo Sanitary District, California
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List of Abbreviations

ADU	Accessory Dwelling Unit
ADWF	Average Dry Weather Flow
BOD	Biochemical Oxygen Demand
CCI	Construction Cost Index
CIP	Capital Improvement Program
Code	Rodeo Sanitary District Code
District	Rodeo Sanitary District
ENR	Engineering News Record
FY	Fiscal year (July 1 to June 30)
FY24	July 1, 2023 to June 30, 2024
gpd	Gallons per Day
hcf	Hundred Cubic Feet (equal to ~ 748.1 gallons)
LAFCO	Local Agency Formation Commission
NPDES	National Pollutant Discharge Elimination System
RSD	Rodeo Sanitary District
SOI	Sphere of Influence
SSC	Sewer Service Charge
TSS	Total Suspended Solids
WPCP	Water Pollution Control Plant

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Executive Summary

In January 2024, the Rodeo Sanitary District (RSD or District) contracted with Pavletic Consulting LLC to evaluate Wastewater Capacity Charges and recommend a revised schedule of Wastewater Capacity Charges.¹

A capacity charge is a charge to pay for public agencies' facilities in existence at the time the charge is imposed or to pay for new facilities that will be constructed in the future that are of benefit to the person or property being charged (new development connections or increases to existing service capacity). The charge ensures that the "growth pays for growth" by allocating the cost of new facilities and the cost of unused capacity in existing facilities to new development while allocating the cost of repairing and refurbishing facilities used by current customers to rates payers.

Capacity charges may only be used for funding capital improvements; not operating expenditures. Revenue from capacity charges depends on the occurrence of development that connects to the Rodeo Sanitary System. During the past 20 years, annual revenue from capacity charges (plus the \$200 "capital improvement surcharge") has ranged from zero to \$130,000 and averaged about \$25,900 per year.

The District's main source of revenues, Sewer Service Charges, are paid rate payers and may be used for capital or operating expenditures.

The District's current sewer capacity charges were adopted in 1996 in Ordinance 61. Ordinance 61 adopted a "General Regulation Establishing Rates for the Connection of Premises to the Rodeo Sanitary System and for Fees for Annexation to the Rodeo Sanitary District." Besides sewer capacity charges, Ordinance 61 included fees and charges for other services provided by the District, including:

1. Construction plan approval
2. Sewer connection plan approval
3. Initial sewer inspection
4. Additional sewer inspections
5. Sewer permit extensions
6. Abandoned sewer inspection
7. Abandoned sewer connection
8. Annexation of territory
9. Sewer main extensions
10. New underground main construction permits and inspections; and
11. Capital Improvement Surcharge

This study addresses only the District's sewer capacity charges. The District may act to eliminate the Capital Improvement Surcharge (number 11 in the list above) to the extent that the sewer capacity charges are deemed by the District to fulfill the purpose of the previously adopted Capital Improvement Surcharges.

¹ The term "connection fees", as used by the District in its regulating ordinance, and the term "capacity charges", as defined in the State of California Government Code, are synonymous.

The District’s current sewer capacity charges are shown in the table below. Note that the current capacity charges are based only on wastewater flow – loadings of conventional pollutants (pollutants removed during the wastewater treatment process) were not incorporated in the development of the current charges.

Table ES-1. Current Wastewater Capacity Charges	
<u>Customer Class</u>	Connection fee per dwelling or unit
Single Family Residence / Guest Dwelling	\$4,800
Churches, Schools, Trailer Courts, Multiple Family Dwellings	\$4,800
Commercial and Industrial Installations*	\$4,800 minimum
* Note: Commercial and Industrial connection fee will be determined by the District (minimum \$4,800)	

Current and recommended sewer capacity charges are shown in the table below. The increase in capacity charges for commercial connections is driven by the inclusion of loadings of conventional pollutants (Biochemical Oxygen Demand and Total Suspended Solids) in the development of the recommended capacity charges. Note that the flow from individual accounts within a commercial customer class vary among a wide range.

Table ES-2. Current and Recommended Capacity Charges		
<u>Customer Class</u>	<u>Current</u>	<u>Recommended</u>
<u>Unit Costs of Capacity</u>		
Flow	na	\$47.00 per gpd
BOD	na	\$2,650.00 per lb/day
TSS	na	\$3,010.00 per lb/day
<u>Capacity Charges</u>		
Residential		
Single Family Residence / Guest Dwelling	\$4,800 per dwelling	na
Single Family Residence	\$4,800 per dwelling	\$10,460 per dwelling
Accessory Dwelling Unit, Attached	na	per District Ordinance No. 2023-500
Accessory Dwelling Unit, Detached	na	per District Ordinance No. 2023-500
Apartment, Multiple Family, and Mobile Home Park Units	\$4,800 per unit	\$10,460 per unit
Nonresidential		
Churches, Schools	\$4,800 per unit	determined by the District based on flow and strength characteristics
Commercial and Industrial Installations	determined by the District, based on flow characteristics (\$4,800 minimum)	determined by the District based on flow and strength characteristics

Section 1

Introduction

A capacity charge is a charge to pay for public agencies' facilities in existence at the time the charge is imposed or to pay for new facilities that will be constructed in the future that are of benefit to the person or property being charged (new development or increases to existing service capacity). The charge ensures that the "growth pays for growth" by allocating the cost of new facilities and the cost of unused capacity in existing facilities to new development while allocating the cost of repairing and refurbishing facilities used by current customers to rates.

In developing capacity charges, we have endeavored to satisfy the rational nexus criteria generally applied to these types of charges. A rational nexus-based facility reserve charge must:

- Be rationally based on public policy that demonstrates a nexus between new development and the need to expand or build facilities to accommodate it.
- Not exceed the new development's proportional share of the cost of facilities needed to serve that development, after crediting it for other contributions that it has already made or will make toward that cost.
- Not be arbitrary or discriminatory in its application to individuals or customer classes.

Capacity charges are intended to recover a portion of the District's Capital Improvement Program (CIP) cost, and utility rate payers' prior investment in capital facilities that support land development through utility system expansion. The Wastewater Capacity Charges developed in this study meet the regulatory requirements found in Government Code Section 66000 *et sequentia* regarding the establishment of capacity charges.

1.1 Wastewater System Description

The Rodeo Sanitary District was formed in 1923 and serves the unincorporated communities of Rodeo and Tormey adjacent to San Pablo Bay. RSD's boundaries include approximately 1.4 square miles and provide sewer service to 2,500 residential and commercial customers. The estimated service population is approximately 10,000.

The District provides wastewater collection, treatment, and disposal services, and contracts for solid waste services with Republic Services in Richmond, California. District facilities include a Water Pollution Control Plant, 28 miles of pipeline, and 2 pump stations. Pipelines include approximately 27.2 miles of sanitary sewer pipelines ranging from 6-inch to 24-inch, a 2000-foot 15-inch force main, and an 8000-foot 6-inch force / gravity main that convey wastewater to the District-owned Water Pollution Control Plant (WPCP) in Rodeo.



Adjacent wastewater service providers include the City of Hercules to the south and west and the Crockett Community Services District to the east. The area between RSD's north and south service areas is the Conoco Phillips Refinery which operates its own private wastewater system. The City of Hercules sphere of influence lies to the southeast.

In 1977, RSD, the City of Hercules, and the City of Pinole entered into a joint powers agreement for the purpose of providing deepwater disposal facilities. Treated wastewater from the RSD WPCP and the Pinole-Hercules WPCP is discharged through a combined deep-water outfall into San Pablo Bay. Increasingly stringent water quality standards for San Pablo Bay will require that RSD and the two cities continue to implement improvements to their treatment processes and carry out preventive programs to avoid wastewater loading that requires additional treatment.

A portion of the one percent property tax collected on property within the RSD boundaries accrues to the District.

1.2 Capacity Charge Regulatory Requirements

Section 66013 of the State of California Government Code defines a Capacity Charge as a charge to pay for public agencies' facilities in existence at the time the charge is imposed or to pay for new facilities that will be constructed in the future that are of benefit to the person or property being charged (new development or increases to existing service capacity).

Section 66013 of the State of California Government Code defines a connection fee as a fee for the physical facilities necessary to make a water connection or a sewer connection, including, but not limited to, meters, meter boxes, and pipelines from the structure or project to a water distribution line or sewer main, and that does not exceed the estimated reasonable cost of labor and materials for installation of those facilities.

1.3 Current Capacity Charges and Other Development Fees

Current capacity charges were adopted in 1996 in Ordinance 61. Ordinance 61 adopted a “General Regulation Establishing Rates for the Connection of Premises to the Rodeo Sanitary System and for Fees for Annexation to the Rodeo Sanitary District.”

Table 1-1. Current Capacity Charges and Other Development Fees

Description of Charge	Charge
Construction Plan Approval (New facility, building addition, patio slab)	\$20
Single Family Residence / Guest Dwelling	
a) Sewer connection plan approval	\$100
b) Initial sewer inspection	\$100
c) Connection fee per dwelling	\$4,800
d) Connection fee each additional dwelling	\$4,800
e) Capital improvement surcharge	\$200
f) Each inspection required because applicant not ready or modifications required	\$100
Churches, Schools, Trailer Courts, Multiple Family Dwellings	
a) Sewer connection plan approval	\$150
b) Initial sewer inspection, 1 - 4 units	\$100
c) Additional sewer connection inspection(s)	\$50
d) Each inspection required because applicant not ready or modifications required	\$100
e) Connection fee - based upon projected flow generated for each unit (minimum \$4,800)	\$4,800
f) Capital improvement surcharge	\$200
Commercial and Industrial Installations*	
a) Sewer connection plan approval	\$200
b) Initial sewer inspection, 1 - 4 units	\$100
c) Additional sewer connection inspection(s)	\$50
d) Each inspection required because applicant not ready or modifications required	\$100
e) Connection fee - based upon projected flow generated for each unit (minimum \$4,800)	\$4,800
f) Capital improvement surcharge	\$200
* Note: Commercial and Industrial connection fee will be determined by the District (minimum \$4,800)	
Sewer Permit Extension (6 month increment)	\$100
Abandoned sewer inspection per lateral	\$100
Abandoned sewer connection	
a) Reconnection inspection (less than one year abandoned)	\$100
b) Reconnection inspection, over one year abandoned, same as new hookup	\$4,800
Annexation Fees	
a) The fee to be paid for annexation of territory to the Rodeo Sanitary District shall be and is for each acre or part thereof	\$2,000
b) All outside agency fees (i.e. LAFCO, County, State, Federal, etc.) will be paid by the applicant to the Rodeo Sanitary District	\$ Current
Sewer Main Extensions	
a) Permit	3% of total cost
a) Inspections (hold points to be determined by District)	\$100
New Underground Main Construction	
a) Permit	3% of total estimated construction cost
a) Inspections - each	\$100

1.4 Capacity Charge Development Methodology

The revised capacity charges incorporate updated data including: 1) wastewater system design capacity; 2) valuation of existing assets; and 3) customer wastewater discharge characteristics.

Capacity charges are based on the premise that new development pay its proportional share of existing available capacity plus the costs for future system expansion. The capacity charges meet the rational nexus criteria generally applied to these types of charges.

The methodology used to develop the capacity charges consists of the following steps:

- Prepare an inventory of system assets and calculate the valuation for those assets.
- Determine the capacity of the current system.
- Estimate the amount of contributed capital. These contributions are subtracted from the value of the assets since the contribution is already included in the system inventory asset values.
- Calculate the unit cost of capital facilities.
- Prepare a schedule of capacity charges based upon the unit cost of capital facilities.

1.5 Capacity Charges for Accessory Dwelling Units

In 2023, the District adopted Ordinance No. 2023-500 establishing regulations for Accessory dwelling units and junior accessory dwelling units in accordance with recent state legislation. An Accessory Dwelling Unit (ADU) means an attached or detached residential dwelling unit that provides completely independent living facilities for one or more persons. A Junior Accessory Dwelling Unit (JADU) must be within the walls of an existing Single Family Residence, less than 500 square feet, and meet other qualifying features.

State legislation, codified at Government Code Sections 65852.2 and 65852.22, imposes certain limits on the authority of special districts (such as Rodeo Sanitary District) to apply existing capacity charges on what are defined in the legislation as Accessory Dwelling Units and Junior Accessory Dwelling Units.

Pursuant to Government Code Section 65852.2, ADUs converted from existing space and JADUs shall not be considered by a special district to be a new residential use for purposes of calculating connection fees or capacity charges for utilities (including sewer service), unless constructed with a new single-family dwelling. The connection fee or capacity charge shall be proportionate to the burden of the proposed ADU, based on its square footage or plumbing fixtures as compared to the primary dwelling.

Exhibit A from Ordinance No. 2023-500, which summarizes fees for Accessory Dwelling Units, is shown in the table below.

Table 1-2. Ordinance No. 2023-500 Exhibit A - Fees for Accessory Dwelling Units

Fees for Accessory Dwelling Units (ADUs)						
Category	Junior Accessory Dwelling Unit (JADU)		Accessory Dwelling Unit (ADU) ATTACHED		Accessory Dwelling Unit (ADU) DETACHED	
Sq. Ft. Limits	less than 500 square feet		not more than 50% of existing primary dwelling square footage*		not more than 1,200 square feet*	
Qualifying Features	Full/partial kitchen (bathroom not required) Must be within the walls of an existing Single Family Residence		Both full bath and full/partial kitchen (i.e. "additional sink outside bathroom") (Note 1)		Both full bath and full/partial kitchen (i.e. "additional sink outside bathroom") (Note 1)	
Category	Conversion of Existing Space	New Construction	Conversion of Existing Space	New Construction	Conversion of Existing Space	New Construction
Capacity Fee	No Fee	Not Allowed	No Fee	Per-Square Foot Fee under Govt Code 65852.2 (f)(5)	No Fee	Per-Square Foot Fee under Govt Code 65852.2 (f)(5)
Annual Sewer Service Charge	No Fee	Not Allowed	Additional Annual Charge	Additional Annual Charge	Additional Annual Charge	Additional Annual Charge

*Conversion = 100% within footprint of existing dwelling (ADU can expand existing footprint by up to 150 sq ft for ingress/egress only)
 Attached = shared structural element (floor, wall, ceiling) with main dwelling
 Detached = stands alone/unsupported by main dwelling
 Note 1 - Partial kitchen - contains a sink and refrigerator but no stove

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Section 2

Asset Valuation

Capacity charges are defined as “a charge for public facilities in existence at the time a charge is imposed or charges for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged.” This section describes the development of valuations for existing facilities.

2.1 Value of Existing Facilities

Existing wastewater system facilities include sewage collection lines, sewage pump stations (lift stations), wastewater treatment plant facilities, effluent discharge facilities, buildings, equipment and vehicles. The acquisition value of assets, as shown in the District’s accounting system, was escalated to 2023 values using the *Engineering News Record* 20-City Construction Cost Index (ENR 20-City CCI). The escalated asset costs were then adjusted to account for – and exclude – assets with a useful life of less than five years. A summary of the valuation of facilities for 2023 is shown in Table 2-1.

Table 2-1. Summary of Wastewater System Valuation

Accounting Group and Description	Acquisition Cost [1]	Estimated Escalated Cost Using ENR 20-City CCI [2]	Adjustments		Wastewater System Valuation
			Escalated Cost - Short Term Assets [3]	Escalated Cost - Land [4]	
Group 1 Plant Operations (1610)	\$13,910,000	\$51,740,000	(\$40,000)		\$51,700,000
Group 2 Plant Maintenance (1620)	\$1,490,000	\$1,880,000	(\$440,000)		\$1,440,000
Group 3 Influent Pump Station (1630)	\$3,930,000	\$5,590,000	(\$10,000)		\$5,580,000
Group 4 Collection System (1640)	\$3,000,000	\$4,660,000			\$4,660,000
Group 6 Administration (1660)	\$60,000	\$90,000	(\$10,000)		\$0
Group 7 Underground Collection Lines (1670)	\$17,000,000	\$42,540,000	\$0		\$42,540,000
Land	\$40,000	\$740,000	\$0	(\$740,000)	\$0
Total	\$39,430,000	\$107,240,000	(\$500,000)	(\$740,000)	\$105,920,000

Notes:

- 1 Acquisition costs are from the District's accounting system and are rounded to the nearest \$1,000.
- 2 Acquisition costs are escalated to 2023 dollars using the *Engineering News Record* 20-City Construction Cost Index (ENR 20-City CCI) and are rounded to the nearest \$1,000.
- 3 Short term assets are those with a useful life of less than five years and are excluded from the system valuation.
- 4 Land assets are excluded from the system valuation.

2.2 Developer Contributions

There are two types of developer contributions – cash and assets. Cash contributions are in the form of capacity charges paid to the District at the time of development planning. Asset contributions are usually in the form of collection system pipe placed by the developers during construction of new or expanded housing.

Developer cash contributions for 2004 – 2023, and prior to 2004, are shown in Table 2-2. The estimated amount of contributions prior to 2004 is based on the estimated number of new connections (2,000 connections) times \$1,000 per connection.

Table 2-2. Developer Cash Contributions

Year of Contribution	Contribution	Estimated ENR 20-City CCI for 2023		
		ENR Index in Year Received	Escalation Factor Based on CCI of 13350	Escalated From Year of Contribution
Pre-2004	<i>lump sum estimate - no records available</i>			\$2,000,000
2004	\$40,000	7,115	1.88	\$75,000
2005	\$130,000	7,446	1.79	\$233,000
2006	\$35,000	7,751	1.72	\$60,000
2007	\$59,000	7,967	1.68	\$99,000
2008	\$26,000	8,310	1.61	\$42,000
2009	\$0	8,570	1.56	\$0
2010	\$5,000	8,804	1.52	\$8,000
2011	\$6,800	9,070	1.47	\$10,000
2012	\$0	9,338	1.43	\$0
2013	\$9,600	9,543	1.40	\$13,000
2014	\$5,000	9,806	1.36	\$7,000
2015	\$15,000	10,034	1.33	\$20,000
2016	\$0	10,339	1.29	\$0
2017	\$0	10,737	1.24	\$0
2018	\$5,000	11,062	1.21	\$6,000
2019	\$12,500	11,281	1.18	\$15,000
2020	\$12,500	11,466	1.16	\$15,000
2021	\$10,000	12,134	1.10	\$11,000
2022	\$20,000	13,007	1.03	\$21,000
2023	\$127,288	13,350	1.00	\$127,000
Total	\$518,687			\$2,762,000

Developer asset contributions are estimated to be \$20,000,000. The estimate was made by the District and is based on the current replacement value of collection pipe believed to have been contributed by developers.

2.3 Principal Portion of Remaining Loan Payments

The District has five, low-interest loans from the State of California - State Water Resources Control Board Clean Water State Revolving Fund. The principal portion of remaining loan payments is shown in Table 2-3.

Table 2-3. Principal Portion of Remaining Loan Payments

Clean Water SRF Project No.	Initial Disbursement Date	Disbursement	Remaining Principal As of FY24
C-06-8004-110	20-May-15	\$1,922,671	\$1,218,026
C-06-8004-120	1-Mar-16	\$4,696,209	\$3,468,369
C-06-8004-130	19-May-17	\$5,740,000	\$4,811,129
C-06-8004-140	18-Jan-17	\$1,945,600	\$1,518,632
C-06-8004-110	18-Jan-17	\$1,765,191	\$1,305,211
Totals		\$16,069,671	\$12,321,368
Total, rounded to nearest \$1000		\$16,070,000	\$12,321,000

2.4 Wastewater System Valuation

Valuation of the wastewater system is based on the escalated value of assets, as summarized in Table 2-1, net of developer cash contributions (as summarized in Table 2-2), developer asset contributions (estimated to be \$20,000,000), and the principal portion of remaining loan payments (summarized in Table 2-3). The net valuation of wastewater system assets is \$70,837,000.

2.5 Allocation to Flow, BOD and TSS

The net value of the wastewater system is allocated among flow, BOD and TSS constituents to facilitate the development of capacity charge unit costs.² The unit costs can be used to develop capacity charges for any new connection. The cost to construct the wastewater *collection* components of the wastewater system are proportionate to flow. The cost to construct the wastewater *treatment* components of the wastewater system are proportionate to flow, BOD and TSS. Developer asset contributions are allocated to the collection system component. Developer cash contributions from capacity charges are allocated to the treatment component. The allocation of the wastewater system valuation is shown in Table 2-4.

Table 2-4. Allocation of Wastewater System Valuation

	Treatment	Collection	System Total
Asset Values			
Asset Valuation	\$58,720,000	\$47,200,000	\$105,920,000
<i>Less: Developer Cash Contributions</i>	<i>(\$2,762,000)</i>	<i>\$0</i>	<i>(\$2,762,000)</i>
<i>Less: Developer Asset Contributions</i>	<i>\$0</i>	<i>(\$20,000,000)</i>	<i>(\$20,000,000)</i>
<i>Less: Principal Portion of Remaining Loan Payments</i>	<i>(\$12,321,000)</i>	<i>\$0</i>	<i>(\$12,321,000)</i>
Net Valuation	\$43,637,000	\$27,200,000	\$70,837,000
Percent Allocation			
Flow	60%	100%	75%
BOD	20%	0%	12%
TSS	20%	0%	12%
Percent Allocation			
Flow	\$26,180,000	\$27,200,000	\$53,380,000
BOD	\$8,730,000	\$0	\$8,730,000
TSS	\$8,730,000	\$0	\$8,730,000

² BOD and TSS are conventional (as opposed to toxic) pollutants that are removed from wastewater during the treatment process. BOD is an acronym for biochemical oxygen demand. TSS is an acronym for total suspended solids.

Section 3

Wastewater System Capacity and Customer Discharge Characteristics

This section describes the capacity of the wastewater system as expressed in units of gallons per day for flow and pounds per day for BOD and TSS. Residential customer wastewater discharge characteristics are developed that will enable the calculation of a capacity charge for each new residential connection. Capacity charges for nonresidential connections will be based on unit costs of capacity and the estimated amount of flow, BOD, and TSS capacity to be utilized by the new connection.

3.1 Wastewater System Capacity

Values for the capacity of the wastewater system are based on design flow and loadings associated with average dry weather flow (ADWF). Values for flow, BOD and TSS are shown below in Table 3-1.

Table 3-1. Wastewater System Capacity

Category	Unit of Use	Units [1]
Flow	<i>gpd</i>	1,140,000
BOD	<i>lbs/day</i>	3,300
TSS	<i>lbs/day</i>	2,900

Notes:

1 Facility Permitted Flow expressed as Average Dry Weather Flow is from the California Regional Water Quality Control Board San Francisco Bay Region-Order R2-2022-0037; NPDES Permit CA0037826, Section F.

Wastewater system capacity for BOD and TSS (in lbs/day) are based on the concentrations shown below.

Flow	1.14	million gallons per day (mgd)
BOD	350	milligrams per liter (mg/l)
TSS	300	milligrams per liter (mg/l)

3.2 Customer Wastewater Discharge Characteristics

As part of the District's *Sewer Service Charges* study being completed concurrent with this study, customer characteristics for flow, BOD and TSS are evaluated to ensure that those characteristics approximately represent the volume of wastewater and pounds of conventional pollutants (BOD and TSS) entering the District's Wastewater Pollution Control Plant and that represent the approximate amount of volume and pounds of BOD and TSS generated by each customer or customer class connected to the District's wastewater system.

The approximate volume of wastewater and pounds of BOD and TSS generated by each residential customer, or commercial account within a group of commercial customer classes, connected to the District's wastewater system are summarized in the table below. Note that the flow from individual accounts within a commercial group of customers vary among a wide range. Identical flows shown for residential customers and commercial groups of customers are provided only to facilitate comparison of loadings between each commercial group and between residential development and commercial development.

Note that the flows and volumes are the same for each customer and that the differences or similarities are in the concentration and loadings of BOD and TSS.

Table 3-2. Customer Class Estimated Wastewater Discharge Characteristics

Customer Class	Flow and Concentrations	Volume and Loadings
Residential		
Flow	180 gpd	0.000180 mgd
BOD	230 mg/l	0.35 lb/day
TSS	240 mg/l	0.36 lb/day
Commercial Group 1 *		
Flow	180 gpd	0.000180 mgd
BOD	230 mg/l	0.35 lb/day
TSS	240 mg/l	0.36 lb/day
Commercial Group 2 *		
Flow	180 gpd	0.000180 mgd
BOD	350 mg/l	0.53 lb/day
TSS	375 mg/l	0.56 lb/day
Commercial Group 3 *		
Flow	180 gpd	0.000180 mgd
BOD	900 mg/l	1.35 lb/day
TSS	800 mg/l	1.20 lb/day
Commercial High Strength *		
Flow	180 gpd	0.000180 mgd
BOD	1100 mg/l	1.65 lb/day
TSS	1100 mg/l	1.65 lb/day
<i>* Commercial High Strength and Group flow values are set equal to Single Family flows to facilitate comparison of the impact of different BOD and TSS strengths.</i>		

Section 4

Wastewater Capacity Charges

Capacity charges are developed based on unit costs for flow, BOD and TSS. The unit costs for each component are the value of the system allocated to each component divided by the capacity in the system for each component.

4.1 Development of Unit Costs for Flow, BOD and TSS

The unit costs for each capacity charge component are the value of the system allocated to each component divided by the capacity in the system for each component. Allocation of wastewater system valuation to each component was described in Section 2. Determination of the wastewater capacity was described in Section 3. The development of unit costs for flow, BOD and TSS based on those values are shown below in Table 4-1.

Unit	\$ Allocation	System Capacity	Unit Costs of Capacity
Flow	\$53,380,000	1,140,000 <i>gpd</i>	\$47.00 <i>per gpd</i>
BOD	\$8,730,000	3,300 <i>lbs/day</i>	\$2,650.00 <i>per lb/day</i>
TSS	\$8,730,000	2,900 <i>lbs/day</i>	\$3,010.00 <i>per lb/day</i>
Total	\$70,840,000		

Using the unit costs for flow, BOD and TSS, the capacity charge for any new connection may be calculated.

4.2 Development of Capacity Charges

The capacity charge for any new connection is the unit cost of capacity for each component times the amount of capacity of each component associated with the new connection. The calculation of capacity charges for each residential customer class and commercial customer groups are shown in the table below.

Commercial high strength and group flow values are set equal to residential flows to facilitate comparison of the impact of different BOD and TSS strengths. The flows for commercial customers are not representative of flows for every individual new commercial connection. Flows for every individual new commercial connection will be determined by the District at the time of application for a new connection. Flows shown for commercial groups are provided only to facilitate comparison of loadings between distinct groups of nonresidential accounts that have significantly different loadings of BOD and TSS.

Table 4-2. Wastewater Discharge Loadings, Unit Costs of Capacity and Capacity Charges

Customer Class	Flow and Concentrations	Volume and Loadings	Unit Costs of Capacity	Capacity Charge
Residential				
Flow	180 gpd	0.000180 mgd	\$47.00 <i>per gpd</i>	\$8,460
BOD	230 mg/l	0.35 lb/day	\$2,650.00 <i>per lb/day</i>	\$915
TSS	240 mg/l	0.36 lb/day	\$3,010.00 <i>per lb/day</i>	\$1,084
Capacity Charge, rounded to \$10				\$10,460
Commercial Group 1				
Flow	180 gpd	0.000180 mgd	\$47.00 <i>per gpd</i>	\$8,460
BOD	230 mg/l	0.35 lb/day	\$2,650.00 <i>per lb/day</i>	\$915
TSS	240 mg/l	0.36 lb/day	\$3,010.00 <i>per lb/day</i>	\$1,084
Capacity Charge, rounded to \$10				\$10,460
Commercial Group 2				
Flow	180 gpd	0.000180 mgd	\$47.00 <i>per gpd</i>	\$8,460
BOD	350 mg/l	0.53 lb/day	\$2,650.00 <i>per lb/day</i>	\$1,392
TSS	375 mg/l	0.56 lb/day	\$3,010.00 <i>per lb/day</i>	\$1,694
Capacity Charge, rounded to \$10				\$11,550
Commercial Group 3				
Flow	180 gpd	0.000180 mgd	\$47.00 <i>per gpd</i>	\$8,460
BOD	900 mg/l	1.35 lb/day	\$2,650.00 <i>per lb/day</i>	\$3,580
TSS	800 mg/l	1.20 lb/day	\$3,010.00 <i>per lb/day</i>	\$3,615
Capacity Charge, rounded to \$10				\$15,660
Commercial High Strength				
Flow	180 gpd	0.000180 mgd	\$47.00 <i>per gpd</i>	\$8,460
BOD	1100 mg/l	1.65 lb/day	\$2,650.00 <i>per lb/day</i>	\$4,376
TSS	1100 mg/l	1.65 lb/day	\$3,010.00 <i>per lb/day</i>	\$4,970
Capacity Charge, rounded to \$10				\$17,810

4.3 Single Family Capacity Charge Survey

The District's current and recommended capacity charges for new residential connections were compared to the capacity charges for other nearby agencies. The residential charges selected for the survey are for Single Family housing. Figure 4-1 shows the results of the survey.

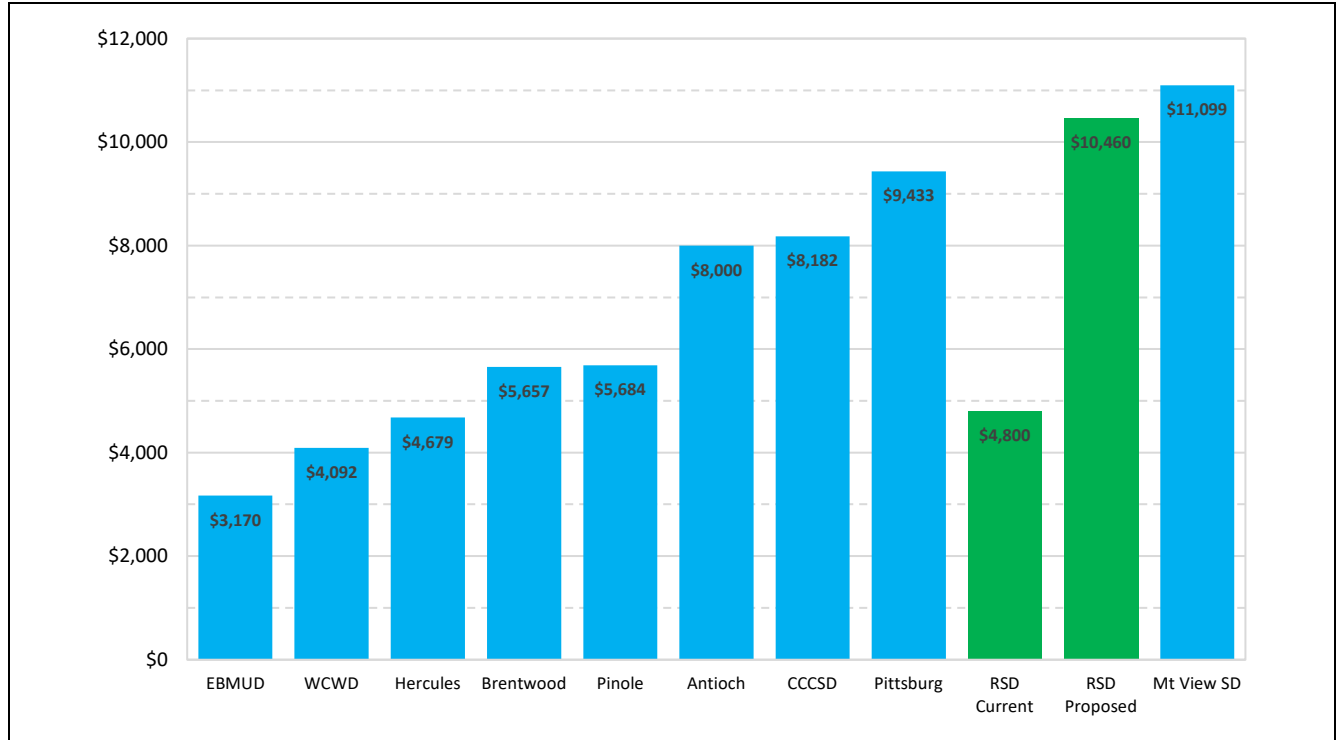


Figure 4-1. Residential Capacity Charge Survey

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Section 5

Findings and Recommendations

5.1 Findings

Based on our evaluation of the District's capacity charges we have drawn the following conclusions:

- The estimated FY24 net value of the District's wastewater system, for development of capacity charges, is approximately \$70.8 million.
- The estimated wastewater treatment capacity available to the District is approximately 1.14 million gallons per day for flow, 3,300 pounds per day for BOD and 2,900 pounds per day for TSS.
- The calculated capacity charge for a Single Family Residential connection for FY24 is \$10,460.

5.2 Recommendations

The following recommendations are offered to improve the implementation of the District's capacity charges:

Recommendation 1. Adopt the calculated unit capacity charges and residential capacity charge for FY24, effective immediately.

Recommendation 2. Develop capacity charges and capacity charge unit costs for subsequent fiscal years by escalating the prior fiscal years' capacity charges and capacity charge unit costs by the annual increase in the ENR 20-City CCI for a preceding 12-month period.

Recommendation 3. Evaluate and revise the District Code as necessary.

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Section 6

Limitations

This document was prepared solely for the Rodeo Sanitary District in accordance with professional standards at the time the services were performed and in accordance with the contract between Rodeo Sanitary District and Pavletic Consulting LLC. This document is governed by the specific scope of work authorized by Rodeo Sanitary District; it is not intended to be relied upon by any other party. We have relied on information or instructions provided by Rodeo 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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