CITY OF HANFORD

Water, Wastewater, and Stormwater Utility Rate Study 2023

DRAFT REPORT
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SECTION 1: INTRODUCTION

1.1 Background

The City of Hanford (City) is located in the southern portion of the San Joaquin Valley and is the county seat of Kings County, California. The City was incorporated in 1891. The City provides water, wastewater, and storm drainage service to a population of over 56,000 residents in addition to businesses and industrial facilities. The water, wastewater, and storm drainage enterprise funds are self-supported from rates and charges and fund the operations and capital project budgets of the Utilities and Wastewater branches of the Public Works Department.

The City Council approved the last formal rate studies in 2015 for the water utility and 2009 for the wastewater and storm drainage utilities. Water rates were last increased July 1, 2018, and wastewater and storm drainage rates were last increased July 1, 2011. Since then, the City has experienced a number of unanticipated changes necessitating a rate reevaluation including COVID-19, economic inflation, and water supply issues as well as the development of new Master Plans for all three utilities.

The City engaged Lechowicz & Tseng Municipal Consultants (L&T) to complete a comprehensive water, wastewater (sewer), and storm drainage (storm) rate study to recommend utility rates that will generate sufficient revenues to recover the full cost of services and ensure the continued financial health of the City's enterprise funds. This rate study covers the five-year period beginning in Fiscal Year (FY) 2023/24 through 2027/28.

1.2 Requirements of Proposition 218

The implementation of utility rates in California is governed by the substantive and procedural requirements of Proposition 218 the "Right to Vote on Taxes Act" which is codified as Articles XIIIC and XIIID of the California Constitution. The City must follow the procedural requirements of Proposition 218 for all utility rate increases. These requirements include:

1. **Noticing Requirement** – The City must mail a notice of the proposed rate increases to all affected property owners or ratepayers. The notice must specify the amount of the fee, the basis upon which it was calculated, the reason for the fee, and the date/time/location of a public rate hearing at which the proposed rates will be considered/adopted.

2. **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.

3. **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 or ratepayers submit written protests against the proposed rate increases, the increases cannot be adopted.

Proposition 218 also established substantive requirements that apply to water, wastewater, and storm rates and charges, including:

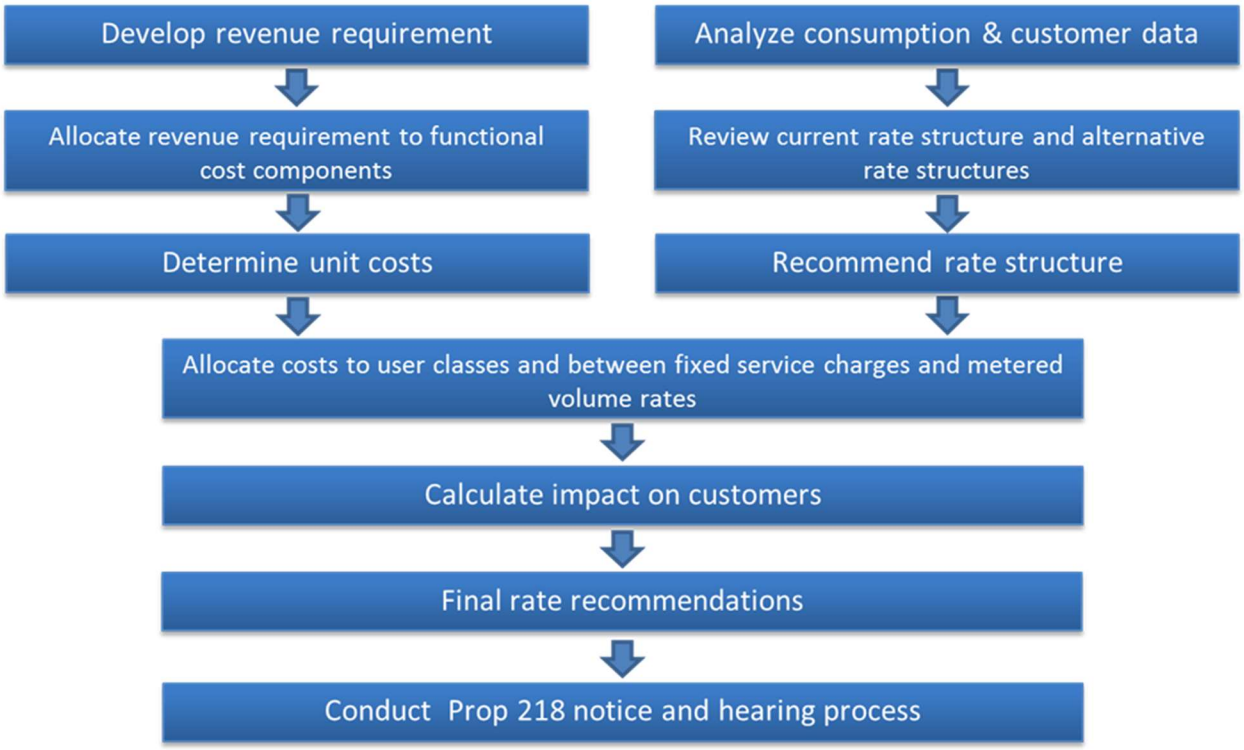
1. **Cost of Service** – Revenues derived from the fee or charge cannot exceed the funds required to provide the service. In essence, fees cannot exceed the "cost of service".
2. **Intended Purpose** – Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.
3. **Proportional Cost Recovery** – The amount of the fee or charge levied on any customer shall not exceed the proportional cost of service attributable to that customer.
4. **Availability of Service** – No fee or charge may be imposed for a service unless that service is used by, or immediately available to, the owner of the property.
5. **General Government Services** – No fee or charge may be imposed for general governmental services where the service is available to the public at large.

Charges for water, wastewater, and storm service are exempt from additional voting requirements of Proposition 218, provided the charges do not exceed the cost of providing service and are adopted pursuant to the procedural requirements of Proposition 218. In 2017, the State passed Senate Bill 231 clarifying the definition of "sewer" in Proposition 218 to include both sanitary and storm sewer, and thereby exempting storm drain rates from the additional ballot requirement.

1.3 Rate Study Process

This section details the development of the City's water, wastewater, and storm rates via the Proposition 218 process as shown in the following figure.

Figure 1: Comprehensive Cost of Service Study Process



The following is a brief description of the rate study process:

- **Revenue Requirements** - Revenue requirements are analyzed via financial plans developed from the Water, Wastewater, and Storm Drain Fund budgets. Based on the best information currently available, the financial plans incorporate projected operation and maintenance costs, capital expenditures, debt service, and growth to estimate annual revenue requirements. The plans serve as a roadmap for funding the City's future operating and capital programs while maintaining long-term fiscal stability.

- **Cost of Service Allocation** - The cost of service process builds on the financial plan analysis and assigns water and sewer system costs to functional cost components: *metering and customer service*, *base,* and *extra* for water, and *customer service*, *flow*, *BOD,* and *SS* for sewer. Storm drain service costs are allocated to customers based on parcel size and impervious (paved) area.[1]

[1] Single family residential (SFR) parcels are proposed to be charged based on average SFR parcel size within the City

- **Rate Design** - Rate design involves developing a rate structure that proportionately recovers costs from customers. Final rate recommendations are designed to (a) fund the utilities' short- and long-term costs of providing service; (b) proportionately allocate costs to all customers and customer classes; and (c) comply with the substantive requirements of Proposition 218.

1.4 Summary of Proposed Rates

The proposed water, wastewater, and storm drain rates were developed to fairly recover costs, adhere to California statute, and be affordable to customers. The rates developed were based on the best available information gathered from City budgets, audits, and input from staff and City Council. The cost allocations proposed herein are based on American Water Works Association methodologies and industry standard practice. The proposed rates are based on the reasonable cost of providing service and are proportional to the benefits received by each customer.

Current and proposed monthly water rates are provided in Table 1. As an update to the current rates, it is proposed that customers be billed the same rates regardless of whether their property is inside the City limits. The projected water rates also include a schedule of drought rates, which would only be implemented during a water shortage emergency.

Table 1: Proposed Monthly Water Rates
City of Hanford
Utility Rate Study

Fiscal Year	Current Rates [1]	PROPOSED				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Effective Date	*July 1, 2018*	*Feb 1, 2024*	*July 1, 2024*	*July 1, 2025*	*July 1, 2026*	*July 1, 2027*
METER CHARGES						
5/8", 3/4", & 1"	$15.41	$17.42	$19.85	$21.64	$22.52	$23.44
1-1/2" & 2"	$21.88	$31.89	$36.34	$39.62	$41.23	$42.91
3" & 4"	$34.83	$95.56	$108.90	$118.73	$123.55	$128.58
6"	$54.26	$292.35	$333.16	$363.26	$378.01	$393.37
8"	$80.17	$465.99	$531.04	$579.02	$602.53	$627.01
CONSUMPTION CHARGES ($/CCF)						
All Customers	$1.34	$1.94	$2.24	$2.44	$2.54	$2.64
DROUGHT CONSUMPTION CHARGES ($/CCF) [2]						
10% Water Cutback		$2.10	$2.42	$2.64	$2.75	$2.86
20% Water Cutback		$2.30	$2.65	$2.89	$3.01	$3.13
35% Water Cutback		$2.72	$3.13	$3.41	$3.55	$3.69
50% Water Cutback		$3.38	$3.89	$4.24	$4.41	$4.59

CCF – hundred cubic feet; one hundred cubic feet equals 748 gallons
1 - Current rates shown are for Inside City customers. Inside & Outside City customers are proposed to be billed the same rates going forward. Current meter charges shown are the sum of the service connection charge and the meter fee.
2 - Only to be implemented temporarily during water shortage emergencies.

Current and proposed monthly wastewater rates are provided in Table 2. The proposed monthly storm rates are provided in Table 3. Currently, wastewater and stormwater rates are billed together as a single charge. Of the existing wastewater system charges adopted in the City's Resolution No. 09-77-R, 78.0% of the service charges for each customer are allocated to the wastewater system, and the remaining 22.0% are allocated to the stormwater system. It is recommended that the City levy storm drain charges based on land use type and parcel size to better reflect the proportional cost of service provided to each customers. Single family residential customers are proposed to be billed a fixed fee based on the average parcel size while all other customer types will be charged an individual rate based on their parcel's acreage. Parcels with indeterminate acreage will be billed a minimum charge according to their customer class.

Table 2: Proposed Wastewater Rates
City of Hanford
Utility Rate Study

Customer Class	Current Rates	PROPOSED				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Effective Date	*July 1, 2011*	*Feb 1, 2024*	*July 1, 2024*	*July 1, 2025*	*July 1, 2026*	*July 1, 2027*
RESIDENTIAL (Per dwelling unit)						
Single Family	$17.86	$24.67	$27.63	$30.95	$32.50	$34.13
Multi-Family/Duplex	$16.93	$18.51	$20.73	$23.22	$24.38	$25.60
NON-RESIDENTIAL						
Metered Water ($/CCF) [1]						
Group A: Domestic	$1.54	$3.08	$3.45	$3.86	$4.05	$4.25
Group B: Low Strength	$1.44	$2.81	$3.15	$3.53	$3.71	$3.90
Group C: Medium Strength	$2.15	$3.95	$4.42	$4.95	$5.20	$5.46
Group D: High Strength	$2.88	$5.34	$5.98	$6.70	$7.04	$7.39
Schools (per student ADA) [2]	$0.51	$0.74	$0.83	$0.93	$0.98	$1.03
Septage (per 1,000 gallons)	$26.19	$35.03	$39.23	$43.94	$46.14	$48.45
Industrial						
Flow (per mg)	$1,561.56	$2,497.17	$2,796.83	$3,132.45	$3,289.07	$3,453.52
BOD (per lb)	$0.173	$0.557	$0.623	$0.698	$0.733	$0.770
SS (per lb)	$0.167	$0.558	$0.625	$0.700	$0.735	$0.772

CCF – hundred cubic feet; one hundred cubic feet equals 748 gallons; Mg – million gallons; BOD – biological oxygen demand; SS – suspended solids

1 - Per hundred cubic feet (ccf)

2 - ADA - average daily attendance

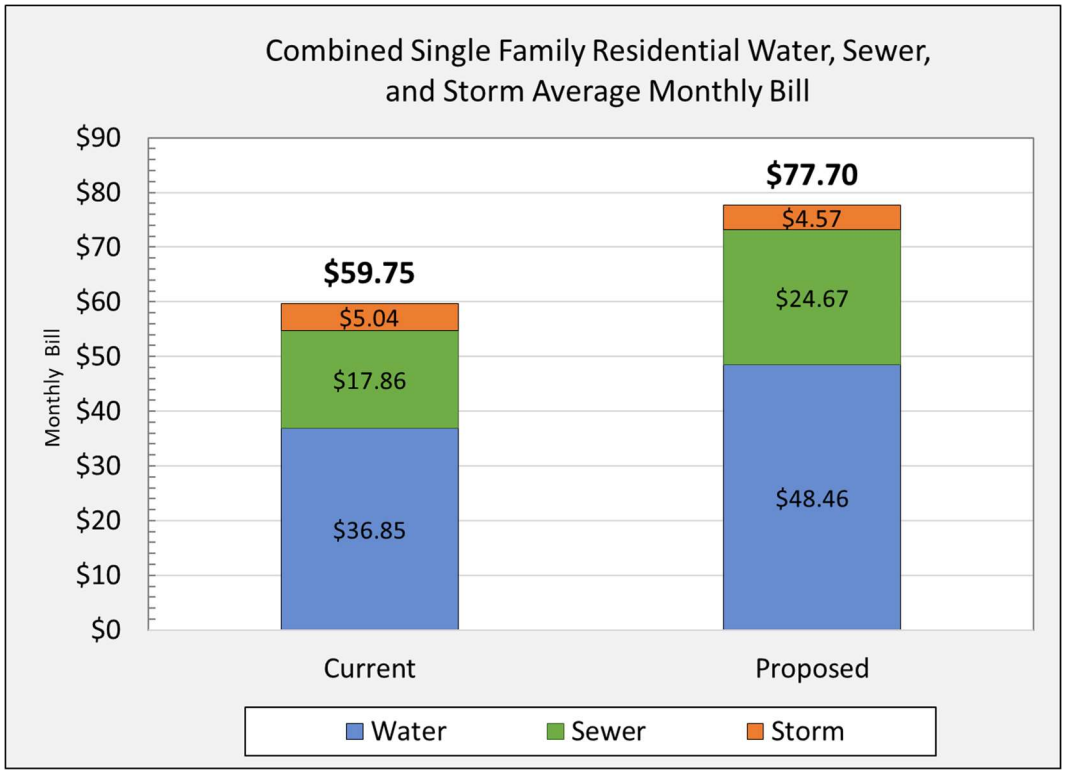
Table 3: Proposed Monthly Storm Drainage Fees
City of Hanford
Utility Rate Study

	Current Rates	PROPOSED				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Effective Date	*July 1, 2011*	*Feb 1, 2024*	*July 1, 2024*	*July 1, 2025*	*July 1, 2026*	*July 1, 2027*
SINGLE FAMILY RESIDENTIAL (per account)	$5.04	$4.57	$4.79	$5.03	$5.29	$5.55
ALL OTHER CUSTOMERS (per acre)						
Business		$43.25	$45.42	$47.69	$50.07	$52.57
Industrial		$38.45	$40.37	$42.39	$44.51	$46.73
Low Density		$4.81	$5.05	$5.30	$5.56	$5.84
Multi-Family		$28.84	$30.28	$31.79	$33.38	$35.05
Public Agency		$43.25	$45.42	$47.69	$50.07	$52.57
Schools		$7.21	$7.57	$7.95	$8.35	$8.76
BASE CHARGE (per account) [1]						
Business		$8.65	$9.08	$9.54	$10.01	$10.51
Industrial		$7.69	$8.07	$8.48	$8.90	$9.35
Low Density		$0.96	$1.01	$1.06	$1.11	$1.17
Multi-Family		$5.77	$6.06	$6.36	$6.68	$7.01
Public Agency		$8.65	$9.08	$9.54	$10.01	$10.51
Schools		$1.44	$1.51	$1.59	$1.67	$1.75

1 - Charge for storm drain accounts that the City does not currently have parcel size for

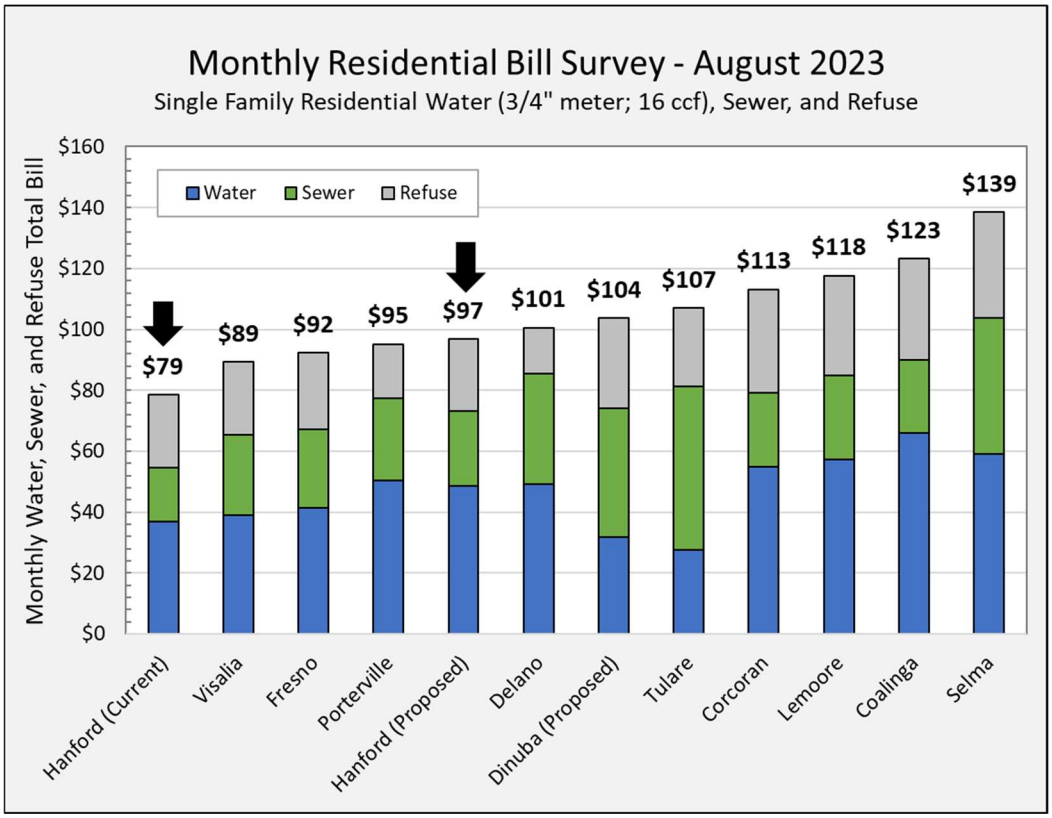
For all three utilities, the first rate change is proposed to go into effect February 1, 2024 with subsequent rate effective each July 1 beginning in 2024 through 2027. The typical monthly water use of a single family customer is 16 ccf per month. Based on these parameters, the City's current total combined water, wastewater, and storm drain bill for a typical single family home with a 5/8" meter is $59.75 per month. After the proposed increase, the typical combined residential bill would increase to $77.70 per month on February 1, 2024, an increase of about 30%, see Figure 2.

Figure 2: Single Family Residential Monthly Water, Sewer, and Storm Average Bill



It should be noted that each customer's monthly utility bill also includes service charges for other utility services including refuse and street sweeping. The charges for other utility services are not evaluated as part of this study. A survey was conducted comparing the combined monthly utility bill for City of Hanford residents with those of other local cities. Because not all cities charge monthly rates for storm drainage and street sweeping services, only water, wastewater, and refuse charges were included in the comparison, see Figure 3. The City's current and proposed combined monthly bills fall within the lower to mid-range of those charged by surrounding cities.

Figure 3: Single Family Residential Monthly Water, Sewer, and Refuse Bill Survey



SECTION 2: CURRENT RATES AND CUSTOMER BASE

This section provides an overview of the City of Hanford's current water, wastewater, and storm drainage rates, customer base, water usage statistics, and current rate revenues.

2.1 Current Water Rates

The City bills customers for water service on a monthly basis. The last water rate study was conducted in 2015 which provided a schedule of water rate increases through 2018. A schedule of current monthly water rates that went into effect on July 1, 2018 is provided in Table 4. Current rates vary based on whether each customer is located inside or outside the City limits. There is a 10% surcharge for customers outside the City limits. Prior to the last water rate study, some City customers were unmetered and billed according to a schedule of flat rates for water service. Since then, all customers have been transitioned to metered service. Thus, the City's existing schedule of water rates for flat rate connections is not evaluated as part of this study. The City's current water rate structure for metered service connections includes three components: (1) a Connection Charge, (2) a Meter Size Charge, and (3) a Water Consumption Charge.

2.1.1 Connection Charge

All customers are charged a connection charge which is standard across all customer classes and meter sizes. The connection charge is charged independent of water consumption.

2.1.2 Meter Size Charge

All customers are charged a meter size charge based on their meter size which is levied regardless of water consumption and recognizes that even when a customer does not use any water, the City incurs fixed costs associated with maintaining the ability or readiness to serve each connection. Together with the connection charge, the meter size charge makes up the fixed portion of each customer's monthly bill.

2.1.3 Water Consumption Charge

In addition to the fixed charges, all customers pay a water consumption charge per hundred feet (ccf) of water consumption. One ccf is equal to 748 gallons of water. The charges for all customers are the same regardless of customer class.

2.1.4 Private Fire Protection Service

The City also levies a flat charge to three customers that have a separate meter for fire sprinklers. The private fire protection service charges are not evaluated as part of this study.

Table 4: Current Monthly Water Rates
City of Hanford
Utility Study

Connection Charge	Inside City Limits	Outside City Limits
All Service Connections	$2.46	$2.71
Meter Size Charge		
5/8", 3/4", & 1" meter	$12.95	$14.25
1-1/2" & 2" meter	$19.42	$21.36
3" & 4" meter	$32.37	$35.61
6" meter	$51.80	$56.98
8" meter	$77.71	$85.48
Water Consumption Charge (per ccf)		
Rate per ccf	$1.34	$1.47

CCF – hundred cubic feet; one hundred cubic feet equals 748 gallons
Note: Private fire protection service charges are not included in the table

2.2 Water Customer Base and Current Water Sales Revenues

Table 5 includes a summary of the number of water accounts by meter size based on the City's billing data as well as estimated water usage and service charge revenues for FY 2022/23. The City provides service to over 18,300 accounts of which approximately 450 are outside current City limits. The majority of customers have 5/8", 3/4", or 1" meters, representing about 94.0% of total meters.

The City collected approximately $9.3 million in total water rate revenues in FY2022/23. About 38.0% of revenues were collected from fixed charges including the connection charge, meter size charge, and private fire protection charges. The meter charges shown in Table 5 include the Connection Charge that has added on to the Meter Size Charge for each meter size. The remaining 62.0% of revenues were collected from Water Consumption Charges. Total annual water consumption in FY2022/23 was estimated at 4.3 million ccf, a decrease of about 8.0% from the previous two years.

Based on City billing records, the current average single family monthly residential water use is 16 ccf per month. Based on a typical home with a 5/8", 3/4", or 1" meter and 16 ccf of water use, the average water bill is currently $36.85 per month.

Table 5: Estimated Water Service Sales Revenues from Billing Data, FY 2022/23
City of Hanford
Utility Rate Study

FY 2022/2023 (ESTIMATED)				
METER CHARGE				
Inside City Accounts	**Meter Charge**	**No. of Accts**	**Fixed Revenue**	**% of Total**
5/8", 3/4", & 1"	$15.41	16,861	$3,117,936	33.5%
1-1/2" & 2"	$21.88	862	$226,327	2.4%
3" & 4"	$34.83	114	$47,647	0.5%
6"	$54.26	12	$7,813	0.1%
8"	$80.17	3	$2,886	0.0%
Outside City Accounts				
5/8", 3/4", & 1"	$16.96	428	$87,107	0.9%
1-1/2" & 2"	$24.07	20	$5,777	0.1%
3" & 4"	$38.32	1	$460	0.0%
6"	$59.69	2	$1,433	0.0%
8"	$88.19	2	$2,117	0.0%
Private Fire Service				
4"	$46.62	1	$559	0.0%
6"	$69.93	2	$1,678	0.0%
Subtotal Fixed Revenue		18,308	$3,501,740	37.6%
USAGE CHARGE				
All Usage	**Usage Charge**	**Usage (ccf)**	**Usage Charge Revenue**	**% of Total**
Inside City	$1.34	4,195,771	$5,622,334	60.4%
Outside City	$1.47	129,074	$189,739	2.0%
Subtotal Consumption Revenue		4,324,846	$5,812,073	62.4%
Total Water Sales Revenue			**$9,313,813**	**100.0%**

CCF – hundred cubic feet; one hundred cubic feet equals 748 gallons

2.3 Current Wastewater Rates

The City's last wastewater rate study was conducted in 2009 which determined a schedule of rates through 2011. A schedule of current monthly wastewater rates that went into effect on July 1, 2011 is provided in Table 6. The City's current rate structure varies based on customer class.

2.3.1 Residential Customers

Residential customers pay a flat monthly charge on a per dwelling unit basis. Single family residential customers pay $17.86 per month, and multi-family customers pay $16.93 per dwelling unit. A triplex is charged for three dwelling units, as an example. The charge per dwelling unit is lower for multi-family customers than single-family customers, reflecting lower average winter water use and estimated sewer flows.

2.3.2 Commercial Customers

Commercial customers pay a volume rate per ccf based on metered monthly water use. There are four subcategories of commercial wastewater customers grouped according to strength of wastewater flow. Customers with higher strength wastewater flow such as restaurants are billed a higher rate per ccf. Because sewer flow is not typically metered, water consumption is used as an approximation for sewer flow. It is assumed that any outdoor irrigation water use that does not flow into the sewer is separately metered through an irrigation-only connection that is not billed for sewer service.

2.3.3 Schools

Schools are billed annually based on average daily attendance (ADA) per month during the 9 months when schools are in session.

2.3.4 Septage

The City's septage hauler customers are billed per thousand gallons according to metered flow.

2.3.5 Industrial Customers

The City's industrial customers are charged according to actual metered wastewater discharge (flow and pollutant loading) as well as fees for excessive discharge.

Table 6: Current Wastewater Rates
City of Hanford
Utility Rate Study

RESIDENTIAL		
Single family residences	$17.86	/month
Duplex, multi-family dwelling per dwelling unit	$16.93	/month
NON- RESIDENTIAL		
Metered water		
(a) Mobile home parks, motels, public buildings, hospitals, nursing homes, churches, fraternal lodges, service stations and automotive centers	$1.54	/ccf [1]
(b) Car washes, laundromats, retail, commercial and professional establishments	$1.44	/ccf
(c) Mixed use commercial centers including food services with single water service	$2.15	/ccf
(d) Restaurants, supermarkets, grocery stores, mortuaries	$2.88	/ccf
Schools	$0.51	/student/mo ADA [2]
Septage	$26.19	/1000 gallons
INDUSTRIAL		
Flow	$1,561.56	/million gal.
BOD (Biological Oxygen Demand)	$0.17	per lb.
SS (Suspended Solids)	$0.17	per lb.

1 - CCF – hundred cubic feet; one hundred cubic feet equals 748 gallons
2 - ADA – average daily attendance

2.4 Wastewater Customer Base and Current Revenues

The City's wastewater utility provides service to over 17,300 single family, multi family, commercial, industrial, and school accounts within the City. The majority of accounts are for single family residential customers, representing about 92.0% of total account holders.

Table 7 includes an estimate of total wastewater rate revenues collected in FY2022/23 based on the City's billing data as well as the number of billing units in each customer class. It is estimated that the City collected approximately $5.39 million in total wastewater rate revenues in FY2022/23. About 81.0% of revenues were collected from the flat charges billed to single and multi-family residential customers. Industrial revenues account for over 4.0% of total while commercial revenues represent approximately 13.0%. The remainder of revenues are comprised of school and septage revenues.

Table 7: Estimated Wastewater Service Charge Revenues from Billing Data, FY 2022/23
City of Hanford
Utility Rate Study

FY 2022/2023 (ESTIMATED)				
FIXED CHARGES				
Residential Customers	**Monthly Fixed Charge**	**No. of Units**	**Estimated Fixed Revenue**	**% of Total**
Single Family Residential	$17.86	15,872	$3,401,687	64.3%
Multi-Family Residential per unit	$16.93	4,345	$882,730	16.7%
Subtotal Residential			$4,284,417	81.0%
VOLUME RATES				
Industrial Customers	**Usage Charge ($/million gal or $/lb.)**	**Units**	**Estimated Revenue**	**% of Total**
Flow (million gallons)	$1,561.0	145.16	$226,595	4.3%
BOD (lbs)	$0.173	33,269	$5,761	0.1%
SS (lbs)	$0.167	27,119	$4,527	0.1%
Subtotal Industrial			$236,883	4.5%
Commercial Customers	**Usage Charge ($/ccf)**	**Billed Flow**	**Estimated Revenue**	**% of Total**
Group A: Domestic	$1.54	129,553	$199,512	3.8%
Group B: Low Strength	$1.44	168,658	$242,868	4.6%
Group C: Medium Strength	$2.15	12,939	$27,819	0.5%
Group D: High Strength	$2.89	79,588	$230,009	4.3%
Subtotal Commercial		390,738	$700,207	13.2%
Schools	**Charge per student (ADA)**	**# of students**	**Estimated Revenue**	**% of Total**
	$0.51		$48,539	0.9%
Subtotal Schools			$48,539	0.9%
Septage	**Usage Charge ($/1000 gal)**	**Billed Flow (1,000 gal)**	**Estimated Revenue**	**% of Total**
	$26.19	765	$20,038	0.4%
Subtotal Septage			$20,038	0.4%
TOTAL WASTEWATER SERVICE REVENUES			**$5,290,084**	100.0%

CCF – hundred cubic feet; one hundred cubic feet equals 748 gallons

2.5 Current Storm Drainage Rates and Revenues

Of the existing wastewater system charges adopted in the City's Resolution No. 09-77-R, 78.0% of the service charges for each customer are allocated to the wastewater system as shown in Table 6, and the remaining 22.0% are allocated to the storm drain system. Thus, the rate structure for the storm drain system is the same as the rate structure for the wastewater system. A schedule of current monthly storm drain rates that went into effect on July 1, 2011 is provided in Table 8. Residential customers are billed a flat charge per dwelling unit, commercial customers are billed a volume rate per ccf of metered water usage, schools are billed per student, septage users are billed per thousand gallons, and industrial customers are billed according to metered wastewater discharge.

Annual fee revenues collected in FY2022/23 were estimated at $1.45 million. About 65.0% of revenues were collected from single family residential customers. Multi-family residential customers generated 16.2% of revenues, businesses generated 10.5%, industrial customers generated 5.9%, and the remainder were collected from public agencies and schools.

Table 8: Current Storm Drainage Rates
City of Hanford
Utility Rate Study

RESIDENTIAL		
Single family residences	$5.04	/month
Duplex, multi-family dwelling per dwelling unit	$4.77	/month
NON- RESIDENTIAL		
Metered water		
(a) Mobile home parks, motels, public buildings, hospitals, nursing homes, churches, fraternal lodges, service stations and automotive centers	$0.43	/ccf [1]
(b) Car washes, laundromats, retail, commercial and professional establishments	$0.40	/ccf
(c) Mixed use commercial centers including food services with single water service	$0.61	/ccf
(d) Restaurants, supermarkets, grocery stores, mortuaries	$0.81	/ccf
Schools	$0.15	/student/mo ADA [2]
Septage	$7.39	/1000 gallons
INDUSTRIAL		
Flow	$440.44	/million gal.
BOD (Biological Oxygen Demand)	$0.0488	per lb.
SS (Suspended Solids)	$0.0471	per lb.

1 - CCF – hundred cubic feet; one hundred cubic feet equals 748 gallons
2 - ADA = average daily attendance

SECTION 3: WATER REVENUE REQUIREMENT

Proposition 218 requires that utility rates be based on the reasonable cost of providing service to customers. The cost of service includes annual operating expenses, capital improvement projects, and the accumulation of appropriate reserves. This section summarizes the water utility's revenues and expenses to determine the total cost of service to be recovered via rates. The cost of service is expressed in a cash flow table that illustrates revenue increases needed to keep up with expenses and maintain the financial health of the enterprise.

3.1 Water System Overview

The City is responsible for providing safe, clean water through the operation of its water system consisting of over 220 miles of water mains, 12 water supply wells, and 3.5 million gallons of water storage. The City's sole water source is groundwater from within the San Joaquin Valley Groundwater Basin which is obtained from wells and chlorinated before distribution. One well also includes treatment facilities for the removal of arsenic.

There are over 18,000 active water accounts including City residents and a small number of residents in surrounding areas. On average over the past 3 years, the City has consumed between 4.5 million and 5 million ccf of water each year. Single family residential consumption comprises more than half of the City's total consumption at approximately 66.0% with the remaining 33.0% of use by multi-family residential, commercial, industrial, public agency, and school customers. Based on City billing records, the current average monthly single family residential water use is 16 ccf per month.

3.2 Water Reserves

The accumulation and maintenance of reasonable reserves is one factor to consider when determining the cost of service. Adequate fund reserves protect the City when faced with unforeseen financial challenges such as emergency expenses or revenue deficits. Fund reserves allow the City to maintain its financial health and positive credit ratings, especially during emergencies. Moreover, funding can be drawn from reserves to supplement rate revenues lost during drought conditions or other unexpected situations. The City can also choose to use reserves to smooth cash flows and mitigate impacts to ratepayers.

The City maintains two water reserve funds – 1) an operating fund reserve and 2) a capital reserve fund reserve. As of the beginning of FY 2023/24, the water utility had operations fund reserves of approximately $9.98 million and capital and reserve fund reserves of approximately $10.58 million. Total reserves are strong. The recommended reserve target is 50 percent of annual operating costs plus one year's total debt service payment.

3.3 Water Capital Improvement Plan

Table 9 provides the City's capital improvement plan (CIP) by year for the rate study period, totaling $43.7 million. Projects funded by impact fees or other non-rate sources are not included. Major projects include the replacement of water meters and aged water mains throughout the City.

Table 9: Water Capital Improvement Plan (rate funded)
City of Hanford
Utility Rate Study

Project Title	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	5-Year Total
Water Sys Security Upgrades	$605,740	-	-	-	-	$605,740
Utility Customer Payment Kiosks (2)	$27,000	$14,000	$14,000	$14,000	$14,000	$83,000
Industrial Park Water Storage	-	$3,879,800	-	-	-	$3,879,800
Tank 4 Chlorination	$66,070	-	-	-	-	$66,070
Repr Well 45 & 49	$86,060	-	-	-	-	$86,060
Lacey Blvd Widen Magna Carta to 13th	-	-	-	$500,000	-	$500,000
2910 Well Pump Rehab 42 & 38	$120,000	$120,000	-	-	-	$240,000
2910 Spare Motor 250	-	-	$60,000	-	-	$60,000
Water Distrib Main Ext Program	-	$480,000	-	-	-	$480,000
Water Main Repl Program	$700,000	-	$700,000	-	$700,000	$2,100,000
New Water Supply Well	$900,000	-	$900,000	-	$900,000	$2,700,000
2910 Meter Replacement	$5,000,000	$5,000,000	$5,000,000	-	-	$15,000,000
Unsch Main Exten/Repl-Water	$50,000	$50,000	$50,000	$50,000	$50,000	$250,000
2081 Fire Hydrants	$28,000	-	-	-	-	$28,000
1750 Pw Enclosed Warehouse	-	-	$200,000	-	-	$200,000
Lacey Widen/Recon/10th-Sierra	$366,020	$584,640	$223,870	-	-	$1,174,530
Meter Replacement Program	$857,830	$120,000	$120,000	$120,000	$120,000	$1,337,830
Automated Meter Zenner Eq Repair	$638,180	-	-	-	-	$638,180
Amr Replacement Program	$400,000	$400,000	$400,000	$400,000	$400,000	$2,000,000
Annual Repairs & Replacement	-	$500,000	$500,000	$500,000	$500,000	$2,000,000
Well 51 and Well 52	-	$4,240,000	-	-	-	$4,240,000
Well and Tank at Heroes Park	-	-	-	-	$6,000,000	$6,000,000
Total Water CIP	**$9,844,900**	**$15,388,440**	**$8,167,870**	**$1,584,000**	**$8,684,000**	**$43,669,210**

3.4 Water Cash Flow Projection

The water fund cash flow for the five-year period beginning in FY 2023/24 through FY 2027/28 is provided in Table 10. The cash flow is based on the City's *FY 2023/24 and 2024/25 Budget* and includes revenue increases such that the City covers operating and debt service costs, funds all proposed capital improvement projects, and maintains adequate reserves. Revenue increases over the course of the five-year period are proposed to be 35.0% in the first year followed by 15.0%, 10.0%, 5.0%, and 5.0%. It should be noted that this level of increase is applied to the City's total water rate revenues and does not necessarily reflect the level of increase for individual customers. Each customer's bill varies depending

on meter size and water usage. The first rate increase is proposed to go into effect February 1, 2024, followed by subsequent increases each July 1 beginning in 2024 through 2027.

3.4.1 Water Revenues

As shown in Table 5, current water rates are estimated to generate $9.3 million in revenues. For FY 2023/24, rate revenues are projected at $10.4 million, assuming the City will collect rates at the current revenues for 7 months and rates with proposed revenue increases for 5 months. Rate revenues are the main revenue source for the water utility, comprising about 97.0% of total water revenues. Other revenue sources include penalty fees, job orders, interest income, and miscellaneous income. These other sources generate about $299,000 annually, which is projected to remain constant over the next five years.

3.4.2 Water Expenses

The cash flow uses the City's *FY 2023/24 and FY 2024/25 Budget* as the basis for projected expenses. Most operating expenses are projected to increase 3.0% annually beginning in FY 2025/26, except for Salaries & Benefits which are escalated by 7.0% annually beginning in FY 2025/26 per City direction. The water fund's share of payments for the principle for the Pension Obligation Bond (POB) are included as a new expense. New fees payable to the local Groundwater Sustainability Agency (GSA) are estimated at $100,000 annually for administration plus an additional $500,000 per year for pumping fees beginning in FY 2024/25. Annual depreciation is not included as a cash expense. The City's capital improvement plan includes funding for the repair and replacement of infrastructure to keep up with wear and tear on the City's facilities.

3.4.3 Debt Service and Debt Service Coverage

A chief covenant for the City to secure loans, grants, or revenue bonds/Certificates of Participation (COPs) is to maintain a specific debt service coverage ratio. A debt service coverage ratio is a financial measure of an agency's ability to repay outstanding debt. For the water fund, the debt service coverage ratio means that annual water net revenues (gross revenues less operating and maintenance expenses) must be at least 1.2 times the combined annual debt service payments on all parity obligations. Failure to meet the debt service coverage ratio on an annual basis is considered to be technical default, thereby making the revenue bonds/COPs callable or payable upon demand. Thus, rates and fees must be set to meet this legal requirement.

The water utility currently has one outstanding debt obligation that counts toward its debt service coverage requirement – Water Revenue Refunding Bonds, Series 2013. In 2013, the City issued $12.725 million in bonds bearing interest of 2.0% to 5.0% payable semi-annually beginning in October 2013. The Bonds were issued to refinance the City's previously issued $8.925 million CSCDA Water and Wastewater Revenue Bonds dated December 9, 2003 and the $8.15 million Installment Sale Agreement – Water System dated December 20, 2007. Total annual debt service is about $1.1 million and will be

paid off in October 2028. The rates proposed in this study are expected to generate adequate revenues to meet the City's current and future coverage requirements.

3.4.4 Five-Year Summary

Figure 4 graphically shows the water cash flow projection for the five-year rate study period including both operating and capital expenses. In the first few years, expenses will exceed revenues. The City will spend down some of its existing reserves to fund capital projects, thereby mitigating the level of rate increases needed for customers. At the end of the five-year period, the City's revenues are projected to be in-line with total expenses.

Figure 4: Water Cash Flows

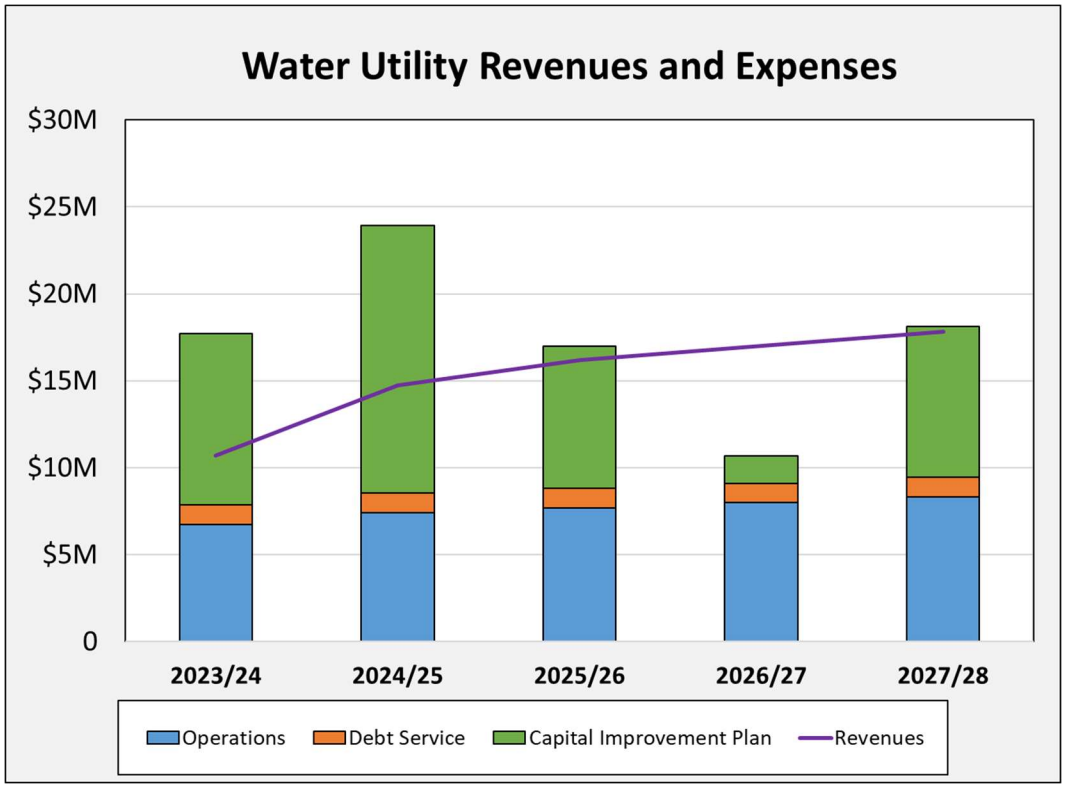


Table 10: Water Cash Flow Projection
City of Hanford
Utility Rate Study

	Years 1 -5: Proposition 218				
	FY 2023/24	**FY 2024/25**	**FY 2025/26**	**FY 2026/27**	**FY 2027/28**
Rate Revenue Increase	35.0%	15.0%	10.0%	5.0%	5.0%
Rate Increase Effective	Feb 1, 2024	Jul 1, 2024	Jul 1, 2025	Jul 1, 2026	Jul 1, 2027
BEGINNING FUND BALANCE [1]	$9,975,000	$4,324,000	$2,038,000	$3,416,000	$5,304,000
REVENUES					
Rate Revenues [2]	10,398,000	14,457,000	15,903,000	16,698,000	17,533,000
Penalties	40,000	40,000	40,000	40,000	40,000
Service Orders/Job Orders	90,000	90,000	90,000	90,000	90,000
Interest Income	39,000	39,000	39,000	39,000	39,000
Miscellaneous Income	130,000	130,000	130,000	130,000	130,000
Total Revenue	10,697,000	14,756,000	16,202,000	16,997,000	17,832,000
EXPENSES					
Operating Expenses					
Salaries and Benefits	1,782,000	1,996,000	2,136,000	2,286,000	2,446,000
Supplies and Equipment	1,363,000	1,353,000	1,394,000	1,436,000	1,479,000
Outside Services	235,000	231,000	238,000	245,000	252,000
City Services Allocation	1,065,000	1,065,000	1,097,000	1,130,000	1,164,000
GSA Fees	100,000	600,000	600,000	600,000	600,000
POB Principal	230,000	225,000	226,000	225,000	234,000
Chemicals	300,000	300,000	309,000	318,000	328,000
Utilities	1,645,000	1,645,000	1,694,000	1,745,000	1,797,000
Subtotal O&M	6,720,000	7,415,000	7,694,000	7,985,000	8,300,000
Net Operating Revenue	3,977,000	7,341,000	8,508,000	9,012,000	9,532,000
Debt Service					
Water Rev Refunding Bonds, Series 2013	1,128,000	1,127,000	1,130,000	1,124,000	1,134,000
Transfers Out (#570250)	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Addt'l Transfer to Capital Fund	6,000,000	6,000,000	3,500,000	3,500,000	3,500,000
Transfers to Capital Fund	8,500,000	8,500,000	6,000,000	6,000,000	6,000,000
Total Operations Fund Net Revenues	(5,651,000)	(2,286,000)	1,378,000	1,888,000	2,398,000
OPERATIONS FUND ENDING BALANCE	4,324,000	2,038,000	3,416,000	5,304,000	7,702,000
Operations Fund Reserve Target [3]	4,488,000	4,835,000	4,977,000	5,117,000	5,284,000
Operating Reserve Target Met?	*no*	*no*	*no*	*yes*	*yes*
Debt Service Coverage (Target = 1.20x) [4]	3.53	6.51	7.53	8.02	8.41
CAPITAL & RESERVE BEG. BALANCE [5]	10,582,000	9,237,000	2,349,000	181,000	4,597,000
Revenues					
Transfer from Operations Fund (#570250)	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Transfer from Operations Fund	6,000,000	6,000,000	3,500,000	3,500,000	3,500,000
Subtotal Capital Revenues	8,500,000	8,500,000	6,000,000	6,000,000	6,000,000
Capital Plan Expenses	9,845,000	15,388,000	8,168,000	1,584,000	8,684,000
Capital Fund Net Revenues	(1,345,000)	(6,888,000)	(2,168,000)	4,416,000	(2,684,000)
CAPITAL & RESERVE ENDING BALANCE	9,237,000	2,349,000	181,000	4,597,000	1,913,000

1 - Estimated Water Operations Fund cash fund balance from City staff
2 – FY 2023/24 revenues are estimated based on 7 months at current rate revenues and 5 months with proposed rate increases
3 - Recommended targets is 6 months O&M Expenses plus annual debt service cost
4 - Net Operating Revenue divided by Total Debt Service
5 - Estimated Water Capital & Reserve Fund cash fund balance from City staff

SECTION 4: WATER COST ALLOCATION AND RATE DESIGN

4.1 Water Cost Allocation

The water revenue requirement detailed in the previous section determines the total cost of providing service to be recovered from water rates, and in this section that revenue requirement is assigned to fixed and consumption charges to fairly recover costs from customers based on how they use the water system. Proposition 218 requires that agencies providing "property-related services" (including water utility service) set rates and charges that are based on the cost of providing those services and are proportional to how customers use the system.

4.1.1 Overview of Water Cost of Service Methodology

The purpose of the cost allocation is to classify costs and to determine the amount of revenue that will be recovered from fixed charges and from consumption charges. The American Water Works Association (AWWA) recommends methods to classify costs among various customers. Using the Base-Extra Capacity Method as recommended by the AWWA, water operating expenses are allocated to the following categories: (a) Base, (b) Extra, (c) Meters & Services, and (d) Customer Service. The *Base* and *Extra* categories are intended to recover variable (consumption) costs, while the *Customer Service* and *Meters & Services* categories are intended to recover fixed expenses that are incurred regardless of water used.

- *Base:* Base costs include the expenses related to providing water under average, "base" demand conditions.
- *Extra:* The extra category includes costs related to providing water above the system average demand (ie. related to peak, "extra" usage).
- *Meters & Services:* These include costs related to maintaining and replacing water meters and operating costs related to providing service at the maximum demand of each meter.
- C*ustomer Service:* This category contains costs associated with serving customers, such as billing and answering customer inquiries.

4.1.2 Cost Allocation

The cost allocation for the water utility is provided below in Table 11. The *FY 2023/24 Budget* is used as the test year for the cost allocation. Costs are allocated according to how they are incurred by the City. Based on the proposed allocation, roughly 33.0% of costs will be recovered from the Fixed Charges while the remaining 67.0% will be recovered from Consumption Charges.

Table 11: Water Cost Allocation
City of Hanford
Utility Rate Study

Budgeted Expenses	Budget FY 2023/24	Consumption Charge	Fixed Charge	
		Base & Extra	Meters	Customer Service
Operating Expenses				
Salaries and Benefits	$1,782,000	66.67%	16.67%	16.67%
Supplies and Equipment	$1,363,000	60.00%	20.00%	20.00%
Outside Services	$235,000	60.00%	20.00%	20.00%
GSA Fees	$100,000	0.00%	50.00%	50.00%
POB Principal	$230,000	66.67%	16.67%	16.67%
Chemicals	$300,000	100.00%	0.00%	0.00%
Utilities	$1,645,000	100.00%	0.00%	0.00%
Subtotal	$5,655,000	$4,245,133	$704,933	$704,933
		75.07%	12.47%	12.47%
City Services Allocation	$1,065,000	75.07%	12.47%	12.47%
Total Operating	$6,720,000	$5,044,615	$837,693	$837,693
Non-Operating Expenses				
Debt Service (5-year avg)	$1,128,600	100.00%	0.00%	0.00%
Water CIP Projects (5-year avg) [1]	$8,733,800	56.36%	43.45%	0.19%
Subtotal Non-Operating	$9,862,400	$6,050,616	$3,795,184	$16,600
Total Expenses	$16,582,400	$11,095,231	$4,632,876	$854,293
Proposed Cost Allocation %		66.91%	27.94%	5.15%

1 - Based on CIP projects over the next five years

4.1.3 Annual Revenue Requirement Allocation

To determine the total revenues that must be collected each year from fixed and consumption charges, the cost allocation percentages from Table 11 are applied to the total water rate revenue requirements from the cash flow projection (Table 10). The fixed charge revenue requirement is based on the *Meters & Services* and *Customer Service* categories from the cost allocation. The consumption charge revenue requirement is based on the *Base* and *Extra* categories.

Table 12: Annual Revenue Requirement Allocation
City of Hanford
Utility Rate Study

	Cost Allocation %	PROJECTED - RATE STUDY PERIOD				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Total Revenue Requirement [1]		$12,571,000	$14,457,000	$15,903,000	$16,698,000	$17,533,000
FIXED CHARGES						
Meters & Services	27.9%	$3,512,151	$4,039,071	$4,443,062	$4,665,173	$4,898,460
Customer Service Charge	5.2%	$647,633	$744,796	$819,291	$860,248	$903,266
Total Fixed Charges	33.1%	$4,159,784	$4,783,867	$5,262,353	$5,525,421	$5,801,726
CONSUMPTION CHARGES						
Total Consumption Charges	66.9%	$8,411,216	$9,673,133	$10,640,647	$11,172,579	$11,731,274
TOTAL	100.0%	$12,571,000	$14,457,000	$15,903,000	$16,698,000	$17,533,000

1 – FY 2023/24 Revenue Requirement is if February 1 rates were to be in effect for 12 months

4.2 Billing Units

4.2.1 Meter Equivalents

The most common method to levy fixed charges is by meter size. AWWA guidelines recommend using meter equivalents to assign demand-related and service related costs to larger meter sizes. The ratio at which the meter charge increases is typically a function of either meter investment (estimated cost) or the meter's safe operating capacity. The AWWA M1 Manual 7th Edition page 77 states "*billing ratios are used to recognize that billing, metering, and collection costs for larger services may be greater than for smaller meter-size services. This may be due to difficulty in accessing the meter facility, replacement of meters, multiple dial meters, more customer service time associated with dealing with larger meter customers, and other factors*." These costs are reflected in the portion of Salaries and Benefits and Supplies and Equipment line items allocated to *Customer Service* and *Meters* in Table 11.

Moreover, larger meters have the ability to place a greater demand on the water system and are therefore charged based on that potential demand (or standby capacity). Water system components such as pumps, tanks, and pipelines are engineered and designed to meet maximum hour demand plus fire flow. The City incurs costs to maintain and operate these facilities at maximum capacity 24 hours a day, 365 days per year. For example, a customer that has a 6" meter has 20 times the capacity equivalency (flow rate) of a customer with a 5/8" or 1" meter. (A 6" meter has a safe operating capacity of 1,000 gallons per minute (gpm) compared to a 5/8" or 1" meter which has a safe operating capacity

of 50 gpm). If all customers had 5/8" meters, the City would incur lower operating and capital costs as facilities would be smaller sized and more easily replaced and maintained. The AWWA M1 Manual 7th Edition page 152 states "*this analysis considers that there is a minimum system in place to meet minimum service requirements regardless of use. The minimum needs are defined by determining the minimum size a system would be designed to meet minimum or average service needs (e.g., 4-in. service) not considering sizing for peak-day capacity needs or fire protection. The percentage of the distribution system related to meeting the minimum system needs would be applied to distribution-related costs and would be collected in the fixed charges. Incremental system sizing related to sizing the system to meet peak-day needs and fire flow requirements may also be considered for inclusion in the fixed charges.*" These costs are staffing, maintenance, and capital expenses from Table 11 associated with providing capacity for the maximum flow rate of each meter.

Table 13 shows the existing number of meters by meter size and calculates the number of meter equivalents based on the AWWA recommended meter ratios. The base meter size for the City is the 5/8", 3/4", or 1" meter, representing over 94.0% of all meters served. The recalculation of meter equivalents for larger meter sizes will amend the fixed charges so that each meter size will be charged based on their proportional impact on the system.

Table 13: Number of Meter Equivalents (Total Inside & Outside City Accounts)
City of Hanford
Utility Rate Study

Meter Size	No. of Meters	Flow Rate (gpm)	Meter Ratio	No. of Meter Equivalents
5/8", 3/4", & 1"	17,289	50	1.00	17,289
1-1/2" & 2"	882	100	2.00	1,764
3" & 4"	115	320	6.40	736
6"	14	1,000	20.00	280
8"	5	1,600	32.00	160
TOTAL	**18,305**			**20,229**

Flow rates taken from AWWA M1 Manual 7th Edition page 386

4.2.2 Projected Growth and Use

Table 14 shows an estimate of total water meters, water meter equivalents, and water use for the next five years. Customer growth is projected at 0.9% each year beginning in FY 2024/25 based on the projected annual growth rate from the City's most recent Urban Water Management Plan by the Akel Engineering Group. Estimated current water use is based on billing data from the past two years less an 8.0% conservation factor to account for actual decreased water rate revenue in FY 2022/23. Consumption is conservatively estimated to remain level through the first two years of the study period to account for conservation as customers adjust to the increased water rates. Beginning in FY 2025/26, water consumption is estimated to increase by 0.9% each year concurrently with growth in the customer base.

Table 14: Projected Customer Growth & Water Consumption
City of Hanford
Utility Rate Study

	CURRENT	PROJECTED - RATE STUDY PERIOD				
	2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
NUMBER OF METERS						
Growth Increase % [1]		*0.00%*	*0.90%*	*0.90%*	*0.90%*	*0.90%*
Total Water Meters	18,305	18,305	18,470	18,636	18,804	18,973
Total Meter Equivalents	20,229	20,229	20,411	20,595	20,780	20,967
WATER CONSUMPTION						
Annual Increase % [2]		*0.00%*	*0.00%*	*0.90%*	*0.90%*	*0.90%*
Total Consumption [3]	4,324,846	4,324,846	4,324,846	4,363,769	4,403,043	4,442,671

1 - Table 3-2, Urban Water Management Plan by Akel Engineering Group projects an annual growth rate of 0.9%
2 - Projected water use for FY2024 and FY2025 reflect no growth in use as customers adjust to the new rate increases
3 - Note: Projected 2023 consumption is based on the average of FY 2020/21 and FY 2021/22 less 8% to account for observed conservation during FY 2022/23

4.3 Water Rate Design

To comply with Proposition 218, the following modifications to the existing water rate structure are proposed:

- **Inside vs. Outside City Rates**
  - Eliminate the 10% surcharge for customers outside the City limits.

- **Fixed Meter Charge**
  - Use the AWWA meter capacity ratios to calculate rates for the larger meter sizes. The re-alignment will amend the fixed charges so that each meter size will be charged based on their proportional impact on the system. This is in-line with industry standard practice and is the policy of most other local utility providers.

- **Drought Rates**
  - Adopt a schedule of drought consumption charges whereby the rate per unit of water (ccf) for all customers will temporarily increase should the City declare a water shortage emergency. The drought rates are in alignment with the City's existing Water Shortage Contingency Plan.

4.4 Water Rate Derivation

Following the allocation of costs, the next step is to derive the total cost responsibility for each customer class by developing unit costs of service for each cost function and then assigning those costs to the customer classes based on the respective service requirements of each.

4.4.1 Fixed Meter Charge Calculation

Table 15 shows the rate derivation for the proposed Fixed Charge by meter size based on the AWWA meter equivalents from Table 13 and the total revenue requirements from Table 12. The customer service portion of the Fixed Charge is proposed to be the same for each customer regardless of meter size, whereas the meter equivalent portion of the fixed charge is proposed to be based on meter size. The total *Meters & Services* revenue requirement is divided by the total number of meter equivalents. The *Customer Service* revenue requirement is divided by the total number of accounts.

For 2023/24, the proposed meter equivalent charge of $14.47 is multiplied by the corresponding meter equivalent ratio to calculate a charge for each meter size. The customer service charge of $2.95 is then added to the meter equivalent charge for each meter size to calculate the total proposed fixed charge. The proposed 2023/24 charge for a 5/8”, 3/4”, or 1” meter is $17.42.

Table 15: Water Fixed Charge Derivation
City of Hanford
Utility Rate Study

		PROJECTED - RATE STUDY PERIOD				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
REVENUE REQUIREMENT						
Meters & Services		$3,512,151	$4,039,071	$4,443,062	$4,665,173	$4,898,460
Customer Service Charge		$647,633	$744,796	$819,291	$860,248	$903,266
Total Fixed Charge Rev. Requirement		$4,159,784	$4,783,867	$5,262,353	$5,525,421	$5,801,726
METER EQUIVALENT CHARGE						
Total Meter Equivalent Charge Revenue Requirement		$3,512,151	$4,039,071	$4,443,062	$4,665,173	$4,898,460
Total Number of Meter Equivalents		20,229	20,411	20,595	20,780	20,967
Total Meter Equivalent Charge		$14.47	$16.49	$17.98	$18.71	$19.47
Meter Equivalent Charge by Meter Size						
Meter Size	Ratio					
5/8", 3/4", & 1"	1.00	$14.47	$16.49	$17.98	$18.71	$19.47
1-1/2" & 2"	2.00	$28.94	$32.98	$35.96	$37.42	$38.94
3" & 4"	6.40	$92.61	$105.54	$115.07	$119.74	$124.61
6"	20.00	$289.40	$329.80	$359.60	$374.20	$389.40
8"	32.00	$463.04	$527.68	$575.36	$598.72	$623.04
CUSTOMER SERVICE CHARGE						
Total Customer Service Charge Revenue Requirement		$647,633	$744,796	$819,291	$860,248	$903,266
Total Number of Meters		18,305	18,470	18,636	18,804	18,973
Total Customer Service Charge per Account		$2.95	$3.36	$3.66	$3.81	$3.97
TOTAL MONTHLY FIXED CHARGE [1]						
Meter Size						
5/8", 3/4", & 1"		$17.42	$19.85	$21.64	$22.52	$23.44
1-1/2" & 2"		$31.89	$36.34	$39.62	$41.23	$42.91
3" & 4"		$95.56	$108.90	$118.73	$123.55	$128.58
6"		$292.35	$333.16	$363.26	$378.01	$393.37
8"		$465.99	$531.04	$579.02	$602.53	$627.01

1 - Total Monthly Fixed Charge is the sum of the "Meter Equivalent Charge" by meter size plus the "Total Customer Service Charge per Account"

4.4.2 Consumption Charge Derivation

Table 16 calculates the Consumption Charge for all customers based on the total revenue requirement from Table 12 and projected annual water consumption from Table 14. The proposed Consumption Charge is a single uniform tier in which all customer classes are charged the same rate for each unit of water consumption. The proposed FY 2023/24 Consumption Charge is $1.94 per ccf.

Table 16: Consumption Charge Rate Derivation
City of Hanford
Utility Rate Study

	PROJECTED - RATE STUDY PERIOD				
	FY 2023/24	**FY 2024/25**	**FY 2025/26**	**FY 2026/27**	**FY 2027/28**
REVENUE REQUIREMENT					
Total Consumption Charge Revenue Requirement	$8,411,216	$9,673,133	$10,640,647	$11,172,579	$11,731,274
CONSUMPTION CHARGE DERIVATION					
Revenue Requirement	$8,411,216	$9,673,133	$10,640,647	$11,172,579	$11,731,274
Total Consumption (ccf)	4,324,846	4,324,846	4,363,769	4,403,043	4,442,671
Rate per ccf	**$1.94**	**$2.24**	**$2.44**	**$2.54**	**$2.64**

CCF – hundred cubic feet; one hundred cubic feet equals 748 gallons

4.4.3 Drought Rate Derivation

It is recommended that the City implement a series of drought consumption charges which can be implemented during a water shortage emergency, allowing for financial stability during periods of reduced water sales. Drought rates are designed to cover costs at decreased levels of consumption. The City recognizes that ratepayers are already doing their part to conserve. Therefore, applying the drought surcharge to only the consumption charge component gives customers the increased ability to control a portion of their water bills. The proposed drought rates would be charged on a temporary basis and would be phased out when the City determined that water supply conditions had returned to normal and drought-related costs and revenue reductions had been recovered.

During times of water shortages, a water utility has two core objectives: 1) to reduce the amount of water customers consume, and 2) to cover the cost of operations. The two competing objectives work against each other because as less water is sold, it becomes more difficult to maintain adequate revenue to cover an agency's costs. It should be noted that under drought conditions, certain expenses such as electricity, supplies, and equipment will decrease relative to the decrease in water use. However, other costs to operate the water system such as staffing and maintaining long-term supply remain the same. The reduction in cost during drought conditions is reflected in the revenue requirements shown in Table

17. The levels of water cutback for the proposed drought rates in Table 17 are designed to be in alignment with the City's existing *Water Shortage Contingency Plan* and represent potential water shortage scenarios. Estimated *base* and *extra* expenses under each cutback scenario are divided by total water usage to calculate the drought consumption charges.

Table 17: Consumption Charge Rate Derivation - Drought Rates
City of Hanford
Utility Rate Study

	PROJECTED - RATE STUDY PERIOD				
	FY 2023/24	**FY 2024/25**	**FY 2025/26**	**FY 2026/27**	**FY 2027/28**
CONSUMPTION CHARGE DERIVATION - 10% Cutback					
Revenue Requirement	$8,191,081	$9,419,971	$10,362,164	$10,880,174	$11,424,248
Total Consumption (ccf)	3,892,361	3,892,361	3,927,392	3,962,739	3,998,404
Rate per ccf	**$2.10**	**$2.42**	**$2.64**	**$2.75**	**$2.86**
CONSUMPTION CHARGE DERIVATION - 20% Cutback					
Revenue Requirement	$7,970,946	$9,166,810	$10,083,681	$10,587,770	$11,117,222
Total Consumption (ccf)	3,459,877	3,459,877	3,491,016	3,522,435	3,554,137
Rate per ccf	**$2.30**	**$2.65**	**$2.89**	**$3.01**	**$3.13**
CONSUMPTION CHARGE DERIVATION - 35% Cutback					
Revenue Requirement	$7,640,743	$8,787,068	$9,665,957	$10,149,164	$10,656,682
Total Consumption (ccf)	2,811,150	2,811,150	2,836,450	2,861,978	2,887,736
Rate per ccf	**$2.72**	**$3.13**	**$3.41**	**$3.55**	**$3.69**
CONSUMPTION CHARGE DERIVATION - 50% Cutback					
Revenue Requirement	$7,310,541	$8,407,326	$9,248,233	$9,710,557	$10,196,143
Total Consumption (ccf)	2,162,423	2,162,423	2,181,885	2,201,522	2,221,335
Rate per ccf	**$3.38**	**$3.89**	**$4.24**	**$4.41**	**$4.59**

CCF – hundred cubic feet; one hundred cubic feet equals 748 gallons

4.4.4 Proposed Water Rates

Table 18 summarizes the proposed monthly water rates for the next five years including meter charges, consumption charges, and drought consumption charges. All accounts, including residential, commercial, and industrial customers, will be charged according to the proposed rate schedule shown. The first rate change is proposed to take effect on February 1, 2024, with subsequent rate increases effective each July 1 beginning in 2024 through 2027. For FY 2023/24, the proposed 35.0% revenue adjustment in the cash flow (Table 10) does not directly correlate to a 35.0% increase in rates due to the cost of service reallocation and the updated rate structure. The percentage increases for each rate category are shown below the table.

Table 18: Proposed Monthly Water Rates
City of Hanford
Utility Rate Study

		PROPOSED				
Fiscal Year	**Current [1]**	**FY 2023/24**	**FY 2024/25**	**FY 2025/26**	**FY 2026/27**	**FY 2027/28**
Effective Date	*July 1, 2018*	*Feb 1, 2024*	*July 1, 2024*	*July 1, 2025*	*July 1, 2026*	*July 1, 2027*
METER CHARGES						
5/8", 3/4", & 1"	$15.41	$17.42	$19.85	$21.64	$22.52	$23.44
1-1/2" & 2"	$21.88	$31.89	$36.34	$39.62	$41.23	$42.91
3" & 4"	$34.83	$95.56	$108.90	$118.73	$123.55	$128.58
6"	$54.26	$292.35	$333.16	$363.26	$378.01	$393.37
8"	$80.17	$465.99	$531.04	$579.02	$602.53	$627.01
CONSUMPTION CHARGES ($/CCF)						
All Customers	$1.34	$1.94	$2.24	$2.44	$2.54	$2.64
DROUGHT CONSUMPTION CHARGES ($/CCF) [2]						
10% Water Cutback		$2.10	$2.42	$2.64	$2.75	$2.86
20% Water Cutback		$2.30	$2.65	$2.89	$3.01	$3.13
35% Water Cutback		$2.72	$3.13	$3.41	$3.55	$3.69
50% Water Cutback		$3.38	$3.89	$4.24	$4.41	$4.59

CCF – hundred cubic feet; one hundred cubic feet equals 748 gallons
1 - Current rates shown are for Inside City customers - Inside & Outside City customers are proposed to be billed the same rates going forward.
2 - Only to be implemented temporarily during water shortage emergencies.

Proposed % rate increases

Meter Charges					
5/8", 3/4", & 1"	13.0%	13.9%	9.0%	4.1%	4.1%
1-1/2" & 2"	45.7%	14.0%	9.0%	4.1%	4.1%
3" & 4"	174.4%	14.0%	9.0%	4.1%	4.1%
6"	438.8%	14.0%	9.0%	4.1%	4.1%
8"	481.3%	14.0%	9.0%	4.1%	4.1%
Consumption Charge	44.8%	15.5%	8.9%	4.1%	3.9%
Drought Consumption Charges					
10% Water Cutback	-	15.2%	9.1%	4.2%	4.0%
20% Water Cutback	-	15.2%	9.1%	4.2%	4.0%
35% Water Cutback	-	15.1%	8.9%	4.1%	3.9%
50% Water Cutback	-	15.1%	9.0%	4.0%	4.1%

4.5 Water Bill Impacts

Bill impacts to customers for the first year will vary based on meter size and actual consumption. Moreover, water consumption, particularly for single family customers, typically varies due to seasonal variations in weather and/or other factors. Hence, a single customer could face a range of impacts throughout the year. Table 19 includes a sample of bill impacts at different levels of water use for single family residential customers with a 5/8", 3/4", or 1" meter.

Table 19: Sample Monthly Residential Water Bill Impacts
City of Hanford
Utility Rate Study

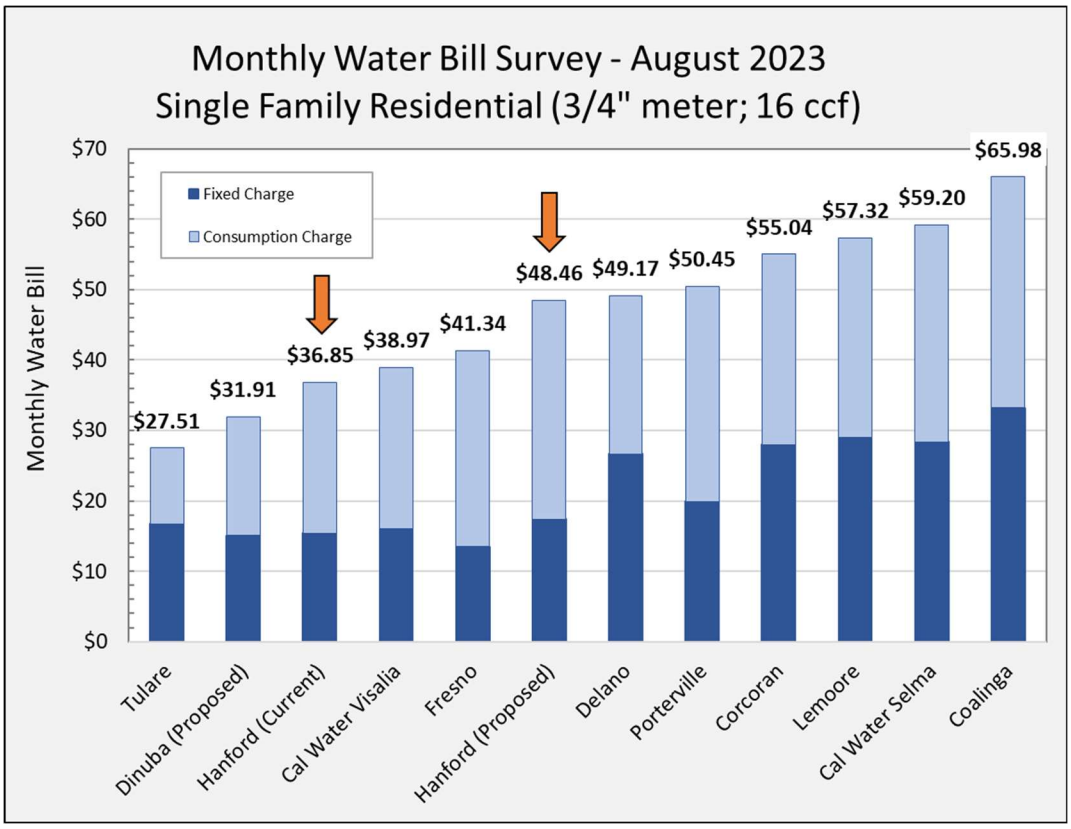
RESIDENTIAL BILL IMPACTS - 5/8", 3/4", & 1" METER

	Monthly Use (ccf)	Current Bill	Proposed				
			Feb 1, 2024	July 1, 2024	July 1, 2025	July 1, 2026	July 1, 2027
6 ccf							
Fixed Meter Charge - 5/8", 3/4", & 1"		$15.41	$17.42	$19.85	$21.64	$22.52	$23.44
Consumption Charge	6	$8.04	$11.64	$13.44	$14.64	$15.24	$15.84
Total Monthly Water Bill		$23.45	$29.06	$33.29	$36.28	$37.76	$39.28
$ Change			*$5.61*	*$4.23*	*$2.99*	*$1.48*	*$1.52*
% Change			*23.9%*	*14.6%*	*9.0%*	*4.1%*	*4.0%*
10 ccf							
Fixed Meter Charge - 5/8", 3/4", & 1"		$15.41	$17.42	$19.85	$21.64	$22.52	$23.44
Consumption Charge	10	$13.40	$19.40	$22.40	$24.40	$25.40	$26.40
Total Monthly Water Bill		$28.81	$36.82	$42.25	$46.04	$47.92	$49.84
$ Change			*$8.01*	*$5.43*	*$3.79*	*$1.88*	*$1.92*
% Change			*27.8%*	*14.7%*	*9.0%*	*4.1%*	*4.0%*
16 ccf							
Fixed Meter Charge - 5/8", 3/4", & 1"		$15.41	$17.42	$19.85	$21.64	$22.52	$23.44
Consumption Charge	16	$21.44	$31.04	$35.84	$39.04	$40.64	$42.24
Total Monthly Water Bill		$36.85	$48.46	$55.69	$60.68	$63.16	$65.68
$ Change			*$11.61*	*$7.23*	*$4.99*	*$2.48*	*$2.52*
% Change			*31.5%*	*14.9%*	*9.0%*	*4.1%*	*4.0%*
25 ccf							
Fixed Meter Charge - 5/8", 3/4", & 1"		$15.41	$17.42	$19.85	$21.64	$22.52	$23.44
Consumption Charge	25	$33.50	$48.50	$56.00	$61.00	$63.50	$66.00
Total Monthly Water Bill		$48.91	$65.92	$75.85	$82.64	$86.02	$89.44
$ Change			*$17.01*	*$9.93*	*$6.79*	*$3.38*	*$3.42*
% Change			*34.8%*	*15.1%*	*9.0%*	*4.1%*	*4.0%*
40 ccf							
Fixed Meter Charge - 5/8", 3/4", & 1"		$15.41	$17.42	$19.85	$21.64	$22.52	$23.44
Consumption Charge	40	$53.60	$77.60	$89.60	$97.60	$101.60	$105.60
Total Monthly Water Bill		$69.01	$95.02	$109.45	$119.24	$124.12	$129.04
$ Change			*$26.01*	*$14.43*	*$9.79*	*$4.88*	*$4.92*
% Change			*37.7%*	*15.2%*	*8.9%*	*4.1%*	*4.0%*

4.5.1 Regional Water Bill Survey

The following figure compares the City's current average monthly single family residential bill with those of surrounding agencies. The typical monthly water use for a single family customer is 16 ccf of water use. The City's current average water bill is $36.85 per month. With the proposed increase for 2023/24, the average water bill is projected to be $48.46, an increase of $11.61. The City's current water rates are on the lower end of those charged and the proposed rates will be in the mid-range.

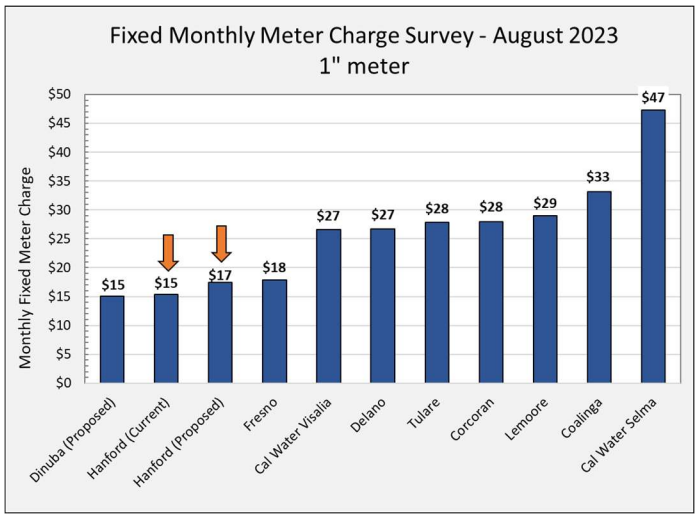
Figure 5: Monthly Single Family Residential Water Bill Survey

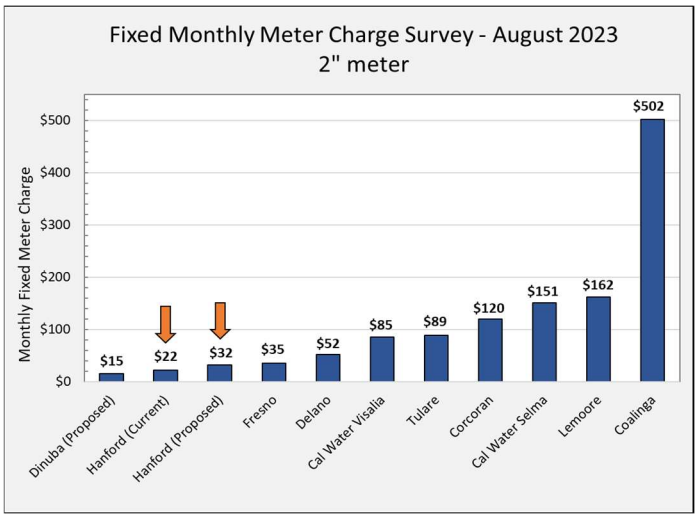


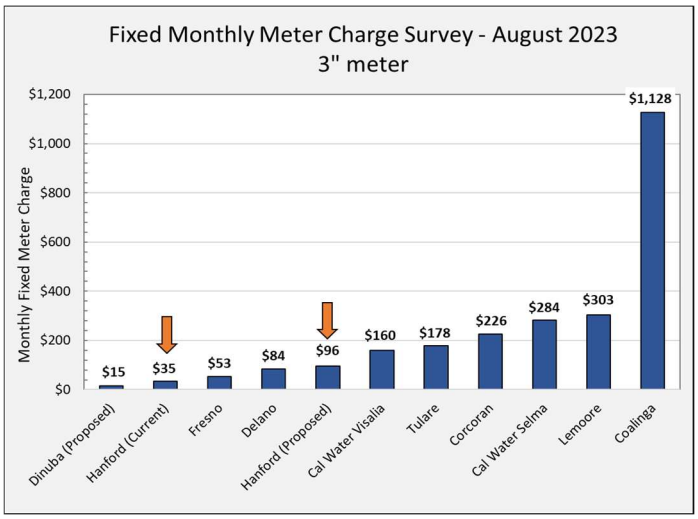
4.5.2 Survey of Fixed Monthly Meter Charges

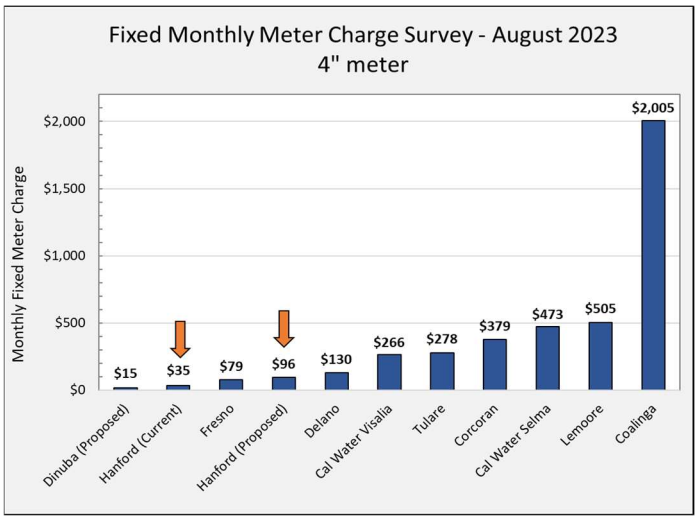
As noted in Section 4.2.1, the City's current meter charges are out of alignment with the capacity equivalency of each meter size. As part of the rate survey process, the City's current and proposed fixed monthly charges for each meter size were compared with the corresponding charges for other local service providers, see Figure 6. For all meter sizes, the City's current meter charges are significantly lower than the average charges for other agencies. As shown in the charts below, even with the proposed increases to the fixed charges, the City's fixed charges will remain in the low- to mid-range for the local area.

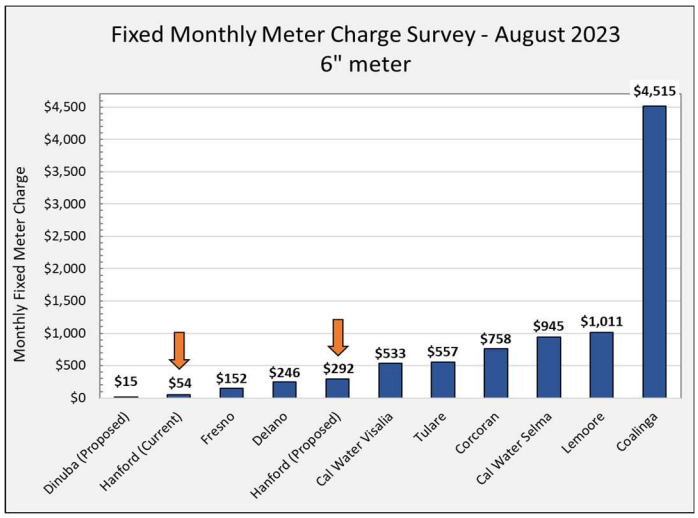
Figure 6: Fixed Monthly Meter Charge Survey

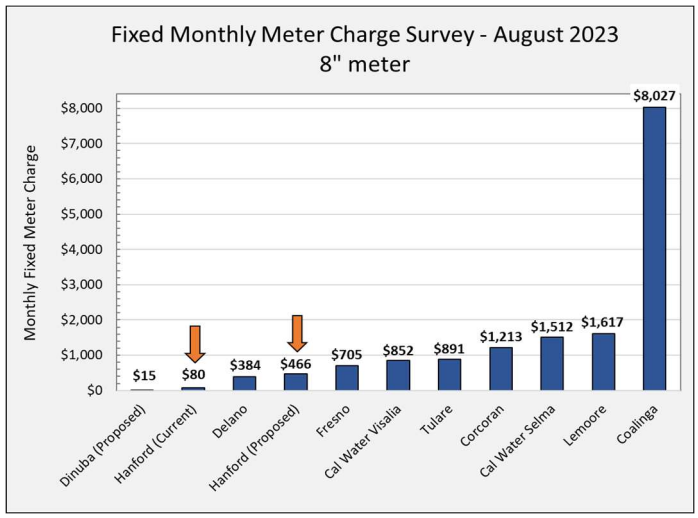












SECTION 5: WASTEWATER REVENUE REQUIREMENT

Similar to the water utility, the wastewater utility's cost of service and revenue requirement is comprised of operating costs, capital improvement costs, and the need to maintain reasonable reserves.

5.1 Wastewater System Overview

The City of Hanford is responsible for operating and maintaining a safe, dependable sanitary sewer system composed of over 226 miles of sanitary sewer mains, 23 lift stations, a wastewater treatment plant (WWTP), a pretreatment program, and laboratory facilities. The City collects wastewater from customers within the City limits and some unincorporated areas. The collected flows are conveyed through a trunk system to the City's WWTP where they are treated and subsequently discharged to retention ponds before being delivered to farmlands for agricultural irrigation. The WWTP processes approximately 1.6 billion gallons of sewage each year. WWTP staff also conduct laboratory tests to monitor the performance of the plant, administer the industrial pretreatment program, and manage reclaimed water usage to ensure compliance with state reclamation discharge permits.

5.2 Wastewater Reserves

The accumulation of reasonable reserves is one factor to consider when determining the cost of service. Utilities should maintain reserves to fund issues such as unexpected costs and emergency repairs or to provide cash flow in case of customer billing or revenue collection issues. Moreover, fund reserves allow the City to maintain its financial health and positive credit ratings, especially during emergencies.

The City maintains two wastewater reserve funds – 1) an operating fund reserve and 2) a capital reserve fund reserve. As of the beginning of 2023/24, the wastewater utility had operations fund reserves of approximately $1.05 million and capital and reserve fund reserves of approximately $2.33 million. The recommended operating reserve target is 50 percent of annual operating costs plus one debt service payment, meaning current operating reserves are below the reserve target. Maintaining at least 25% of annual operating costs in reserves is in line with industry standards that recommend an operating reserve target to account for the time (at least 4 months) that it would take an agency to approve new rate increases to comply with Proposition 218. With the proposed revenue increases, it is projected the wastewater operations fund will meet the fund reserve target by the end of the fifth year.

5.3 Wastewater Capital Improvement Plan

Table 20 below provides the wastewater capital improvement plan (CIP) for all projects that will be funded through rates rather than impact fees. This rate study excludes projects funded by impact fees because they mitigate growth-related issues and should be funded by new development rather than existing ratepayers. The CIP includes funding for improvements to the City's WWTP, new equipment, and annual repairs and replacements. The total funded over the rate study period is $7.43 million.

Table 20: Wastewater Capital Improvement Plan (rate funded)
City of Hanford
Utility Rate Study

Project Title	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	5-Year Total
2104 Valley Alarm Access Control WWTP	$15,230	-	-	-	-	$15,230
Utility Customer Payment Kiosks (2)	$27,000	$14,000	$14,000	$14,000	$14,000	$83,000
Wwtp Improvement Reserve	-	$500,000	$500,000	$500,000	$500,000	$2,000,000
Unsch Main Exten/Repl-Wwtp	$101,930	-	-	-	-	$101,930
Sewer System Video Insp	$18,000	-	-	-	-	$18,000
Sewer Main Oversizing Req	$92,180	-	-	-	-	$92,180
2073 Utility Truck	-	-	$90,000	-	-	$90,000
2073 Pickup Truck	$65,000	-	-	-	-	$65,000
2073 Vacuum Truck	-	-	$600,000	-	-	$600,000
Lacey Blvd Widen Magna Carta to 13th	-	-	-	$400,000	-	$400,000
2071 Spare Barscreen Motor	-	-	$40,000	-	-	$40,000
2071 Spare Motor Screw Pump	-	$40,000	-	-	-	$40,000
1750 Public Works Enclosed Warehouse	-	-	$101,000	-	-	$101,000
2071 Pickup Truck	-	$65,000	-	$65,000	-	$130,000
Lacey Widen/Recon/10th-Sierra	$153,730	$245,550	$94,030	-	-	$493,310
Spare Pumps	$92,640	-	-	-	-	$92,640
Manhole Repr/Coating Project	$104,720	$75,000	$75,000	$75,000	$75,000	$404,720
Protective Grating	$50,000	-	-	-	-	$50,000
2040 Fleet Div-Def Dispenser for Fuel Island	$12,000	-	-	-	-	$12,000
Annual Repairs & Replacement	-	$500,000	$500,000	$500,000	$500,000	$2,000,000
Annual Lift Station Rehab	-	$150,000	$150,000	$150,000	$150,000	$600,000
Total Wastewater CIP	**$732,430**	**$1,589,550**	**$2,164,030**	**$1,704,000**	**$1,239,000**	**$7,429,010**

5.4 Wastewater Cash Flow Projection

Table 21 provides the wastewater cash flow projection for the five-year period beginning in FY 2023/24 through FY 2027/28. The cash flow is based on the City's *FY 2023/24 and 2024/25 Budget* and includes revenue increases such that the City covers operating and debt service costs, funds all proposed capital improvement projects, and rebuilds adequate reserves. The proposed revenue increases over the next five years are 35.0% in the first year, followed by 12.0%, 12.0%, 5.0%, and 5.0%. In the first year, the 35.0% increase is applied to the City's total wastewater revenue increase and does not necessarily reflect the level of increase for individual customers. Each customer's bill impacts will depend on customer class. The first rate increase is proposed to go into effect February 1, 2024, followed by subsequent increases effective each July 1 beginning in 2024 through 2027.

5.4.1 Wastewater Revenues

As shown in Table 7, current wastewater rates are estimated to generate $5.3 million in revenues. For FY 2023/24, rate revenues are projected at $5.95 million assuming the City will collect rates at current revenues until the proposed rate increase goes into effect after February 1. Rate revenues are the main revenue source for the wastewater utility. Other revenue sources include penalty fees, interest income, and lease proceeds. These other sources generate about $154,000 annually, which is projected to remain constant over the next five years. In FY 2023/24, it is proposed that the stormwater fund lends the wastewater fund $1.3 million to eliminate the wastewater fund's operating deficit.

5.4.2 Wastewater Expenses

The cash flow uses the City's *FY 2023/24 and 2024/25 Budget* as the base for projected expenses. Most operating expenses are projected to increase 3.0% annually beginning in 2025/26, except for Salaries & Benefits which are escalated by 7.0% annually beginning in 2025/26. An additional $120,000 is also added to projected Salaries & Benefits in 2024/25 for a new position per City direction. The wastewater fund's share of payments for the principle for the Pension Obligation Bond are included as a new expense. Annual depreciation is not included as a cash expense. Four equal installments of $325,000 beginning in FY 2024/25 through FY 2027/28 are included for the wastewater fund to pay back the interfund loan from the storm drain fund.

As shown in Table 20, the total five-year CIP for the wastewater fund equals $7.4 million. It is assumed the City will contribute $2 million upfront for the Wastewater Treatment Expansion Project, which is included in the CIP. The net operating cost increase for WWTP expansion is estimated at $165,000 annually beginning in FY 2025/26 based on projections by City staff.

5.4.3 Debt Service

It is also imperative that the wastewater fund generate sufficient rate revenues to maintain the debt service coverage ratio for its existing debt obligations. A debt service coverage ratio is a financial measure of an agency's ability to repay outstanding debt. For the purposes of the City's wastewater fund, the required debt service coverage ratio means that annual sewer net operating revenues (gross revenues less operating and maintenance expenses) must be at least 1.2 times the annual debt service payment. Failure to meet the debt service ratio on an annual basis is considered to be technical default. Thus, rates and fees must be set to meet this legal requirement.

The wastewater utility currently has three outstanding debt obligations which count toward its debt service coverage requirements. There are two Wastewater Revenue Refunding Bonds, Series 2012 and Series 2015, in addition to a 2002 loan from the California Infrastructure and Economic Development Bank (IBank). The IBank loan is in the amount of $10 million with a 30-year term and an annual interest rate of 3.5%. In July 2012, the City issued the $13.165 million Wastewater Revenue Refunding Bonds, Series 2012 bearing interest of 3.0% to 5.0% payable semi-annually to refund Indentures from 1999 and 2002. In January 2015, the City issued the $3.885 million Wastewater Revenue Refunding Bonds, Series

2015 to refund Variable Rate Demand Sewer System Refunding Revenue Bonds, 1996 Series A. Interest of 2.0% to 4.0% is payable semi-annually.

5.4.4 Five-Year Summary

Figure 7 graphically shows the wastewater cash flow projection for the five-year rate study period including both operating and capital expenses. In the first few years, expenses will slightly exceed revenues. At the end of the five-year period, the City's revenues are projected to be in line with total expenses.

Figure 7: Wastewater Cash Flows

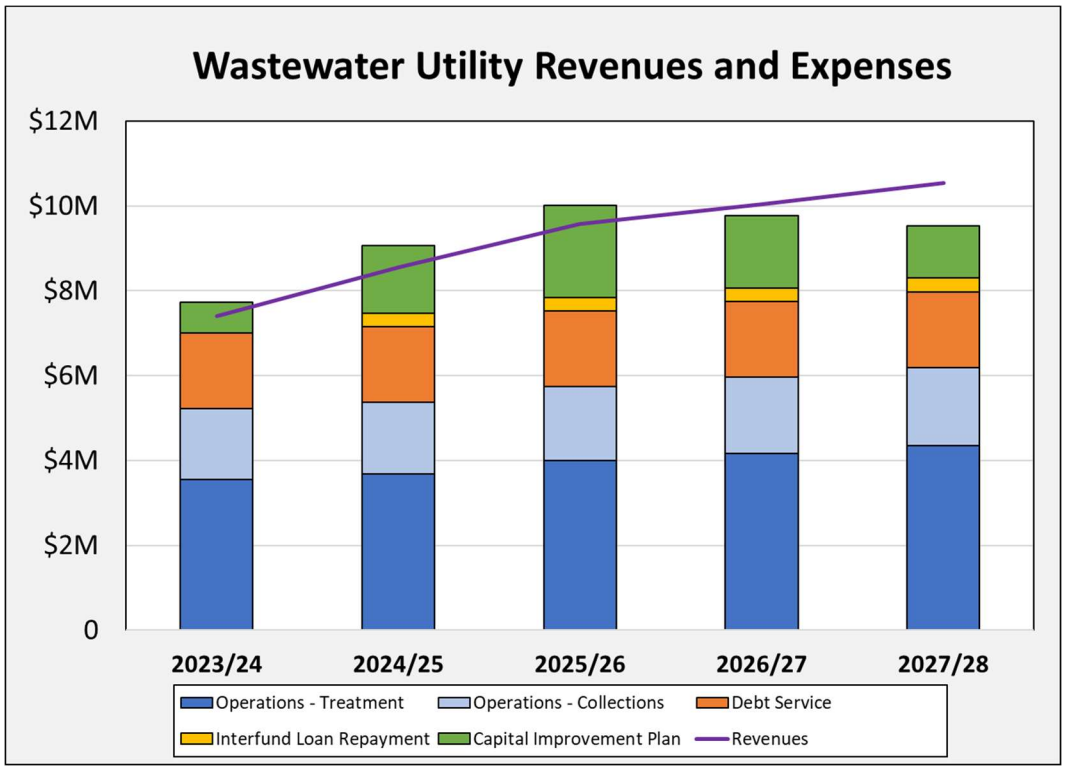


Table 21: Wastewater Cash Flow Projection
City of Hanford
Utility Rate Study

	Years 1 -5: Proposition 218				
	FY 2023/24	**FY 2024/25**	**FY 2025/26**	**FY 2026/27**	**FY 2027/28**
Rate Revenue Increase	35.0%	12.0%	12.0%	5.0%	5.0%
Rate Increase Effective	Feb 1, 2024	Jul 1, 2024	Jul 1, 2025	Jul 1, 2026	Jul 1, 2027
BEGINNING FUND BALANCE [1]	$1,046,000	$1,452,000	$1,534,000	$1,553,000	$1,824,000
REVENUES					
Rate Revenues	5,954,000	8,405,000	9,414,000	9,885,000	10,379,000
Non-Rate Revenue					
Penalties	55,000	55,000	55,000	55,000	55,000
Interest Income	2,000	2,000	2,000	2,000	2,000
Lease & Other Fin Proceeds	93,000	93,000	93,000	93,000	93,000
Bad Debts	4,000	4,000	4,000	4,000	4,000
Subtotal Non-Rate Revenues	154,000	154,000	154,000	154,000	154,000
Interfund Loan	1,300,000				
Total Revenue	7,408,000	8,559,000	9,568,000	10,039,000	10,533,000
EXPENSES					
Operating Expenses [2]					
Treatment Division					
Salaries and Benefits [3]	1,060,000	1,236,000	1,323,000	1,416,000	1,515,000
Supplies and Equipment	696,000	694,000	715,000	736,000	758,000
Outside Services	248,000	206,000	212,000	218,000	225,000
City Services Allocation	369,000	369,000	380,000	391,000	403,000
POB Principal [4]	142,000	139,000	139,000	139,000	145,000
Chemicals	435,000	435,000	448,000	461,000	475,000
Disposal	96,000	96,000	99,000	102,000	105,000
Utilities	511,000	511,000	526,000	542,000	558,000
WWTP Net Cost Increase [5]	0	0	165,000	165,000	165,000
Collections Division					
Salaries and Benefits [3]	500,000	520,000	536,000	552,000	569,000
Supplies and Equipment	311,000	311,000	320,000	330,000	340,000
Outside Services	19,000	18,000	19,000	20,000	21,000
City Services Allocation	748,000	748,000	770,000	793,000	817,000
Chemicals	25,000	25,000	26,000	27,000	28,000
Utilities	68,000	68,000	70,000	72,000	74,000
Subtotal O&M	5,228,000	5,376,000	5,748,000	5,964,000	6,198,000
Net Operating Revenue	2,180,000	3,183,000	3,820,000	4,075,000	4,335,000
Debt Service					
Rev Refunding Bonds, Series 2012	925,000	923,000	926,000	926,000	926,000
Rev Refunding Bonds, Series 2015	290,000	294,000	292,000	291,000	291,000
2002 IBank Loan	559,000	559,000	558,000	558,000	558,000
Subtotal Debt Service	1,774,000	1,776,000	1,776,000	1,775,000	1,775,000
Transfer to Capital Fund	0	1,000,000	1,700,000	1,704,000	1,239,000
Transfer to Repay Interfund Loan	0	325,000	325,000	325,000	325,000
Total Net Revenues (Operations Fund)	406,000	82,000	19,000	271,000	996,000
OPERATIONS ENDING BALANCE	1,452,000	1,534,000	1,553,000	1,824,000	2,820,000
Operations Reserve Fund Target [6]	2,610,000	2,621,000	2,647,000	2,672,000	2,700,000
Operating Reserve Target Met?	*no*	*no*	*no*	*no*	*yes*
Debt Service Coverage (Target = 1.20x) [7]	1.23	1.79	2.15	2.30	2.44
Target Met?	*yes*	*yes*	*yes*	*yes*	*yes*

	Years 1 -5: Proposition 218				
	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
CAPITAL & RESERVE BEGINNING FUND BALANCE [8]	2,325,000	1,593,000	1,003,000	539,000	539,000
Revenues					
Transfer from Operations Fund	0	1,000,000	1,700,000	1,704,000	1,239,000
Capital Expenses					
Capital Plan	732,000	1,590,000	2,164,000	1,704,000	1,239,000
Subtotal Capital Expenses	732,000	1,590,000	2,164,000	1,704,000	1,239,000
Net Revenues	(732,000)	(590,000)	(464,000)	0	0
CAPITAL & RESERVE ENDING FUND BALANCE	1,593,000	1,003,000	539,000	539,000	539,000

1 - Estimated Wastewater Operations cash fund balance from City staff
2 - Does not include depreciation
3 - Escalated by 7% beginning in FY 2025/26
4 - Payment shown only includes principle. Interest is already included in FY 2023/24 budget.
5 - Net savings from WWTP plant (lease payments less electricity savings)
6 - Recommended target is 6 months O&M Expenses plus annual debt service cost.
7 - Net Operating Revenue divided by Total Debt Service
8 - Estimated Wastewater Capital & Reserve cash fund balance from City staff

SECTION 6: WASTEWATER COST ALLOCATION AND RATE DESIGN

The revenue requirements detailed in the previous section determine the amount of revenue to be recovered from wastewater rates. The cost of service allocation determines how revenues will be recovered from customers based on their estimated impact on the wastewater system. Proposition 218 requires that agencies providing "property-related services" (including wastewater service) set rates and charges that are based on the cost of providing those services.

6.1 Wastewater Cost Allocation

The determination of the sewer flows, sewer loadings, and the revenue requirements of the wastewater utility provide the basis for performing the cost of service analysis. The concept of proportionate allocation to each customer class indicates that allocations should take into consideration the quantity of effluent a customer contributes in addition to the strength of sewer effluent.

The key factors used to assign wastewater utility costs are estimated effluent (flow) going to the wastewater treatment plant and effluent strengths, measured in biological oxygen demand (BOD) and suspended solids (SS). Higher levels of BOD or SS equate to increased treatment costs. The total revenue requirement shown in the wastewater cash flow projection is the net cost of providing service and is allocated to the flow, BOD, and SS parameters. These allocations are then used as the basis to develop unit rates for the sewer parameters and to assign costs to each customer class in proportion to the sewer services rendered.

Wastewater expenses are allocated to the following categories (a) Customer Service, (b) Flow, (c) Biochemical Oxygen Demand (BOD), and (d) Suspended Solids (SS).

- *Customer Service Costs:* Customer service costs represent the fixed expenditures of the sewer utility, including personnel costs and overhead expenses.

- *Flow Costs*: Volume- or flow-related costs that vary with the total quantity of wastewater collected. Because most agencies do not meter wastewater discharges, metered water consumption is used to estimate contributed average wastewater volume units of service.

- *Strength Costs:* Strength-related costs are those expenditures associated with the additional handling and treatment of high strength sewer. Sewer strength is typically measured in BOD and SS. Increased levels of BOD or SS typically equate to increased treatment costs.

Table 22 provides the proposed cost allocation using FY 2023/24 as the test year. The budgeted expenses were allocated to each category based on how the City incurs each cost. The overall proposed allocation is 14.8% to customer service, 46.0% to flow, 19.6% to BOD, and 19.6% to SS.

Table 22: Wastewater Cost Allocation
City of Hanford
Utility Rate Study

Budgeted Expenses	Budget FY 2023/24	Customer Service	Flow	BOD	SS
Operating Expenses					
Treatment Division					
Salaries and Benefits	$1,060,000	25.0%	15.0%	30.0%	30.0%
Supplies and Equipment	$696,000	0.0%	50.0%	25.0%	25.0%
Outside Services	$248,000	0.0%	50.0%	25.0%	25.0%
City Services Allocation	$369,000	25.0%	15.0%	30.0%	30.0%
POB Principal	$142,000	25.0%	15.0%	30.0%	30.0%
Chemicals	$435,000	0.0%	0.0%	50.0%	50.0%
Disposal	$96,000	0.0%	0.0%	50.0%	50.0%
Utilities	$511,000	0.0%	80.0%	10.0%	10.0%
Subtotal Treatment	$3,557,000	$392,750	$1,116,450	$1,023,900	$1,023,900
Collections Division					
Salaries and Benefits	$500,000	0.0%	100.0%	0.0%	0.0%
Supplies and Equipment	$311,000	0.0%	100.0%	0.0%	0.0%
Outside Services	$19,000	50.0%	50.0%	0.0%	0.0%
City Services Allocation	$748,000	50.0%	50.0%	0.0%	0.0%
Chemicals	$25,000	0.0%	100.0%	0.0%	0.0%
Utilities	$68,000	0.0%	100.0%	0.0%	0.0%
Subtotal Collections	$1,671,000	$383,500	$1,287,500	$0	$0
Composite Collection & Treatment		14.8%	46.0%	19.6%	19.6%
Non-Operating Expenses (5-Year Averages)					
Revenue Refunding Bonds, Series 2012	$925,200	14.8%	46.0%	19.6%	19.6%
Revenue Refunding Bonds, Series 2015	$291,600	14.8%	46.0%	19.6%	19.6%
Capital Costs (5-year avg)	$1,485,800	14.8%	46.0%	19.6%	19.6%
Subtotal Non-Operating	$2,702,600	$401,280	$1,242,715	$529,302	$529,302
Total	$7,930,600	$1,177,530	$3,646,665	$1,553,202	$1,553,202
Proposed Cost Allocation %	**100.0%**	**14.8%**	**46.0%**	**19.6%**	**19.6%**

6.2 Wastewater Rate Design

The cost of service analysis calculated the revenue requirements for each customer class. The next step is rate design which determines how those revenue requirements are collected from each class based on their estimated impact on the sewer system. As part of the rate study process, the City reviewed its current rate structure. Sewer rates in California are typically charged as either a fixed charge per equivalent dwelling unit (EDU), a volume rate charged per unit of wastewater flow, or as a combination of both fixed and volume rates. Ultimately, this study recommends maintaining the current rate structure. The categories of charges and customer classes are proposed to remain the same, but the

amounts charged to each customer will be updated based on the new cost of service and the adjusted allocation to each customer class.

6.3 Wastewater Flows

The City does not directly meter the sewer flow of individual utility accounts for non-industrial customers. However, water use can be used as a proxy for sewer flow. For residential customers, it is necessary to isolate low water use periods during the winter to estimate sewer flow to better estimate indoor-only water use. Many customers typically have higher water use in the summer due to irrigation water use which occurs outdoors and does not flow into the wastewater system.

Total system flows and pollutant loads by customer class are estimated in Table 23. Pollutant loads consist of biochemical oxygen demand (BOD) and suspended solids (SS). Single family residential flows are estimated as 8 ccf per month and multi-family residential flows are estimated as 6 ccf per month based on winter water usage data from 2021 and 2022. Non-residential flows are estimated based on billed flows from 2022 and 2023. The strength factors are based on industry standard estimates.

Table 23: Annual Sewer Flows & Loadings
City of Hanford
Utility Rate Study

Customer Class	Flow (ccf)	Wastewater Strength (mg/l)		Wastewater Loadings (lbs)	
		BOD	SS	BOD	SS
Single Family	1,529,000	175	175	1,669,218	1,669,218
Multi Family	307,000	175	175	335,154	335,154
Metered Water [1]					
Group A: Domestic	130,000	175	175	141,922	141,922
Group B: Low Strength	169,000	135	135	142,327	142,327
Group C: Medium Strength	13,000	300	300	24,329	24,329
Group D: High Strength	80,000	500	500	249,533	249,533
Industrial	194,000	Varies		33,269	27,119
Schools	21,000	175	175	22,926	22,926
Septage	1,000	3500	3500	21,834	21,834
Total	**2,444,000**			**2,640,513**	**2,634,363**

Mg/l – milligrams per liter; CCF – hundred cubic feet; one hundred cubic feet equals 748 gallons

1 - Metered Water Use Categories:

Group A - Domestic Strength: Mobile home parks, motels, public buildings, hospitals, nursing homes, churches, fraternal lodges, service stations and automotive centers

Group B - Low Strength: Car washes, laundromats, retail, commercial and professional establishments

Group C - Medium Strength: Mixed use commercial centers including food services with single water service

Group D - High Strength: Restaurants, supermarkets, grocery stores, mortuaries

6.4 Wastewater Rate Derivation

As noted in the cost allocation section, wastewater rates are determined based on customer service costs as well as the amount of wastewater flow and pollutants flushed into the sewer system.

6.4.1 Unit Cost Calculation

Total flow and pollutant loading estimates are used to derive unit costs for customer service, flow, BOD, and SS as shown below in Table 24. The total revenue requirement to be collected from rates is divided between each category according to the percentages derived in the cost allocation (Table 22). The revenue requirement for each category is then divided by the appropriate number of billing units from Table 23 to calculate a unit charge.

Table 24: Unit Cost Calculation
City of Hanford
Utility Rate Study

Cost Allocation	Total	Cust. Serv.	Flow	BOD	SS
Cost Allocation %	100.0%	14.8%	46.0%	19.6%	19.6%
FY2024 Rev. Requirement [1]	$7,504,650	$1,114,300	$3,450,800	$1,469,800	$1,469,800
Billing Units		2,444,000 ccf/year	2,444,000 ccf/year	2,640,513 lbs/year	2,634,363 lbs/year
Rate		$0.46 $/ccf	$1.41 $/ccf	$0.56 $/lb	$0.56 $/lb

1 - 12 months of revenue with proposed rate increases

6.4.2 FY 2023/24 Rate Derivation

Table 25 details the rate derivation for proposed FY 2023/24 rates using the unit costs from Table 24. The flow charge per ccf is based on the customer service and flow unit costs per ccf. The strength multipliers shown in Table 23 for each customer class are applied to the BOD and SS unit costs. For residential customers, the unit costs are applied to estimated monthly flows to derive a monthly fixed charge.

Table 25: Sewer Rate Calculation
City of Hanford
Utility Rate Study

Customer Class	Flow (ccf)	BOD	SS	Total
RESIDENTIAL (Per dwelling unit)				
Single Family [1]	$14.94	$4.86	$4.86	$24.67
Multi-Family/Duplex [2]	$11.21	$3.65	$3.65	$18.51
NON-RESIDENTIAL				
Metered Water (Per ccf) [3]				
Group A: Domestic	$1.87	$0.61	$0.61	$3.08
Group B: Low Strength	$1.87	$0.47	$0.47	$2.81
Group C: Medium Strength	$1.87	$1.04	$1.04	$3.95
Group D: High Strength	$1.87	$1.74	$1.74	$5.34
Schools (per student ADA) [4]	-	-	-	$0.74
Septage (per 1,000 gallons)	$2.50	$16.25	$16.29	$35.03
Industrial	$1.87	-	-	$1.87

Figures in table are unrounded
1 - Estimated monthly single family flow is 8 ccf based on winter water use data
2 - Estimated monthly multi-family flow is 6 ccf based on winter water use data
3 - Per hundred cubic feet (ccf)
4 - Estimated flow per student is 6 gallons per day based on industry standard estimates

6.4.3 Proposed Wastewater Rates

The five-year proposed wastewater rate schedule is provided below in Table 26. The rates for 2023/24 are based on the calculations in Table 25. For the following years, rates are escalated by the percentage increases shown in the cash flow projection (Table 21).

Table 26: Proposed Wastewater Rates
City of Hanford
Utility Rate Study

Customer Class	Current Rates	PROPOSED				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
RESIDENTIAL (Per dwelling unit)						
Single Family	$17.86	$24.67	$27.63	$30.95	$32.50	$34.13
Multi-Family/Duplex	$16.93	$18.51	$20.73	$23.22	$24.38	$25.60
NON-RESIDENTIAL						
Metered Water (Per ccf) [1]						
Group A: Domestic	$1.54	$3.08	$3.45	$3.86	$4.05	$4.25
Group B: Low Strength	$1.44	$2.81	$3.15	$3.53	$3.71	$3.90
Group C: Medium Strength	$2.15	$3.95	$4.42	$4.95	$5.20	$5.46
Group D: High Strength	$2.88	$5.34	$5.98	$6.70	$7.04	$7.39
Schools (per student ADA) [2]	$0.51	$0.74	$0.83	$0.93	$0.98	$1.03
Septage (per 1,000 gallons)	$26.19	$35.03	$39.23	$43.94	$46.14	$48.45
Industrial						
Flow (per mg)	$1,561.56	$2,497.17	$2,796.83	$3,132.45	$3,289.07	$3,453.52
BOD (per lb)	$0.173	$0.557	$0.623	$0.698	$0.733	$0.770
SS (per lb)	$0.167	$0.558	$0.625	$0.700	$0.735	$0.772

1 - Per hundred cubic feet (ccf)
2 - ADA - average daily attendance

6.5 Wastewater Bill Impacts

Due to the updated cost of service allocation, the bill impacts to customers for the first year will vary based on customer class. Table 27 provides the percentage change in each rate category for each year of the rate study period. For FY 2023/24, the percentage change for each customer does not align with the percentage increase shown in the cash flow due to the reconfiguration of the cost allocation and the unit cost components used to calculate the rates. Following the first year, each customer's monthly rate will increase as shown in the cash flow projection (Table 21).

Table 27: Proposed Wastewater Rate Increases
City of Hanford
Utility Rate Study

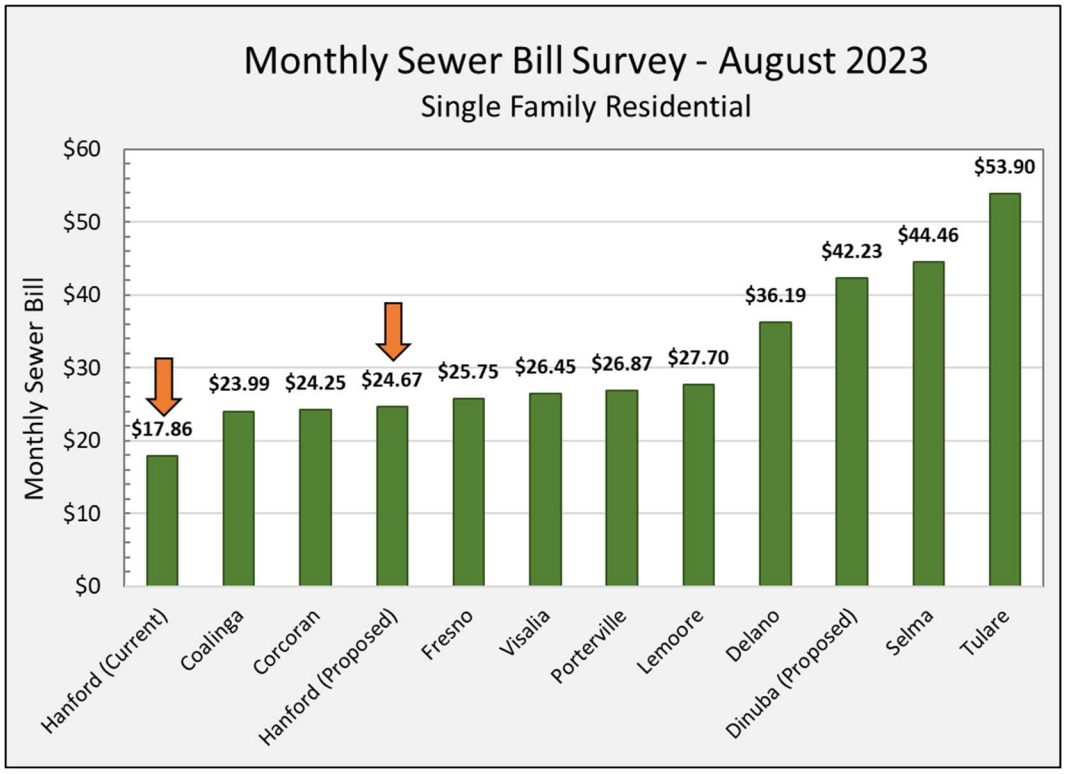
Customer Class	Current Rates	PROPOSED					
		FY2023/24		FY2024/25	FY2025/26	FY2026/27	FY2027/28
RESIDENTIAL							
(Per dwelling unit)							
Single Family	$17.86	$24.67	38%	12%	12%	5%	5%
Multi-Family/Duplex	$16.93	$18.51	9%	12%	12%	5%	5%
NON-RESIDENTIAL							
Metered Water (Per ccf) [1]							
Group A: Domestic	$1.54	$3.08	100%	12%	12%	5%	5%
Group B: Low Strength	$1.44	$2.81	95%	12%	12%	5%	5%
Group C: Medium Strength	$2.15	$3.95	84%	12%	12%	5%	5%
Group D: High Strength	$2.88	$5.34	85%	12%	12%	5%	5%
Schools (per student ADA) [2]	$0.51	$0.74	44%	12%	12%	5%	5%
Septage (per 1,000 gallons)	$26.19	$35.03	34%	12%	12%	5%	5%
Industrial							
Flow (per mg)	$1,561.56	$2,497.17	60%	12%	12%	5%	5%
BOD (per lb)	$0.173	$0.557	221%	12%	12%	5%	5%
SS (per lb)	$0.167	$0.558	234%	12%	12%	5%	5%

1 - Per hundred cubic feet (ccf)
2 - ADA – average daily attendance

6.5.1 Residential Bill Impacts

Residential customers are proposed to have a bill increase from $17.86 per month to $24.67 per month, as shown in Figure 8. Figure 8 also shows the current monthly wastewater bills of other local agencies. Despite the bill increase, the City's monthly residential wastewater bill still remains on the lower end when compared to the surveyed agencies.

Figure 8: Monthly Single Family Residential Wastewater Bill Survey



6.5.2 Commercial Bill Impacts

For FY 2023/24, the bill impacts for commercial customers will depend on actual consumption and customer class. Table 28 includes a sample of commercial sewer bill impacts for each customer class at different levels of monthly water use.

Table 28: Sample Monthly Non-Residential/Commercial Sewer Bill Impacts
City of Hanford
Utility Rate Study

GROUP A: DOMESTIC STRENGTH

	Monthly Use (ccf)	Current Bill	Proposed				
			Feb 1, 2024	Jul 1, 2024	Jul 1, 2025	Jul 1, 2026	Jul 1, 2027
Domestic Strength - 15 ccf							
Total Sewer Bill	15	$23.10	$46.20	$51.75	$57.90	$60.75	$63.75
$ Change			*$23.10*	*$5.55*	*$6.15*	*$2.85*	*$3.00*
% Change			*100.0%*	*12.0%*	*11.9%*	*4.9%*	*4.9%*
Domestic Strength - 30 ccf							
Total Sewer Bill	30	$46.20	$92.40	$103.50	$115.80	$121.50	$127.50
$ Change			*$46.20*	*$11.10*	*$12.30*	*$5.70*	*$6.00*
% Change			*100.0%*	*12.0%*	*11.9%*	*4.9%*	*4.9%*

GROUP B: LOW STRENGTH

	Monthly Use (ccf)	Current Bill	Proposed				
			Feb 1, 2024	Jul 1, 2024	Jul 1, 2025	Jul 1, 2026	Jul 1, 2027
Low Strength - 10 ccf							
Total Sewer Bill	10	$14.40	$28.10	$31.50	$35.30	$37.10	$39.00
$ Change			*$13.70*	*$3.40*	*$3.80*	*$1.80*	*$1.90*
% Change			*95.1%*	*12.1%*	*12.1%*	*5.1%*	*5.1%*
Low Strength - 20 ccf							
Total Sewer Bill	20	$28.80	$56.20	$63.00	$70.60	$74.20	$78.00
$ Change			*$27.40*	*$6.80*	*$7.60*	*$3.60*	*$3.80*
% Change			*95.1%*	*12.1%*	*12.1%*	*5.1%*	*5.1%*

GROUP C: MEDIUM STRENGTH

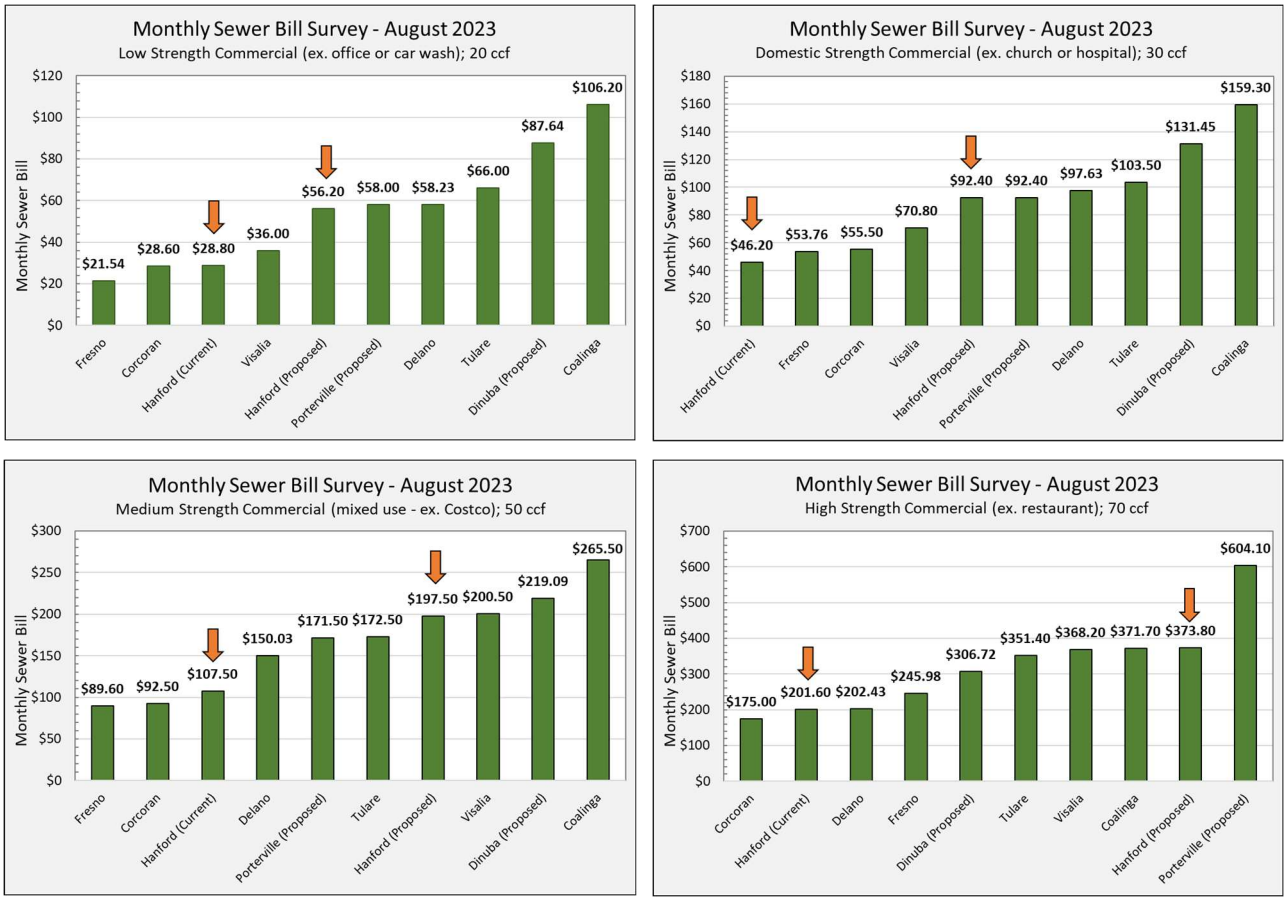
	Monthly Use (ccf)	Current Bill	Proposed				
			Feb 1, 2024	Jul 1, 2024	Jul 1, 2025	Jul 1, 2026	Jul 1, 2027
Medium Strength - 30 ccf							
Total Sewer Bill	30	$64.50	$118.50	$132.60	$148.50	$156.00	$163.80
$ Change			*$54.00*	*$14.10*	*$15.90*	*$7.50*	*$7.80*
% Change			*83.7%*	*11.9%*	*12.0%*	*5.1%*	*5.0%*
Medium Strength - 50 ccf							
Total Sewer Bill	50	$107.50	$197.50	$221.00	$247.50	$260.00	$273.00
$ Change			*$90.00*	*$23.50*	*$26.50*	*$12.50*	*$13.00*
% Change			*83.7%*	*11.9%*	*12.0%*	*5.1%*	*5.0%*

GROUP D: HIGH STRENGTH

	Monthly Use (ccf)	Current Bill	Proposed				
			Feb 1, 2024	Jul 1, 2024	Jul 1, 2025	Jul 1, 2026	Jul 1, 2027
High Strength - 70 ccf							
Total Sewer Bill	70	$201.60	$373.80	$418.60	$469.00	$492.80	$517.30
$ Change			*$172.20*	*$44.80*	*$50.40*	*$23.80*	*$24.50*
% Change			*85.4%*	*12.0%*	*12.0%*	*5.1%*	*5.0%*
High Strength - 100 ccf							
Total Sewer Bill	100	$288.00	$534.00	$598.00	$670.00	$704.00	$739.00
$ Change			*$246.00*	*$64.00*	*$72.00*	*$34.00*	*$35.00*
% Change			*85.4%*	*12.0%*	*12.0%*	*5.1%*	*5.0%*

The commercial bill impacts to each customer class were also surveyed in comparison to other local agencies, see Figure 9. For each strength category, a sample level of water usage was chosen and compared to the corresponding charge that the same customer would face in another local agency. Though all agencies surveyed charge variable rates per unit of water consumed by commercial customers, it should be noted that the subcategories used in other cities do not directly mirror those used by the City of Hanford. Some agencies do not have different charges based on wastewater strength, whereas others have more than four categories for commercial customers.

Figure 9: Commercial Monthly Wastewater Bill Surveys by Strength Category



SECTION 7: STORM DRAINAGE REVENUE REQUIREMENT

The storm utility's cost of service and revenue requirement is comprised of operating costs, capital improvement costs, and the need to maintain reasonable reserves. Storm drain fees are intended to fund capital improvement programs, operations and maintenance, clean water programs to mitigate the pollutants in stormwater, and other environmental services related to storm water. Ongoing maintenance of storm drain pipes is important in reducing risks of flooding and sink holes in local neighborhoods.

7.1 Storm Drainage System Overview

The City operates and maintains a storm drainage system that covers the majority of the area within the City limits. The storm drainage system consists of 30 pump stations, 56 miles of pipeline ranging in size from 6 to 60 inches, 138 inverted siphons, 974 drainage inlets, and 181 acres of drainage basins and drainage ditches. The storm drainage system removes rainfall from surface streets and disposes of the accumulated stormwater in drainage basins and canals that are located throughout the City.

7.2 Storm Drainage Reserves

The City maintains two storm drainage reserve funds – 1) an operating fund reserve and 2) a capital reserve fund reserve. As of the beginning of FY 2023/24, the storm drainage utility had operations fund reserves of approximately $5.72 million and capital and reserve fund reserves of negative $730,000. The proposed fund balance target for the operations fund is equal to 50% of annual operating expenses per City policy. This is in line with industry standards that recommend an operating reserve target of at least 25% of annual expenses to account for the time (at least 4 months) that it would take an agency to approve new rate increases to comply with Proposition 218.

Adequate fund reserves protect the City when faced with unforeseen financial challenges such as emergency expenses or revenue deficits. Fund reserves allow the City to maintain its financial health and positive credit ratings, especially during emergencies. Moreover, funding can be drawn from reserves to supplement rate revenues lost during emergencies or other unexpected situations. The City can also choose to use reserves to smooth cash flows and mitigate impacts to ratepayers.

7.3 Storm Drainage Capital Improvement Plan

Table 29 provides the storm drainage utility's capital improvement plan by year for the rate study period, totaling $3.58 million. All storm capital projects will be funded with rate revenues. Major projects include widening streets, removing trees, and repairing basins.

Table 29: Storm Drainage Capital Improvement Program (CIP)
City of Hanford
Utility Rate Study

Project Title	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	5-Year Total
Courthouse Parking Lot Reconstruction	-	$310,000	-	-	-	$310,000
Utility Customer Payment Kiosks (2)	$27,000	$14,000	$14,000	$14,000	$14,000	$83,000
Houston Av Pipeline/Sand Slough	$111,390	-	-	-	-	$111,390
Storm Drain Pump #39	$70,000	-	-	-	-	$70,000
Lacey Blvd Widen/Reconst Magna Carta To 13th	-	-	-	$500,000	-	$500,000
2062 Lift Station Rehab	-	-	$50,000	-	-	$100,000
2062 Portable Pumps 6" / 4"	-	$65,000	-	-	-	$65,000
2050 Vacuum Truck (Repl 174)	-	$129,400	-	-	-	$129,400
Tree Trim/Removal Program	$75,000	$75,000	$75,000	$75,000	$75,000	$375,000
2062 Brown St Main Addition-Hwy 198 To Brown St Basin	-	-	$250,000	-	-	$250,000
1750 Public Works Enclosed Warehouse	-	-	$75,000	-	-	$75,000
Lacey Widen/Recon/10th-Sierra	$305,020	$487,210	$186,570	-	-	$978,800
Stonecrest Basin Pump Eq	$45,930	-	-	-	-	$45,930
Lift Sta 23 & 56 Panel Repl	$48,000	-	-	-	-	$48,000
Incr Flow Cap/People Ditch	-	$35,440	-	-	-	$35,440
Gate Crossing Security/Locks	$18,450	-	-	-	-	$18,450
Curb And Gutter Install	$47,205	$20,000	$20,000	$20,000	$20,000	$127,205
Bonneyview Basin/Sand Slough Basin	$256,200	-	-	-	-	$256,200
TOTAL STORMWATER CIP	**$1,004,195**	**$1,136,050**	**$670,570**	**$609,000**	**$159,000**	**$3,578,815**

7.4 Storm Drainage Cash Flow Projection

The storm drainage fund cash flow for the five-year period beginning in FY 2023/24 through FY 2027/28 is provided in Table 30. Revenue increases of 5.0% annually over the rate study period are needed to keep up with operating cost inflation and to fund necessary capital projects. It should be noted that this level of increase is applied to the City's total storm drainage fee revenues and does not necessarily reflect the level of increase for individual customers. The impacts to each customer will vary depending on customer class and parcel size.

7.4.1 Stom Drainage Revenues

The City's main revenue source for the storm drainage utility is Storm Drain Fees. Fee revenues are estimated at about $1.48 million in FY 2023/24, comprising 97% of total storm drain revenues. Other revenues include Interest Income, Late Charges, and Other Miscellaneous Income.

7.4.2 Storm Drainage Operating Expenses

Operating expenses are based on the City's *FY 2023/2024 and 2024/2025 Budget.* Major expenses include Salaries and Benefits, Administrative Expenses, Supplies and Equipment, Outside Services, and Utilities. Beginning in FY 2025/26, Salaries & Benefits are escalated by 7.0% each year while all other operating expenses are escalated by 3.0% annually. In total, storm drainage operating expenses are estimated to increase by 5.0% each year beginning in FY 2025/26 through FY 2027/28.

7.4.3 Loan to Wastewater Fund

The storm drainage fund will lend the wastewater fund $1.3 million in FY 2023/24 to eliminate the wastewater fund's operating deficit and assist the wastewater fund with meeting its debt coverage requirements. The wastewater fund will pay back the loan in four equal installments of $325,000 beginning in FY 2024/25 through FY 2027/28.

7.4.4 Five-Year Summary

Figure 10 graphically shows the storm drainage cash flow projection for the five-year rate study period including both operating and capital expenses. The City will use existing reserves to fund capital projects and the interfund loan to the wastewater fund in FY 2023/24.

Figure 10: Storm Drainage Cash Flows

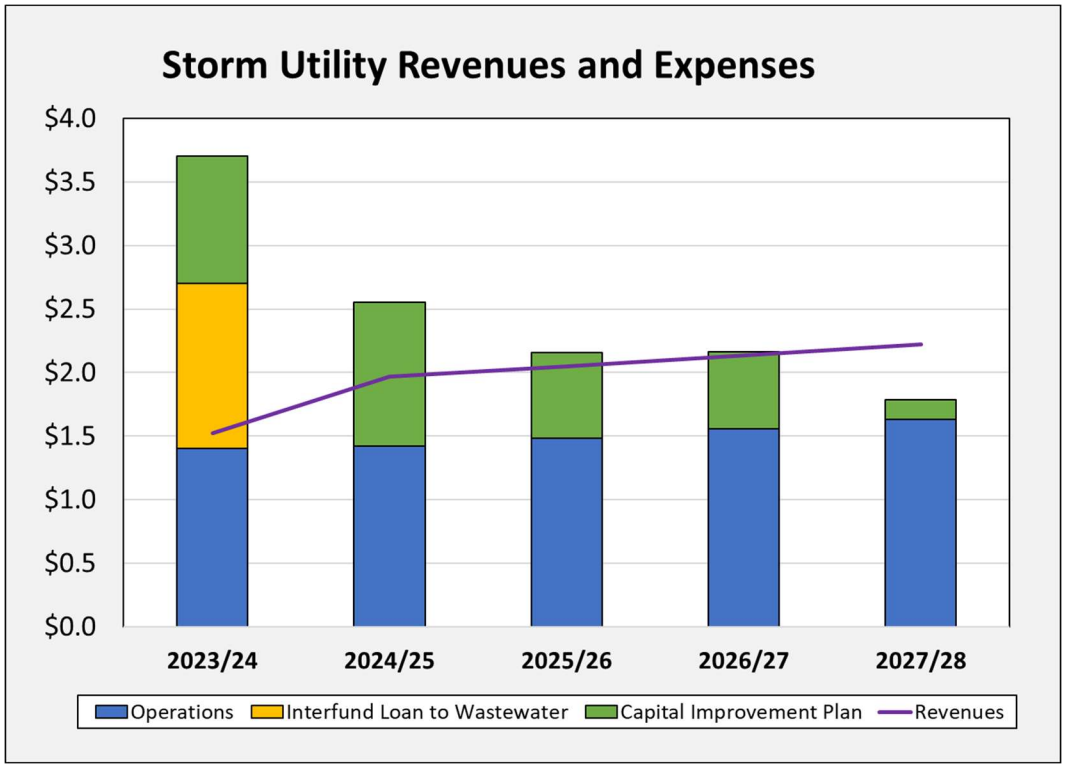


Table 30: Storm Drainage Cash Flow Projection
City of Hanford
Utility Rate Study

	Years 1 -5: Proposition 218				
	FY 2023/24	**FY 2024/25**	**FY 2025/26**	**FY 2026/27**	**FY 2027/28**
Rate Revenue Increase	5.0%	5.0%	5.0%	5.0%	5.0%
Rate Increase Effective	Jan 1, 2024	Jul 1, 2024	Jul 1, 2025	Jul 1, 2026	Jul 1, 2027
BEGINNING FUND BALANCE [1]	$5,721,000	$3,542,000	$2,708,000	$2,374,000	$2,053,000
REVENUES					
Rate Revenues	1,477,000	1,597,000	1,677,000	1,761,000	1,849,000
Non-Rate Revenue					
Late Fees	5,000	5,000	5,000	5,000	5,000
Interest Income	43,000	43,000	43,000	43,000	43,000
Bad Debts	1,000	1,000	1,000	1,000	1,000
Subtotal Non-Rate Revenues	49,000	49,000	49,000	49,000	49,000
Transfer from Wastewater to Repay Transfer	0	325,000	325,000	325,000	325,000
Total Revenue	1,526,000	1,971,000	2,051,000	2,135,000	2,223,000
EXPENSES					
Operating Expenses					
Salaries and Benefits	581,000	600,000	642,000	687,000	735,000
Supplies and Equipment	317,000	316,000	325,000	335,000	345,000
Outside Services	71,000	71,000	73,000	75,000	77,000
City Services Allocation	381,000	381,000	392,000	404,000	416,000
Utilities	51,000	51,000	53,000	55,000	57,000
Subtotal O&M	1,401,000	1,419,000	1,485,000	1,556,000	1,630,000
Net Operating Revenue	125,000	552,000	566,000	579,000	593,000
Transfer to Capital Fund	1,004,000	1,386,000	900,000	900,000	900,000
Transfer to Wastewater for Interfund Loan	1,300,000	0	0	0	0
OPERATIONS ENDING FUND BALANCE	3,542,000	2,708,000	2,374,000	2,053,000	1,746,000
Operating Reserve Fund Target [2]	701,000	710,000	743,000	778,000	815,000
Operating Reserve Target Met?	*yes*	*yes*	*yes*	*yes*	*yes*
CAPITAL & RESERVE BEG. FUND BALANCE [3]	($730,000)	($730,000)	($480,000)	($251,000)	$40,000
Revenues					
Transfer from Operations Fund	1,004,000	1,386,000	900,000	900,000	900,000
Capital Expenses					
Capital Plan	1,004,000	1,136,000	671,000	609,000	159,000
Subtotal Capital Expenses	1,004,000	1,136,000	671,000	609,000	159,000
Net Capital Revenues	0	250,000	229,000	291,000	741,000
CAPITAL & RESERVE ENDING FUND BALANCE	($730,000)	($480,000)	($251,000)	$40,000	$781,000

1 - Estimated cash fund balance of Storm Drainage Operations Fund provided by City staff
2 - Recommended target: Operating Reserve target is 6 months O&M Expenses
3 - Estimated cash fund balances of Storm Drainage Capital and Reserve Fund provided by City staff

SECTION 8: STORM COST ALLOCATION AND RATE DESIGN

Proposition 218 requires that municipalities providing "property-related services" (including storm drain service) set rates and charges that are based on the cost of providing those services. The revenue requirements detailed in the previous section determine the amount of revenue to be recovered from the storm drain rates. In this section, the cost of service allocation develops an equitable means of allocating utility costs among its customers based on their estimated runoff burden to the storm drain system.

The primary storm drainage service provided by the City is the collection, conveyance, and management of stormwater runoff from parcels. All parcels[2] that contribute runoff into the City's system, either directly or indirectly, take stormwater service from the City. This service is needed due to property improvements resulting in impervious area such as rooftops, paved driveways and walkways, and landscaping that prevents storm water percolation into the ground. Open space, raw land, and agricultural parcels that are akin to natural conditions (i.e. percolation into the groundwater), are not charged a fee.

Another stormwater service provided by the City is compliance with water quality requirements through the City's NPDES permit. The City monitors all parcels in the City including parcels that may drain directly to non-City receiving waters. Thus, all parcels are included in the fee structure except street parcels that are considered part of the storm system, open space or agricultural parcels that percolate stormwater, and parcels that full contain their own stormwater runoff.

8.1 Storm Drainage Cost Allocation

The proposed storm drain rate will only be levied on properties that shed water, directly or indirectly, into the City's storm drain system. Moreover, the amount of use attributed to each parcel is proportionate to the amount of stormwater runoff contributed by the parcel, which is, in turn, proportionate to the amount of impervious surface area on a parcel. According to the California Storm Water Quality Association (CASQA), the most widespread storm water fee structure across the United States is based on the amount of impervious area on a parcel. Impervious surfaces are surfaces that allow little or no storm drainage to permeate into the ground, including rooftops, paved driveways, and walkways.

Measuring impervious area is conducted using aerial photography and geographic information system (GIS). For residential properties, a representative sampling is sufficient to determine an average for a typical single family parcel. Unlike residential parcels, non-residential parcels differ widely in size and characteristics which makes sampling impractical. For a simplified alternative, runoff coefficients can be used to estimate stormwater runoff by land use classification. This concept can be used to estimate the

[2] Street parcels are considered part of the storm drain system and do not take service

relative load from a single parcel by multiplying the total area of the lot type by the runoff coefficient. The City's *2017 Storm Drainage Master Plan* includes runoff coefficients by land use types.

Table 31 includes an estimate of impervious area within the City. Parcels within the City are divided into one of seven land use categories: 1) Single Family Residential, 2) Business, 3) Industrial, 4) Low Density, 5) Multi-Family Residential, 6) Public Agency, and 6) Schools. A runoff coefficient from the *2017 Storm Drainage Master Plan* is applied to the acreage of each land use category to estimate the total land area that is impervious.

The Public Agency category refers to buildings and structures owned by governmental agencies and includes City Hall, City offices, libraries, post offices and fire/police stations. The Low Density category is new and is applied to industrially zoned parcels that were either a) entirely farmland, b) occupied by some industrial use but mostly vacant, or c) a single-family home that also contains active farmland. The properties in which parcel size is unknown will be charged a base fee based on customer class. Additionally, the City has identified 68 potential industrial parcels that will be added to the total acreage count once they have been annexed into the City in the future. Parcels that meet any of the following conditions are excluded from Table 31 and are not proposed to be charged storm drain fees:

1) Parcels that solely comprise a street or roadway (either publicly or privately owned) and are considered to be part of the Storm Drain conveyance system.
2) Parcels comprised of an area which is part of the City's storm drain system.
3) Parcels that do not receive service.
4) Parcels which detain all runoff on site.

To provide more context to exemption number 1 listed above, the Environmental Protection Agency notes that "*a municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)... that discharges into waters of the United States. (ii) Designed or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.*" (EPA Stormwater Phase II Final Rule Fact Sheet). Therefore, street parcels are considered part of the City's storm drain infrastructure. Street parcels are assumed to collect and convey their own onsite stormwater. Storm drain expenses incurred related to the service of street parcels are deemed to benefit all parcels of the City and these costs are spread among non-street parcels based on the cost allocation described in this section.

Table 31: Estimated of Acreage & Impervious Area
City of Hanford
Utility Rate Study

Service Type		Number of Parcels [1]	% of Total Parcels	Total Acres	Average Parcel Size (acres)	Runoff Coefficient [2]	Total Impervious Area	% of Total Impervious Area
R	Residential	16,041	93.6%	3,047.8	0.19	0.50	1,523.9	57.8%
B	Business	559	3.3%	702.5	1.26	0.90	632.2	24.0%
I	Industrial [3]	66	0.4%	281.9	4.27	0.80	225.5	8.6%
LD	Low Density	31	0.2%	255.5	8.24	0.10	25.5	1.0%
M	Multi-Family	397	2.3%	171.0	0.43	0.60	102.6	3.9%
P	Public Agency	11	0.1%	104.7	9.52	0.90	94.2	3.6%
S	Schools	29	0.2%	220.5	7.60	0.15	33.1	1.3%
Total		17,134	100.0%	4,783.9			2,637.1	100.0%

1 - Only includes storm accounts that have matched APNs
2 - Source: Storm Drainage Master Plan 2017
3 - Includes 50% of matched acreage to be conservative

8.2 Storm Drainage Fee Design

Table 32 allocates the annual revenue requirement from the storm drainage cash flow to each customer class using the percent of total impervious area to calculate the proposed storm drainage fees. Single family residential customers will continue to be charged on a “per account” basis, with the monthly fee being lowered from $5.04 to $4.57. The most common method of establishing storm drainage rates is to use the average single-family residential parcel size as the basic unit of measure. The single family residential fee is based on an average parcel size of 0.19 acres. All other customers will be charged on a “per acre” basis. Parcel size and impervious area are more indicative of the impact each customer places on the City’s storm drainage system.

For all other non-residential customers, the methodology in which these customers will be charged is based on parcel size, rather than consumption. Therefore, the actual bill impacts to each customer will vary depending on customer class and parcel size.

Table 32: Storm Drainage Fee Calculation
City of Hanford
Utility Rate Study

		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Total Revenue Requirement (from Cash Flow) [1]		$1,520,820	$1,596,861	$1,676,704	$1,760,539	$1,848,566
Customer Class Allocation	% of Total Impervious Area					
Single Family Residential	57.8%	$878,830	$922,771	$968,910	$1,017,355	$1,068,223
Business	24.0%	$364,606	$382,837	$401,979	$422,078	$443,181
Industrial	8.6%	$130,062	$136,565	$143,393	$150,563	$158,091
Low Density	1.0%	$14,734	$15,471	$16,245	$17,057	$17,910
Multi-Family	3.9%	$59,175	$62,134	$65,241	$68,503	$71,928
Public Agency	3.6%	$54,339	$57,055	$59,908	$62,904	$66,049
Schools	1.3%	$19,074	$20,027	$21,029	$22,080	$23,184
Total	100.0%	$1,520,820	$1,596,861	$1,676,704	$1,760,539	$1,848,566
Rate Calculation for Single Family Residential						
Total Revenue Requirement		$878,830	$922,771	$968,910	$1,017,355	$1,068,223
Total Number of Residential Accounts		16,041	16,041	16,041	16,041	16,041
Monthly Single Family Residential Rate (per account)		$4.57	$4.79	$5.03	$5.29	$5.55
Rate Calculation for Business						
Total Revenue Requirement		$364,606	$382,837	$401,979	$422,078	$443,181
Total Acres		702.5	702.5	702.5	702.5	702.5
Monthly Storm Drain Rate per Acre		$43.25	$45.42	$47.69	$50.07	$52.57
Rate Calculation for Industrial						
Total Revenue Requirement		$130,062	$136,565	$143,393	$150,563	$158,091
Total Acres		281.9	281.9	281.9	281.9	281.9
Monthly Storm Drain Rate per Acre		$38.45	$40.37	$42.39	$44.51	$46.73
Rate Calculation for Low Density						
Total Revenue Requirement		$14,734	$15,471	$16,245	$17,057	$17,910
Total Acres		255.5	255.5	255.5	255.5	255.5
Monthly Storm Drain Rate per Acre		$4.81	$5.05	$5.30	$5.56	$5.84
Rate Calculation for Multi-Family						
Total Revenue Requirement		$59,175	$62,134	$65,241	$68,503	$71,928
Total Acres		171.0	171.0	171.0	171.0	171.0
Monthly Storm Drain Rate per Acre		$28.84	$30.28	$31.79	$33.38	$35.05

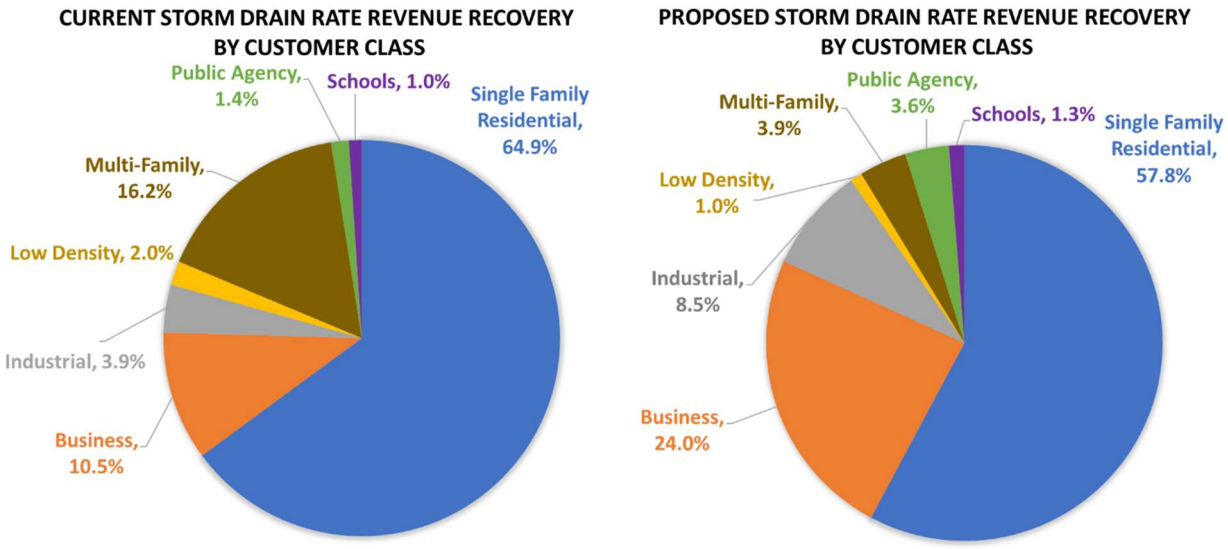
	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Rate Calculation for Public Agency					
Total Revenue Requirement	$54,339	$57,055	$59,908	$62,904	$66,049
Total Acres	104.7	104.7	104.7	104.7	104.7
Monthly Storm Drain Rate per Acre	$43.25	$45.42	$47.69	$50.07	$52.57
Rate Calculation for Schools					
Total Revenue Requirement	$19,074	$20,027	$21,029	$22,080	$23,184
Total Acres	220.5	220.5	220.5	220.5	220.5
Monthly Storm Drain Rate per Acre	$7.21	$7.57	$7.95	$8.35	$8.76

1 – Assumes 12 months of rate increases

8.3 Cost Allocation Results

Based on the cost allocation, the revenue recovery by customer class has been updated so that each customer class is paying their share of costs per the total percentage of impervious area as shown on Table 31. Figure 11 below compares the current revenue allocation with the proposed allocations based on acreage.

Figure 11: Current vs. Proposed Storm Drainage Revenue Recovery



8.4 Proposed Storm Drainage Rates

The proposed five-year rate plan is shown in Table 33. The February 1, 2024 rates reflect the new cost allocation and rate structure described herein. The following years reflect 5.0% annual increases consistent with the proposed cash flow.

Table 33: Proposed Storm Drainage Fees
City of Hanford
Utility Rate Study

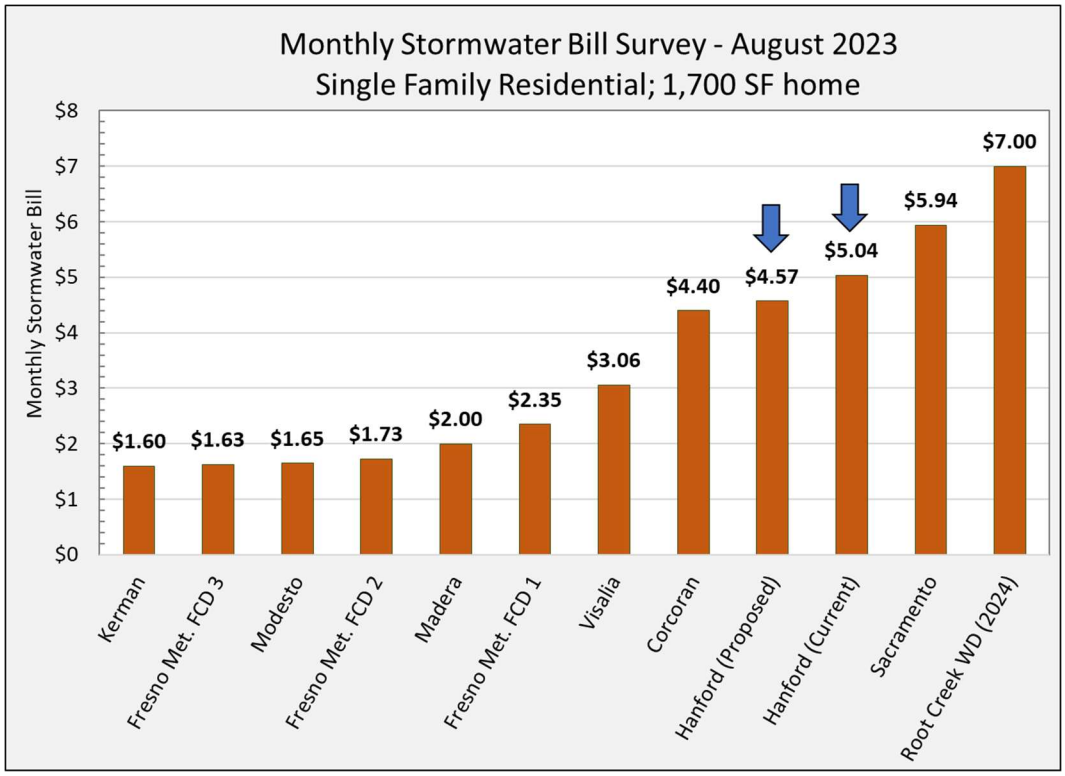
		PROPOSED				
Fiscal Year	**CURRENT**	**FY2023/24**	**FY2024/25**	**FY2025/26**	**FY2026/27**	**FY2027/28**
Effective Date	*Jul 1, 2011*	*Feb 1, 2024*	*Jul 1, 2025*	*Jul 1, 2026*	*Jul 1, 2027*	*Jul 1, 2028*
Single Family Residential (per account)	$5.04	$4.57	$4.79	$5.03	$5.29	$5.55
All Other Customers (per acre)						
Business		$43.25	$45.42	$47.69	$50.07	$52.57
Industrial		$38.45	$40.37	$42.39	$44.51	$46.73
Low Density		$4.81	$5.05	$5.30	$5.56	$5.84
Multi-Family		$28.84	$30.28	$31.79	$33.38	$35.05
Public Agency		$43.25	$45.42	$47.69	$50.07	$52.57
Schools		$7.21	$7.57	$7.95	$8.35	$8.76
Base Charge (per account) [1]						
Business		$8.65	$9.08	$9.54	$10.01	$10.51
Industrial		$7.69	$8.07	$8.48	$8.90	$9.35
Low Density		$0.96	$1.01	$1.06	$1.11	$1.17
Multi-Family		$5.77	$6.06	$6.36	$6.68	$7.01
Public Agency		$8.65	$9.08	$9.54	$10.01	$10.51
Schools		$1.44	$1.51	$1.59	$1.67	$1.75

1 - Charge for accounts that the City does not have parcel size information for.

8.5 Storm Drainage Survey

Figure 12 provides a bill survey comparing the City's current and proposed storm drain bills for a 1,700 square foot single family home.

Figure 12: Storm Drainage Residential Monthly Bill Survey



8.6 Annual Parcel Database Review

To develop the storm drainage parcel database, L&T matched the City's current storm drainage accounts with parcel size information and assessor parcel numbers (APN) provided by Kings County. The City will need to make adjustments to the parcel database on an annual basis as parcels are developed, undergo a change of use, or when parcel size data becomes available for those without acreage currently available. The following accounts will need to be updated each year:

- **Accounts with No Acreage**
  Of the 17,453 storm drainage accounts, L&T was able to match 14,489 with their corresponding acreage and APNs. Accounts without parcel size information will be charged a base storm drainage charge based on customer class. Once parcel size is confirmed, the account can be charged the corresponding per acre rate.

- **Hand-Billed Industrial & School Accounts**
  The City currently bills several schools and industrial accounts separately for sewer use, and therefore, L&T did not find an existing account number. The City can either continue to hand bill these customers or add them to the billing system.

- **Potential Industrial Parcels**
  The City has identified 68 industrial parcels for a total of 1,318 acres that will likely be annexed into the City in the future. Because it is unknown when they will be annexed, these parcels are not included in the current rate study but can be included in the next rate study once they have established a utility billing account.

- **Low Density Parcels**
  The Low Density category is a new storm rate category and is applied to industrially zoned parcels that were either a) entirely farmland, b) occupied by some industrial use but mostly vacant, or c) a single-family home that also contains active farmland. The City has identified 31 Low Density parcels for a total of 511 acres. The majority of these parcels do not have an existing utility account number and will have to be added to the billing system.

- **Site Planning & Impervious Area Reductions**
  Certain parcels may have storm water detention and/or retention facilities or perform other best management practices that decrease or eliminate storm water runoff. While every effort has been made to account for these parcels, a parcel owner may present information to substantiate an exemption to the charges. The City will need to establish a process for individual property owners to appeal their storm drain charges on a case-by-case basis and update the parcel database as needed.