

CITY OF WILLOWS

FINAL REPORT

Wastewater Rate Study

June 2021

OFFICE LOCATIONS:

Temecula – Corporate Headquarters
32605 Temecula Parkway, Suite 100
Temecula, CA 92592

San Francisco – Regional Office
870 Market Street, Suite 1223
San Francisco, CA 94102

California Satellite Offices
Atascadero, Davis
Huntington Beach,
Joshua Tree, Riverside
Sacramento, San Jose

www.nbsgov.com

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ABBREVIATIONS & ACRONYMS

AAF	Average Annual Flow
AF	Acre Foot, equal to 435.6 HCF/CCF or 325,851 gallons
Alt.	Alternative
Avg.	Average
AWWA	American Water Works Association
BMP	Best Management Practice
BOD	Biochemical Oxygen Demand
CA	Customer
CAP	Capacity
CCF	Hundred Cubic Feet (same as HCF); equal to 748 gallons
CCI	Construction Cost Index
COD	Chemical Oxygen Demand
COM	Commodity
Comm.	Commercial
COS	Cost of Service
COSA	Cost of Service Analysis
CPI	Consumer Price Index
CIP	Capital Improvement Program
DU	Dwelling Unit
Excl.	Exclude
ENR	Engineering News Record
EDU	Equivalent Dwelling Unit
Exp.	Expense
FP	Fire Protection
FY	Fiscal Year (e.g., July 1 st to June 30 th)
GPD	Gallons per Day
GPM	Gallons per Minute
HCF	Hundred Cubic Feet; equal to 748 gallons or 1 CCF
Ind.	Industrial
Irr.	Irrigation
LAIF	Local Agency Investment Fund
Lbs.	Pounds
MFR	Multi-Family Residential
MGD	Million Gallons per Day
MG/L	Milligrams per Liter
Mo.	Month
Municipal	Muni.

This appendix identifies abbreviations and acronyms that may be used in this report. This appendix has not been viewed, arranged, or edited by an attorney, nor should it be relied on as legal advice. The intent of this appendix is to support the recognition and analysis of this report. Any questions regarding clarification of this document should be directed to staff or an attorney specializing in this particular subject matter.

NH3	Ammonia
NPV	Net Present Value
N/A	Not Available or Not Applicable
O&M	Operational & Maintenance Expenses
Prop 13	Proposition 13 (1978) – Article XIII A of the California Constitution which limits taxes on real property to 1% of the full cash value of such property.
Prop 218	Proposition 218 (1996) – State Constitutional amendment expanded restrictions of local government revenue collections.
Req't	Requirement
Res.	Residential
Rev.	Revenue
RTS	Readiness-to-Serve
R&R	Rehabilitation & Replacement
SFR	Single Family Residential
SRF Loan	State Revolving Fund Loan
SWRCB	State Water Resources Control Council
TSS / SS	Total Suspended Solids
V. / Vs. /vs.	Versus
WWTP	Waste Water Treatment Plant

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SECTION 1. PURPOSE AND OVERVIEW OF THE STUDY

A. Purpose

The City of Willows (City) retained NBS to conduct a comprehensive wastewater rate study. The study estimated rates that would meet revenue requirements, provide greater financial stability for the wastewater enterprise, and comply with legal requirements (such as California Constitution article XIII D, Section 6, which is commonly referred to as Proposition 218 [Prop 218]). The rates resulting from this study were developed in a manner that is consistent with industry standard cost of service principles. In addition to documenting the rate study methodology, this report is provided to assist the City in maintaining transparent communications with its residents and businesses.

In developing new wastewater rates, NBS worked cooperatively with City staff in selecting appropriate rate alternatives. Based on input from all stakeholders, the proposed rates are summarized in this report.

B. Overview of the Study

Comprehensive rate studies such as this one typically includes the following three components, as outlined in **Figure 1**:

1. Preparation of a **Financial Plan**, which identifies the net revenue requirements for the utility.
2. **Cost of Service Analysis**, which determines the cost of providing service to each customer class.
3. **Rate Design Analysis**, which evaluates different rate design alternatives.

Figure 1. Primary Components of a Rate Study



These steps are intended to follow industry standards and reflect the fundamental principles of cost-of-service rate making embodied in the Water Environment Federation (WEF) Financing and Charges for Wastewater Systems, Manual of Practice 27. The rate study also addresses requirements under Proposition 218 that rates do not exceed the cost of providing the service, and that the rates be proportionate to the cost of providing service for all customers. In terms of the chronology of the study, these three steps represent the order they were performed. Detailed tables and figures documenting the development of the proposed rates are provided in the Appendix.

FINANCIAL PLAN

As a part of this rate study, NBS projected revenues and expenditures on a cash flow basis for the next five years. The amount of rate revenue required that will allow reserves to be maintained at the recommended levels is known as the *net revenue requirement*. Recommended reserve levels are based on a combination of industry standards and each utility's unique financial needs. More detail on recommended reserve levels is included in Section 2. As current rate revenue falls short of the net revenue requirement, rate adjustments -- or more accurately, adjustments in the total revenue collected from rates -- are recommended. This report presents an overview of the methodologies, assumptions, and data used, along with the financial plans and proposed rates developed in this study¹.

WASTEWATER RATE DESIGN ANALYSIS

Rate Design is typically the stage in the study where NBS and City representatives must work closely together, to develop rate alternatives that will meet the City's objectives. It is important for the wastewater utility to send proper price signals to its customers about the actual cost of providing service. This objective is typically addressed through both the magnitude of the rate adjustments, and the rate structure design. In other words, both the amount of revenue collected, and the way in which the revenue is collected from customers are important.

Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been documented in several rate-setting manuals, such as the WEF Manual 27 The foundation for evaluating rate structures is generally credited to James C. Bonbright in the *Principles of Public Utility Rates*², which outlines pricing policies, theories, and economic concepts along with various rate designs. The following is a simplified list of the attributes of a sound rate structure:

- Rates should be easy to understand from the customer's perspective.
- Rates should be easy to administer from the utility's perspective.
- Rates should promote the efficient allocation of the resource.
- Rates should be equitable and non-discriminating (that is, cost based).
- There should be continuity in the ratemaking philosophy over time.
- Rates should address other utility policies (for example, encouraging conservation & economic development).
- Rates should provide month-to-month and year-to-year revenue stability.

The following are the basic rate design criteria that were considered in this study:

Rate Structure Basics – From a financial stability perspective, it is ideal when utilities recover their fixed costs from fixed charges and their variable costs from volumetric charges. When this is the case, fluctuations in variable revenues are directly offset by reductions or increases in variable expenses. However, other factors are often considered when designing rates such as community values, water conservation goals, ease of understanding, and ease of administration.

¹ The complete financial plan is set forth in the Appendix.

² James C. Bonbright; Albert L. Danielsen and David R. Kamerschen, *Principles of Public Utility Rates*, (Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988), p. 383-384.

The vast majority of rate structures contain a fixed or minimum charge in combination with a volumetric charge. However, many wastewater utilities choose to keep residential customers at a uniform fixed rate per equivalent dwelling unit (EDU). The rates proposed in this report are 100% fixed for residential customers and commercial customers are designed to collect 45 percent of rate revenue from the fixed meter charge and 55 percent from the variable commodity charge.

Fixed Charges – Fixed charges can be called base charges, minimum monthly charges, customer charges, fixed meter charges, etc.

Volumetric (Consumption-Based) Charges – In contrast to fixed charges, variable costs such as the cost of electricity used in pumping, and the cost of chemicals for treatment tend to change with the quantity of wastewater produced. For a wastewater utility, variable charges are typically based on the winter water usage (or estimated wastewater discharge) from Cal Water and charged on a dollar-per-unit cost (for example, per 100 cubic feet, or hcf).

SECTION 2. WASTEWATER RATES

A. Key Wastewater Rate Study Priorities

The City's wastewater rate analysis was undertaken with a few specific objectives, including:

- Maintain wastewater service through operation and maintenance for the wastewater collection system.
- Maintain adequate reserve levels to ensure continuity in operations.
- Provide greater revenue stability for the Utility, due to the level of capital investment planned over the next five years.
- Comply with Prop 218 requirements to ensure cost of service are properly allocated amongst user classifications.

The proposed fixed and volume-based rates were calculated based on the net revenue requirements, number of customer accounts, winter water consumption, and other City-provided information.

B. Financial Plan

It is important for municipal utilities to maintain reasonable reserves in order to handle emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management practices. Rate increases are governed by the need to meet operating and capital costs, maintain adequate debt coverage, and build reasonable reserve funds. The current state of the City's Wastewater Utility, regarding these objectives, is as follows:

- **Meeting Net Revenue Requirements:** For Fiscal Year (FY) 2021/22 through FY 2025/26, the projected net revenue requirement (that is, total annual expenses plus debt service and rate-funded capital costs, less non-rate revenues) for the City averages \$2.31 million, annually. If no rate adjustments are implemented, the City is projected to average a \$735,000 deficit each year.
- **Building and Maintaining Reserve Funds:** Reserve funds provide a basis for a utility to cope with fiscal emergencies such as revenue shortfalls, asset failure, and natural disasters, among other events. Reserve policies provide guidelines for sound financial management, with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs, and emergencies. The City anticipates having over the target level in wastewater fund reserves by the end of FY 2026/27 (the year after the prop 218 rate period), in following industry standard recommendations. The reserve funds for the Utility are considered unrestricted reserves and consist of the following:
 - **The Operating Reserve** should equal approximately 90 days of operating expenses (about 25% of the annual operating budget), and by FY 2025/26, the balance for the operating reserve should be approximately \$424,000. An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures. Fluctuations in revenue can be caused by weather patterns, the natural inflow and outflow of cash during billing cycles, natural variability in demand-based revenue streams (such as volumetric charges), and – particularly in periods of economic distress – changes or trends in age of receivables.

- **The Capital Outlay Reserve** should equal 3 percent of net capital assets, which is approximately \$300,000 by the end of for FY 2025/26. This reserve is set aside to address long-term and routine capital system replacement and rehabilitation needs.
- **Funding Capital Improvement Projects:** The City must also be able to fund necessary capital improvements to maintain current service levels. City staff has identified roughly \$1.82 million (in current year dollars) in expected total capital expenditures for FY 2020/21 through FY 2025/26. With the recommended rate increases, these expenditures can be accomplished while also reaching reserves at the minimum recommended target by the end of the rate period.
- **Inflation and Growth Projections:** Assumptions regarding cost inflation were made to project future revenues and expenses for the study period.
 - Customer growth is estimated to be 0.25 percent annually.
 - General and Labor cost inflation is estimated to be 3 percent annually.
 - Health and Retirement cost inflation is estimated to be 4 percent annually.
 - Insurance cost inflation is estimated to be 6 percent annually.
 - Chemical and Energy cost inflation is estimated to be 2 percent annually.
 - Some expenses are estimated to have no escalation.
- **Impact of Annual Rate Adjustment Date:** The financial plan modelling assumes that rate adjustments occur in July of each year (to be put on the annual tax bill), accounting for a full year worth of rate increases to contribute to budgeted rate revenues.

Rate revenue increases of 15 percent in FY 2021/22 followed by 12 percent annually for FY 2022/23 through FY 2025/26 will be needed to fully fund all operating expenses, debt services, planned capital projects and reach reserves at the recommended targets by FY 2025/26. **Figure 2** summarizes the sources and uses of funds, net revenue requirements, and the recommended annual percent increases in total rate revenue recommended for the next 5 years for the City.

Figure 2. Summary of Wastewater Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Sewer Funds						
Rate Revenue Under Current Rates - Sewer	\$ 1,573,682	\$ 1,573,682	\$ 1,577,616	\$ 1,581,560	\$ 1,585,514	\$ 1,589,478
Non-Rate Revenues	15,000	15,000	15,038	15,075	15,113	15,151
Interest Earnings ¹	11,500	13,500	9,067	6,458	5,777	6,754
Total Sources of Funds	\$ 1,600,182	\$ 1,602,182	\$ 1,601,720	\$ 1,603,093	\$ 1,606,404	\$ 1,611,382
Uses of Sewer Funds						
Operating Expenses	\$ 1,333,188	\$ 1,501,517	\$ 1,547,435	\$ 1,594,822	\$ 1,643,728	\$ 1,694,204
Existing Debt Service	352,083	352,071	351,853	351,429	351,681	351,681
New Debt Service	-	-	-	-	-	-
Rate Funded Capital Expenses	30,000	106,185	297,052	393,382	534,617	608,619
Total Use of Funds	\$ 1,715,271	\$ 1,959,773	\$ 2,196,340	\$ 2,339,633	\$ 2,530,025	\$ 2,654,503
Surplus (Deficiency) before Rate Increase	\$ (115,089)	\$ (357,591)	\$ (594,620)	\$ (736,540)	\$ (923,621)	\$ (1,043,121)
Additional Revenue from Rate Increases (Sewer) ²	-	236,052	454,353	699,935	976,149	1,286,758
Surplus (Deficiency) after Rate Increase	\$ (115,089)	\$ (121,539)	\$ (140,266)	\$ (36,604)	\$ 52,528	\$ 243,637
Projected Annual Rate Revenue Adjustment - Sewer ²	0.00%	15.00%	12.00%	12.00%	12.00%	12.00%
<i>Cumulative Increases</i>	0.00%	15.00%	27.00%	39.00%	51.00%	63.00%
Net Revenue Requirement ³	\$ 1,688,771	\$ 1,931,273	\$ 2,172,236	\$ 2,318,100	\$ 2,509,136	\$ 2,632,599

1. Revenues and Expenditures budgeted for FY 2020/21-2021/22 found in source file: *Willows_BUDGET-2020-2021-Adopted.pdf, Page 5.1-5.3*

2. The FY 2020/21 rate increase is assumed to be implemented on July 1, 2021, and future increases are implemented July 1 each year.

3. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from rates.

Figure 3 summarizes the projected reserve fund balances and reserve targets for the sewer utility’s unrestricted funds. A more detailed version of the utility’s proposed 5-year financial plan is included in the Appendix. As can be seen in Figure 3, given proposed rate increases, reserves will be below the minimum target at the end of the five-year rate period, but will reach the target by FY 2026/27.

Figure 3. Summary of Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Operating Reserve						
Ending Balance	\$ 333,000	\$ 211,461	\$ 71,195	\$ 34,591	\$ 87,118	\$ 330,755
<i>Target Ending Balance (90-days of O&M Costs)</i>	<i>333,000</i>	<i>375,000</i>	<i>387,000</i>	<i>399,000</i>	<i>411,000</i>	<i>424,000</i>
Sewer Capital Fund						
Ending Balance	\$ 324,315	\$ 276,000	\$ 276,000	\$ 276,000	\$ 276,000	\$ 276,000
<i>Target Ending Balance (3% of Net Capital Assets)</i>	<i>279,000</i>	<i>276,000</i>	<i>276,000</i>	<i>280,000</i>	<i>287,000</i>	<i>297,000</i>
Total Ending Balance	\$ 657,315	\$ 487,461	\$ 347,195	\$ 310,591	\$ 363,118	\$ 606,755
<i>Total Recommended Minimum Target</i>	<i>\$ 612,000</i>	<i>\$ 651,000</i>	<i>\$ 663,000</i>	<i>\$ 679,000</i>	<i>\$ 698,000</i>	<i>\$ 721,000</i>

C. Cost of Service Analysis

Once the net revenue requirements are determined, the cost-of-service analysis proportionately distributes the revenue requirements to each customer class. The cost-of-service analysis consists of two major components: (1) the classification of expenses, and (2) the allocation of costs to customer classes. Costs were classified corresponding to the function they serve. All costs in the City’s budget are allocated to each component of the rate structure in proportion to the level of service required by customers. The levels of service are related to volume and strength of wastewater treated, infrastructure capacity, and customer service. These are based on allocation factors, such as water consumption and number of accounts by customer class. Ultimately, a cost-of-service analysis is intended to result in rates that are proportional to the cost of providing service to each customer class.

CLASSIFICATION OF COSTS

Most costs are not typically allocated 100 percent to fixed or variable categories and, therefore, are allocated to multiple functions of wastewater service. Budgeted costs were classified into three categories: flow (collection) costs, strength costs (for BOD and TSS) and customer costs. The classification process provides the basis for allocating costs to various customer classes based on the cost causation (classification) components described below:

- **Flow (Volumetric) related costs** are costs associated with collection and transportation of wastewater to the treatment facility.
- **Strength related costs** are the costs associated with treatment of the wastewater. This specifically allocates costs related to treating both biochemical oxygen demand (BOD) and total suspended solids (TSS).
- **Customer related costs** are associated with having customers connected to the City’s wastewater system, such as customer service, postage, billing, customer outreach and other administrative duties.

The City’s budgeted costs were reviewed and allocated to these cost causation components which are used as the basis for establishing new wastewater rates and translate to fixed and variable charges. Tables in the

Appendix show how the City’s expenses were classified and allocated to these cost causation components in detail.

The City’s current rate structure collects 100 percent of the revenue from residential customers from fixed monthly charges. The commercial customers collect a fixed charge as well as a variable charge per hcf of average water consumed during winter months (when water usage is at the lowest).

Figure 4 summarizes the allocation of the net revenue requirements to each cost causation component for the proposed new rates. More detail on the development of the allocation factors that resulted in this summary will be covered in the following section.

Figure 4. Allocation of Revenue Requirements by Customer Class

Customer Class	Cost Classification Components				Cost-of-Service Net Revenue	% of COS Net Revenue
	Volume	Treatment		Customer Related		
		BOD	TSS			
Net Revenue Requirements ¹	\$ 811,962	\$ 324,785	\$ 324,785	\$ 305,399	\$ 1,766,930	--
	46.0%	18.4%	18.4%	17.3%	100.0%	
Residential Metered	\$455,051	\$ 178,707	\$ 183,738	\$ 179,180	\$ 996,676	56.4%
Multiple Residential Metered	\$ 92,068	\$ 36,157	\$ 37,175	\$ 73,260	\$ 238,659	13.5%
Business Metered	\$113,676	\$ 44,643	\$ 45,899	\$ 23,616	\$ 227,834	12.9%
Car Wash	\$ 5,315	\$ 167	\$ 1,288	\$ 201	\$ 6,971	0.4%
Hospitals & Rest Homes	\$ 13,712	\$ 5,385	\$ 2,215	\$ 301	\$ 21,613	1.2%
Laundromat	\$ 2,029	\$ 478	\$ 360	\$ 100	\$ 2,967	0.2%
Markets & Morgues	\$ 5,405	\$ 6,793	\$ 4,801	\$ 301	\$ 17,301	1.0%
Motels & Hotels	\$ 11,401	\$ 5,552	\$ 2,210	\$ 301	\$ 19,464	1.1%
Restaurants & Bakeries	\$ 2,786	\$ 3,501	\$ 2,475	\$ 804	\$ 9,566	0.5%
Public Authority Metered	\$ 43,986	\$ 17,274	\$ 17,760	\$ 4,723	\$ 83,744	4.7%
North Willows						
Residential Metered	\$ 64,285	\$ 25,246	\$ 25,956	\$ 22,109	\$ 137,595	7.8%
Business Metered	\$ 822	\$ 323	\$ 332	\$ 301	\$ 1,778	0.1%
Public Authority Metered	\$ 1,425	\$ 560	\$ 575	\$ 201	\$ 2,761	0.2%
Total	\$811,962	\$ 324,785	\$ 324,785	\$ 305,399	\$ 1,766,930	100%

1. Revenue requirement for each customer class is determined by multiplying the revenue requirement from each cost classification by the allocation factors for each customer class.

CUSTOMER CLASSES

Customer classes are determined by combining customers with similar demand characteristics and types of use into categories that reflect the cost differentials to serve each type of customer. This process is limited by the desire to not overcomplicate the City’s rate structure. For the City, the customer classes are split between single family residential (SFR), multi-family residential (MFR), business, public authority customers and the customers located within North Willows boundaries.

As shown in **Figure 5**, the development of the volumetric (or flow) allocation factor was calculated by taking the lowest consecutive 3-month water usage from January through March 2020 and annualizing the usage per customer class.

Figure 5. Development of the Volume Allocation Factor

Customer Class	Number of Units ¹	Annual Volume (hcf)	Average Winter Monthly Consumption ² (hcf)	Annualized Winter Avg. Based Volume (hcf)	Percentage of Adjusted Volume
Residential Metered	1,783	294,724	11,814	141,772	56.0%
Multiple Residential Metered	729	38,341	2,390	28,684	11.3%
Business Metered	235	59,986	2,951	35,416	14.0%
Car Wash	2	2,493	138	1,656	0.7%
Hospitals & Rest Homes	3	6,611	356	4,272	1.7%
Laundromat	1	1,035	53	632	0.2%
Markets & Morgues	3	2,016	140	1,684	0.7%
Motels & Hotels	3	4,900	296	3,552	1.4%
Restaurants & Bakeries	8	1,508	72	868	0.3%
Public Authority Metered	47	26,657	1,142	13,704	5.4%
North Willows					
Residential Metered	220	32,810	1,669	20,028	7.9%
Business Metered	3	453	21	256	0.1%
Public Authority Metered	2	727	37	444	0.2%
Total	3,039	472,261	21,081	252,968	100.0%

1. Number of accounts, units & Consumption from 2020 in source file: *Manipulated_Sewer-Complete Customer List by APN 2019.xlsx*
2. Includes months of January through March 2020.

Figure 6 shows the development of the strength allocation factors by customer class. The typical strength factors for biochemical oxygen demand (BOD) and total suspended solids (TSS) are derived from recommended strength factors from the State Water Resources Control Board Revenue Program Guidelines, Appendix G.

Figure 6. Development of the Strength Allocation Factor

Customer Class	Annualized Winter Flow (hcf)	Biochemical Oxygen Demand (BOD)				Total Suspended Solids (TSS)			
		Average Strength Factor (mg/l)	Calculated BOD (lbs./yr.)	Adjusted BOD (lbs./yr.)	Percent of Total	Average Strength Factor (mg/l)	Calculated TSS (lbs./yr.)	Adjusted TSS (lbs./yr.)	Percent of Total
Residential Metered	141,772	250	221,105	313,101	55.0%	250	221,105	208,140	56.6%
Multiple Residential Metered	28,684	250	44,735	63,348	11.1%	250	44,735	42,112	11.4%
Business Metered	35,416	250	55,234	78,216	13.7%	250	55,234	51,995	14.1%
Car Wash	1,656	20	207	293	0.1%	150	1,550	1,459	0.4%
Hospitals & Rest Homes	4,272	250	6,663	9,435	1.7%	100	2,665	2,509	0.7%
Laundromat	632	150	591	837	0.1%	110	434	408	0.1%
Markets & Morgues	1,684	800	8,404	11,901	2.1%	550	5,778	5,439	1.5%
Motels & Hotels	3,552	310	6,869	9,727	1.7%	120	2,659	2,503	0.7%
Restaurants & Bakeries	868	800	4,332	6,134	1.1%	550	2,978	2,804	0.8%
Public Authority Metered	13,704	250	21,372	30,265	5.3%	250	21,372	20,119	5.5%
North Willows									
Residential Metered	20,028	250	31,235	44,232	7.8%	250	31,235	29,404	8.0%
Business Metered	256	250	399	565	0.1%	250	399	376	0.1%
Public Authority Metered	444	250	692	981	0.2%	250	692	652	0.2%
Total	252,968		401,839	569,035	100%		390,837	367,920	100%
		<i>Target, from WWTP Data</i>		<i>569,035 BOD (lbs./yr.)</i>				<i>367,920 TSS (lbs./yr.)</i>	
				<i>1.42 BOD Adj. Factor</i>				<i>0.94 TSS Adj. Factor</i>	

Figure 7 summarizes the development of the customer allocation factor. The number of accounts are shown in this figure, and the percentage of the number of accounts are used in the rate calculation.

Figure 7. Development of the Customer Allocation Factor

Customer Class	Number of Accounts ¹	Percentage of Accounts
Residential Metered	1,783	58.7%
Multiple Residential Metered	729	24.0%
Business Metered	235	7.7%
Car Wash	2	0.1%
Hospitals & Rest Homes	3	0.1%
Laundromat	1	0.0%
Markets & Morgues	3	0.1%
Motels & Hotels	3	0.1%
Restaurants & Bakeries	8	0.3%
Public Authority Metered	47	1.5%
<u>North Willows</u>		
Residential Metered	220	7.2%
Business Metered	3	0.1%
Public Authority Metered	2	0.1%
Total	3,039	100.0%

1. Number of accounts 2020 in source file: *Manipulated_Sewer-Complete Customer List by APN 2019.xlsx*

D. Rate Design Analysis

The process of evaluating the wastewater rate structure provides the opportunity to incorporate a number of rate-design objectives and policies, including revenue stability, equity among customer classes, and water conservation. The following sections describe this process in which the proposed rates were developed.

FIXED CHARGES

The fixed charge recognizes that the wastewater utility incurs fixed costs regardless of whether customers send any wastewater into the City’s collection system. There are two factors used to develop the fixed charge: the number of accounts and the annual revenue requirement. The monthly fixed charge for all customers is calculated by simply dividing the net revenue requirement by the number of accounts and the number of billing periods per year. The commercial customers are designed to collect 45 percent of the fixed charge revenue requirement. The fixed charges for each customer class are shown in **Figure 8**.

VARIABLE CHARGES

The variable charges for commercial customers, on the other hand, are calculated by taking the additional 55 percent portion of the revenue requirement for non-residential customers divided by the estimated annual sewage volume produced. This sewage volume is the adjusted annualized winter water consumption shown in **Figure 5**. The volumetric charges for each customer class are summarized in the rate design table shown in **Figure 8**. It is notable to mention that multi-family residential customers are calculated based on number of dwelling units.

Figure 8. Development of Fixed and Variable Charges

Customer Class	No. of Accounts	Annualized Winter Consumption (hcf) ¹	Annual Rev. Req't			Monthly Fixed Charge Per HEU	Volumetric Charge Per hcf
			Total	Fixed	Volumetric		
Residential Metered	1,783	141,772	\$996,676	\$996,676	N/A	\$47.19	
Multiple Residential Metered	729	28,684	\$238,659	\$238,659	N/A	\$27.28	
Business Metered	235	35,416	\$227,834	\$102,525	\$125,309	\$55.69	\$3.49
Car Wash	2	1,656	\$6,971	\$3,137	\$3,834	\$55.69	\$2.32
Hospitals & Rest Homes	3	4,272	\$21,613	\$9,726	\$11,887	\$55.69	\$2.78
Laundromat	1	632	\$2,967	\$1,335	\$1,632	\$55.69	\$2.58
Markets & Morgues	3	1,684	\$17,301	\$7,785	\$9,515	\$55.69	\$5.65
Motels & Hotels	3	3,552	\$19,464	\$8,759	\$10,705	\$55.69	\$3.01
Restaurants & Bakeries	8	868	\$9,566	\$4,305	\$5,261	\$55.69	\$6.06
Public Authority Metered	47	13,704	\$83,744	\$37,685	\$46,059	\$55.69	\$3.49
North Willows							
Residential Metered	220	20,028	\$137,595	\$137,595	N/A	\$47.19	
Business Metered	3	256	\$1,778	\$800	\$978	\$55.69	\$3.49
Public Authority Metered	2	444	\$2,761	\$1,243	\$1,519	\$55.69	\$3.49
Total	3,039	252,968	\$1,766,930	\$1,550,230	\$216,700	--	--
<i>Percent of Revenue from Fixed vs. Volumetric Charges</i>			<i>100.0%</i>	<i>87.74%</i>	<i>12.26%</i>		

1. Annualized winter months of January - March 2020.

E. Current and Proposed Wastewater Rates

Figure 9 provides a comparison of the current and proposed wastewater rates through FY 2025/26.

Figure 9. Proposed Wastewater Rates

Sewer Rate Schedule	Current Rates ('20/21)	Proposed Sewer Rates ¹				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Fixed Service Charge						
Single Family Residential	\$40.19	\$47.19	\$52.85	\$59.19	\$66.29	\$74.24
Multi-Family Residential (per unit)	\$40.19	\$27.28	\$30.55	\$34.22	\$38.33	\$42.93
Commercial	\$40.19	\$55.69	\$62.37	\$69.85	\$78.23	\$87.62
Volumetric Charge (\$/hcf)						
<i>Commercial (Applied to Average Winter Water Use)</i>						
Car Wash	\$3.05	\$2.32	\$2.60	\$2.91	\$3.26	\$3.65
Hospital & Rest Home	\$3.17	\$2.78	\$3.11	\$3.48	\$3.90	\$4.37
Jail	\$3.54	\$3.49	\$3.91	\$4.38	\$4.91	\$5.50
Laundry	\$3.42	\$2.58	\$2.89	\$3.24	\$3.63	\$4.07
Market & Morgue	\$3.94	\$5.65	\$6.33	\$7.09	\$7.94	\$8.89
Motel & Hotel	\$3.22	\$3.01	\$3.37	\$3.77	\$4.22	\$4.73
Restaurant & Bakery	\$4.18	\$6.06	\$6.79	\$7.60	\$8.51	\$9.53
Other Commercial	\$3.01	\$3.49	\$3.91	\$4.38	\$4.91	\$5.50

1. Implementation date for FY 2021/22 rates is July 1, 2021, then July in 2022 through 2025.

F. Comparison of Current and Proposed Wastewater Bills

Figure 10 and Figure 11 compare monthly wastewater bills for the current and proposed wastewater rates as a result of the planned rate adjustment for single-family residential customers and non-single family residential customers.

Figure 10. Monthly Wastewater Bill Comparison for Single Family Customers

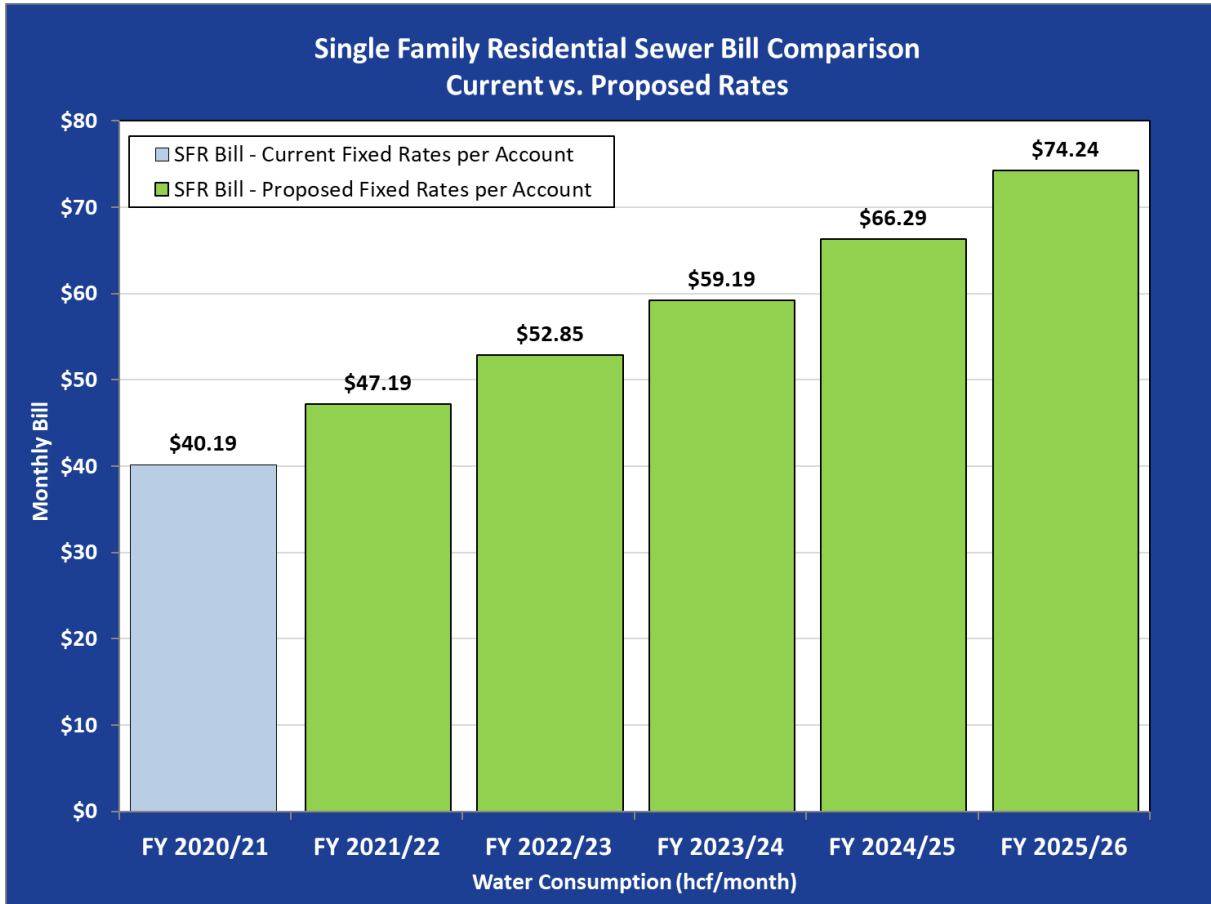
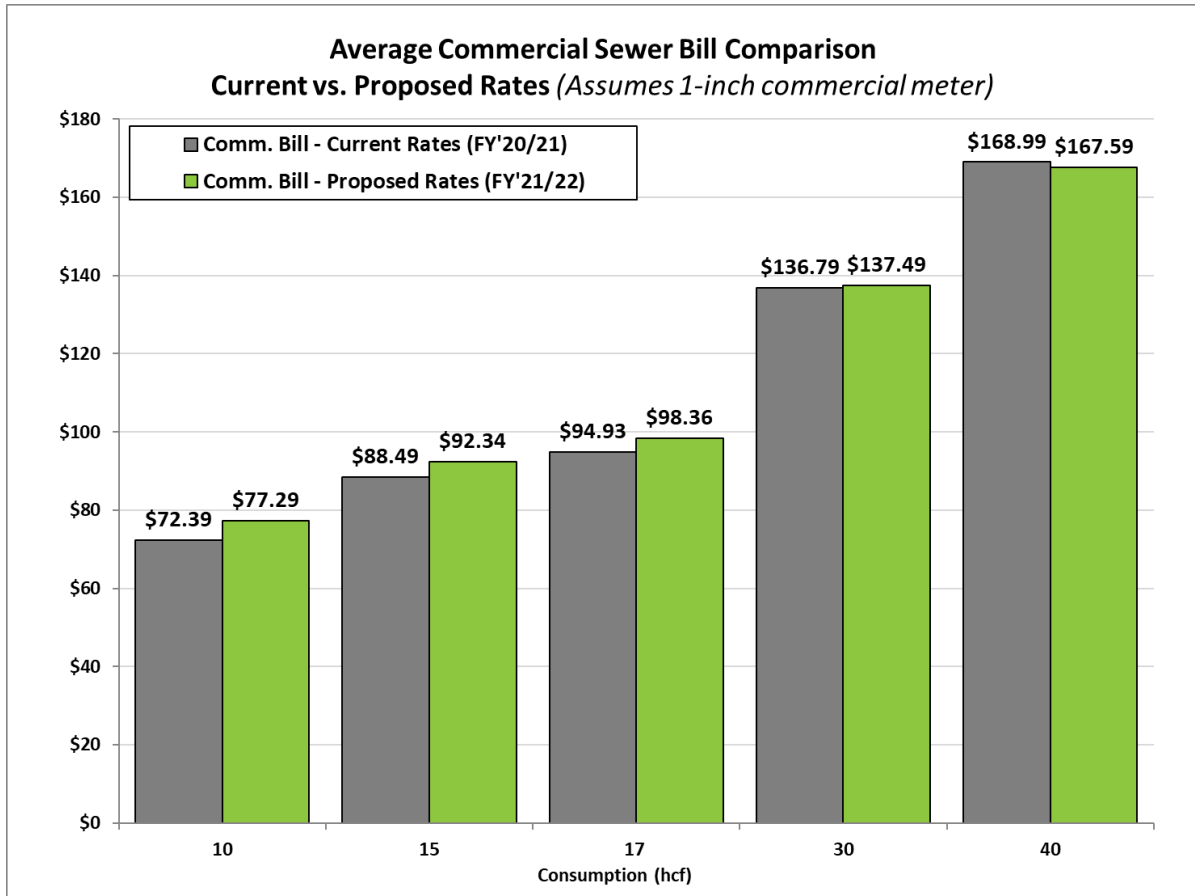


Figure 11. Monthly Wastewater Bill Comparison for Commercial Customers at Various Consumptions



SECTION 3. RECOMMENDATIONS AND NEXT STEPS

A. Consultant Recommendations

NBS recommends the City take the following actions:

Approve and accept this Study: NBS recommends the City Council formally approve and adopt this Study and its recommendations and proceed with the steps required to implement the proposed rates to maintain current level of service and achieve the City’s strategic goals. This report will provide documentation of the rate study analyses and the basis for analyzing potential changes to future rates.

Implement Recommended Levels of Rate Adjustments and Proposed Rates: Based on successfully meeting the Proposition 218 procedural requirements, the City Council should proceed with implementing the 5-year schedule of proposed rates and rate adjustments previously shown in **Figure 9**. This will help ensure the continued financial health of the City’s wastewater utility.

B. Next Steps

Annually Review Rates and Revenue – Any time an agency adopts new utility rates or rate structures, those new rates should be closely monitored over the next several years to ensure the revenue generated is sufficient to meet the annual revenue requirements. Changing economic and water consumption patterns underscore the need for this review, as well as potential and unseen changing revenue requirements—particularly those related to environmental regulations that can significantly affect capital improvements and repair and replacement costs.

Note: The attached Appendix provide more detailed information on the analysis of the wastewater revenue requirements, cost-of-service analysis and cost allocations, and the rate design analyses that have been summarized in this report.

C. NBS’ Principal Assumptions and Considerations

In preparing this report and the opinions and recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, conditions, and events that may occur in the future. This information and these assumptions, including City’s budgets, capital improvement costs, customer consumption and billing revenue and information from City staff were provided by sources we believe to be reliable, although NBS has not independently verified this data.

While we believe NBS’ use of such information and assumptions is reasonable for the purpose of this report and its recommendations, some assumptions will invariably not materialize as stated herein and may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.

Appendix: Detailed Wastewater Study Tables and Figures

CITY OF WILLOWS
SEWER RATE STUDY
Financial Plan and Reserve Projections

Financial Plan & Reserve Summary

TABLE 1 : FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Budgeted ¹	Budgeted ¹	Projected			
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Sewer Funds						
<i>Sewer Rate Revenue:</i>						
Sewer Rate Revenue Under Current Rates	\$ 1,573,682	\$ 1,573,682	\$ 1,577,616	\$ 1,581,560	\$ 1,585,514	\$ 1,589,478
Revenue from Rate Increases	-	236,052	454,353	699,935	976,149	1,286,758
Subtotal: Rate Revenue After Rate Increases - Sewer	\$ 1,573,682	\$ 1,809,734	\$ 2,031,970	\$ 2,281,496	\$ 2,561,663	\$ 2,876,235
<i>Non-Rate Revenue:</i>						
Sewer Connection Fee Revenue	\$ 15,000	\$ 15,000	\$ 15,038	\$ 15,075	\$ 15,113	\$ 15,151
Interest Income ²	11,500	13,500	9,067	6,458	5,777	6,754
Subtotal: Non-Rate Revenue	\$ 26,500	\$ 28,500	\$ 24,104	\$ 21,533	\$ 20,890	\$ 21,905
Total Sources of Funds	\$ 1,600,182	\$ 1,838,234	\$ 2,056,074	\$ 2,303,028	\$ 2,582,553	\$ 2,898,140
Uses of Sewer Funds						
<i>Operating Expenses:</i>						
Salaries & Benefits Expenses	\$ 315,077	\$ 331,933	\$ 343,588	\$ 355,660	\$ 368,165	\$ 381,119
Other Operating Expenses	1,018,111	1,169,584	1,203,847	1,239,162	1,275,563	1,313,085
Subtotal: Operating Expenses:	\$ 1,333,188	\$ 1,501,517	\$ 1,547,435	\$ 1,594,822	\$ 1,643,728	\$ 1,694,204
<i>Other Expenditures:</i>						
Current Debt Service	\$ 352,083	\$ 352,071	\$ 351,853	\$ 351,429	\$ 351,681	\$ 351,681
New Debt Service	-	-	-	-	-	-
Rate-Funded Capital Expenses	30,000	106,185	297,052	393,382	534,617	608,619
Subtotal: Other Expenditures	\$ 382,083	\$ 458,256	\$ 648,905	\$ 744,811	\$ 886,297	\$ 960,300
Total Uses of Funds	\$ 1,715,271	\$ 1,959,773	\$ 2,196,340	\$ 2,339,633	\$ 2,530,025	\$ 2,654,503
Annual Surplus/(Deficit)	\$ (115,089)	\$ (121,539)	\$ (140,266)	\$ (36,604)	\$ 52,528	\$ 243,637
Net Revenue Req't. (Total Uses less Non-Rate Revenue)	\$ 1,688,771	\$ 1,931,273	\$ 2,172,236	\$ 2,318,100	\$ 2,509,136	\$ 2,632,599
Projected Annual % Rate Increases	0.00%	15.00%	12.00%	12.00%	12.00%	12.00%
<i>Cumulative Increase from Annual Revenue Increases</i>	0.00%	15.00%	27.00%	39.00%	51.00%	63.00%

1. Revenues and Expenditures budgeted for FY 2020/21-2021/22 found in source file: *Willows_BUDGET-2020-2021-Adopted.pdf, Page 5.1-5.3*

2. Calculated interest in FY 2022/23 and after.

TABLE 2 : SEWER RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY UN-RESTRICTED RESERVES	Budgeted ²	Budgeted ²	Projected			
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Total Beginning Unrestricted Cash	\$ 772,404	\$ 657,315				
Sewer Maintenance						
Beginning Reserve Balance ¹	\$ 496,873	\$ 333,000	\$ 211,461	\$ 71,195	\$ 34,591	\$ 87,118
Plus: Net Cash Flow (After Rate Increases)	(115,089)	(121,539)	(140,266)	(36,604)	52,528	243,637
Plus: Transfer In of Debt Reserve Surplus	-	-	-	-	-	-
Less: Transfer Out to Capital Facilities Reserve	(48,784)	-	-	-	-	-
Ending Operating Reserve Balance	\$ 333,000	\$ 211,461	\$ 71,195	\$ 34,591	\$ 87,118	\$ 330,755
Target Ending Balance (90-days of O&M Costs) ²	\$ 333,000	\$ 375,000	\$ 387,000	\$ 399,000	\$ 411,000	\$ 424,000
Sewer Construction						
Beginning Reserve Balance ¹	\$ 275,531	\$ 324,315	\$ 276,000	\$ 276,000	\$ 276,000	\$ 276,000
Plus: Transfer In of Operating Reserve Surplus	48,784	-	-	-	-	-
Less: Use of Reserves for Capital Projects	-	(48,315)	-	-	-	-
Ending Capital Facilities Reserve Balance	\$ 324,315	\$ 276,000	\$ 276,000	\$ 276,000	\$ 276,000	\$ 276,000
Target Capital Facilities Reserve (3% of Assets) ³	\$ 279,000	\$ 276,000	\$ 276,000	\$ 280,000	\$ 287,000	\$ 297,000
Ending Balance	\$ 657,315	\$ 487,461	\$ 347,195	\$ 310,591	\$ 363,118	\$ 606,755
Minimum Target Ending Balance	\$ 612,000	\$ 651,000	\$ 663,000	\$ 679,000	\$ 698,000	\$ 721,000
Ending Surplus/(Deficit) Compared to Reserve Targets	\$ 45,315	\$ (163,539)	\$ (315,805)	\$ (368,409)	\$ (334,882)	\$ (114,245)
Annual Interest Earnings Rate ⁴	0.00%	0.00%	1.86%	1.86%	1.86%	1.86%

- Ending Wastewater fund balances from, *CAFR_Financial-Statements-6-30-2020.pdf, page 18 for total sewer funds.*
- NBS is proposing a target reserve level of 90-days of O&M expenses for the sewer maintenance fund.
- Assets used for target reserve calculation from City's CAFR: *CAFR_Financial-Statements-6-30-2020.pdf, Page 18 for total sewer funds, noncurrent assets.*
- City's actual or budgeted interest earnings are used in analysis for unrestricted reserves in FY 2020/21-2021/22. For 2022/23 and beyond, interest earning rates are estimated at the 3-year average (FY '17/18 - '19/20) for funds invested in LAIF, per the California Treasurer's Office website, for the restricted reserves.
Source: <https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp>.

CHART 1

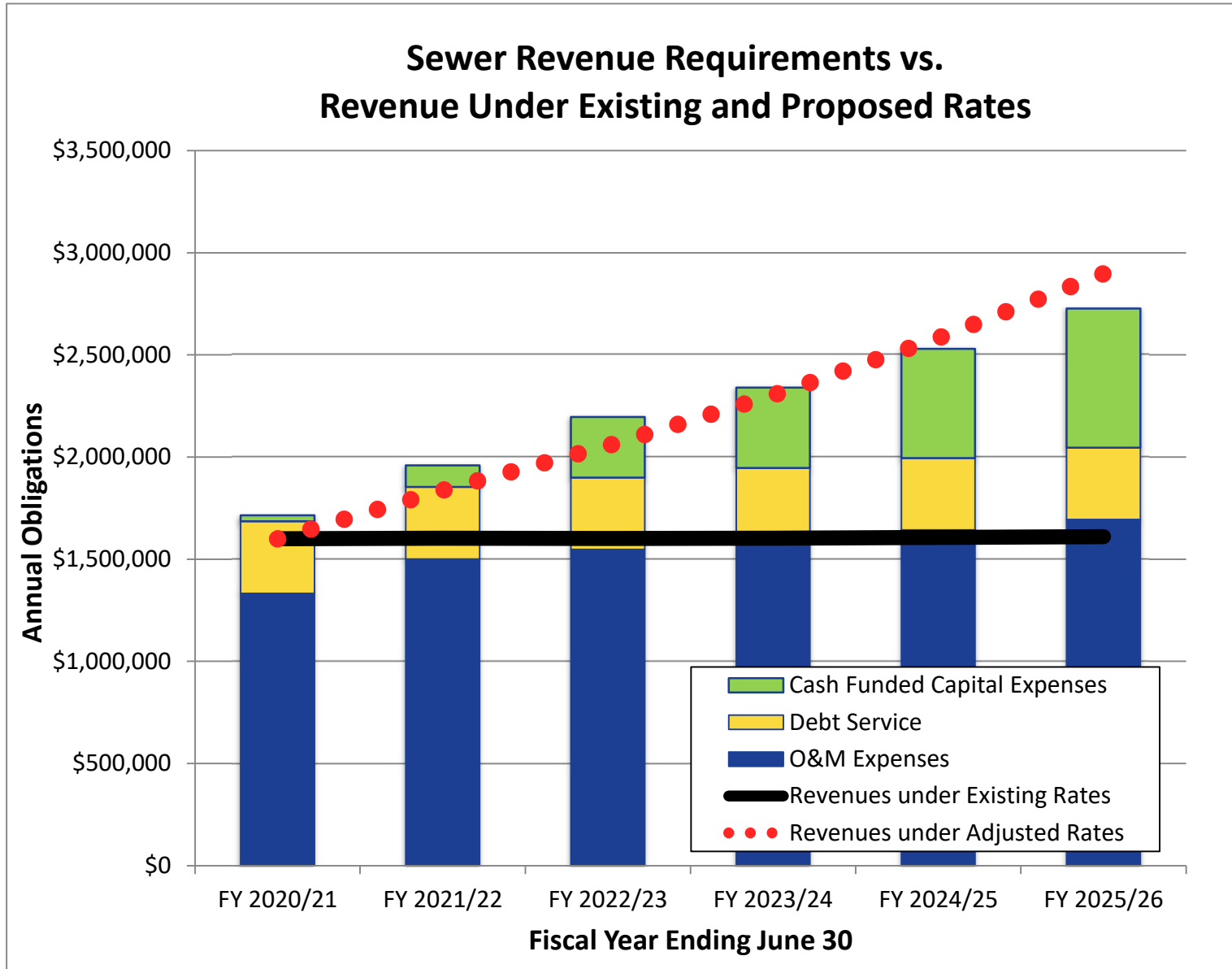


CHART 2

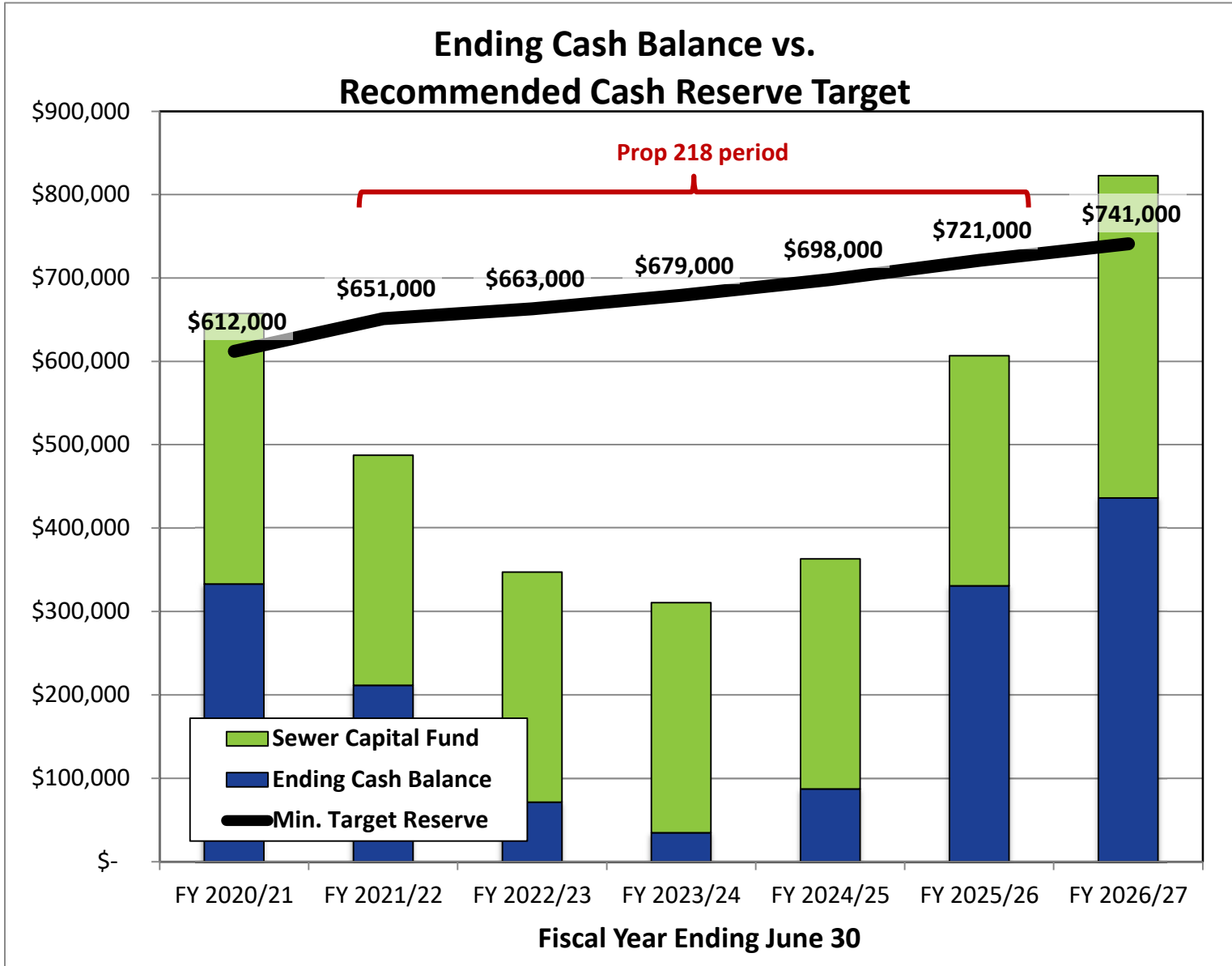
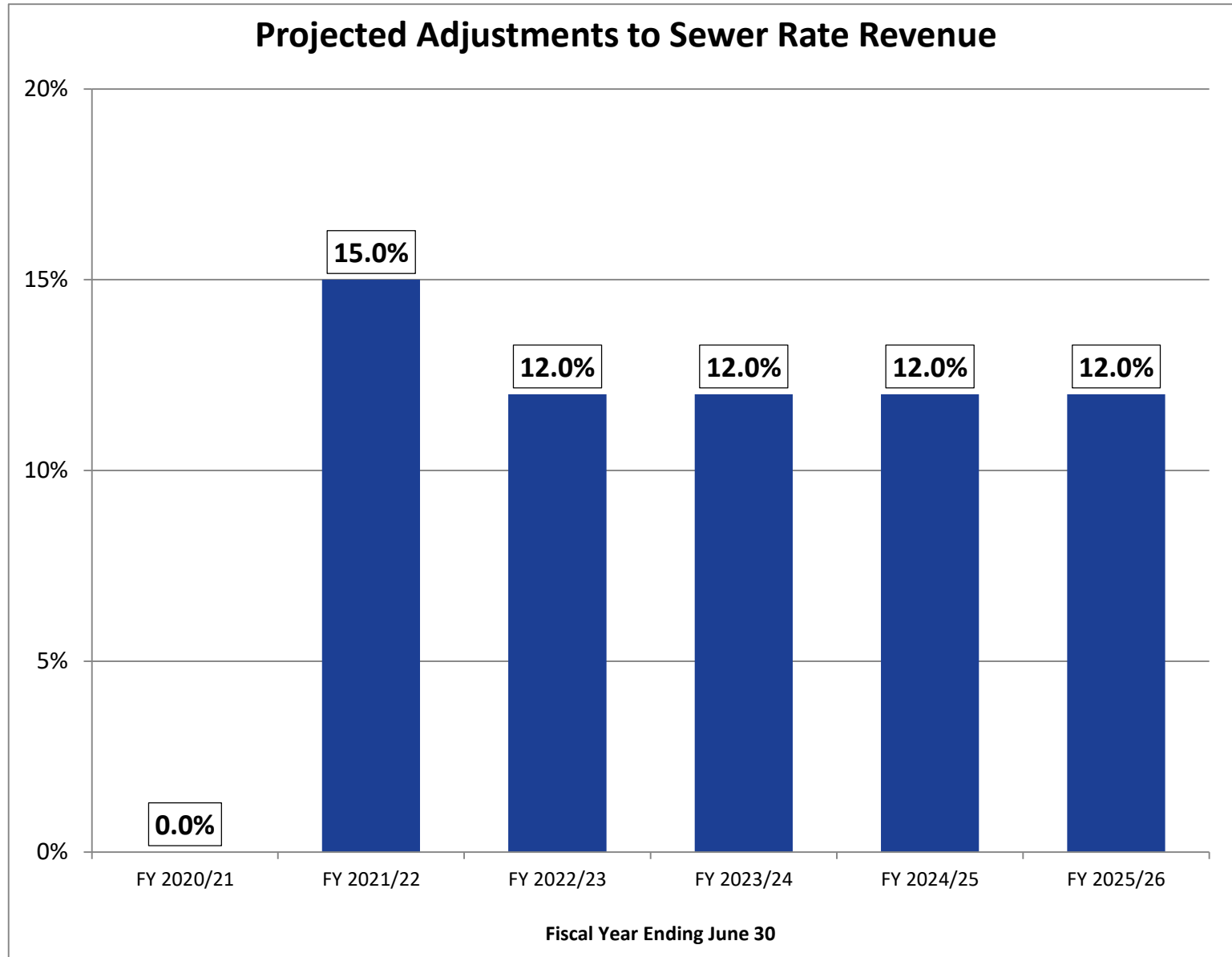


CHART 3



CITY OF WILLOWS
SEWER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 3 : REVENUE FORECAST ¹

SOURCES OF REVENUE	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
SEWER SERVICE REVENUE							
Residential	1	\$ 1,175,787	\$ 1,175,787	\$ 1,178,726	\$ 1,181,673	\$ 1,184,627	\$ 1,187,589
Commercial	1	260,000	260,000	260,650	261,302	261,955	262,610
NE Willows CSD	1	137,895	137,895	138,240	138,585	138,932	139,279
Interest Income ²	See FP	10,000	10,000	-	-	-	-
<i>Subtotal: Sewer Service Revenue</i>		\$ 1,583,682	\$ 1,583,682	\$ 1,577,616	\$ 1,581,560	\$ 1,585,514	\$ 1,589,478
SEWER CONNECTION REVENUE							
Connection Fee Revenue	1	\$ 15,000	\$ 15,000	\$ 15,038	\$ 15,075	\$ 15,113	\$ 15,151
Interest Income ²	See FP	1,500	3,500	-	-	-	-
<i>Subtotal: Non-Operating Revenue</i>		\$ 16,500	\$ 18,500	\$ 15,038	\$ 15,075	\$ 15,113	\$ 15,151
TOTAL: SEWER REVENUE		\$ 1,600,182	\$ 1,602,182	\$ 1,592,654	\$ 1,596,635	\$ 1,600,627	\$ 1,604,628

TABLE 4 : SUMMARY OF REVENUES

REVENUE SUMMARY		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 19/20	FY 2025/26
RATE REVENUE							
Sewer Rate Revenue		\$ 1,573,682	\$ 1,573,682	\$ 1,577,616	\$ 1,581,560	\$ 1,585,514	\$ 1,589,478
OTHER REVENUE:							
Sewer Connection Fee Revenue		15,000	15,000	15,038	15,075	15,113	15,151
Interest Income ²		11,500	13,500	-	-	-	-
TOTAL: SEWER REVENUE		\$ 1,600,182	\$ 1,602,182	\$ 1,592,654	\$ 1,596,635	\$ 1,600,627	\$ 1,604,628

CITY OF WILLOWS
SEWER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 5 : OPERATING EXPENSE FORECAST ^{1,3}

EXPENSES	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 19/20	FY 2025/26
SEWER MAINTENANCE PERSONNEL							
318.4001 Salaries	3	\$ 138,643	\$ 144,184	\$ 148,510	\$ 152,965	\$ 157,554	\$ 162,280
318.4002 Overtime	3	8,000	8,000	8,240	8,487	8,742	9,004
318.4006 PERS	5	77,067	84,294	87,666	91,172	94,819	98,612
318.4007 Health Insurance	4	70,353	73,490	76,430	79,487	82,666	85,973
318.4008 FICA	5	11,218	11,642	12,108	12,592	13,096	13,619
318.4009 Workers Compensation	3	9,210	9,671	9,961	10,260	10,568	10,885
318.4013 Unemployment	3	400	400	412	424	437	450
318.4014 Life Insurance	4	186	252	262	273	283	295
<i>Subtotal: Sewer Maintenance Personnel</i>		<i>\$ 315,077</i>	<i>\$ 331,933</i>	<i>\$ 343,588</i>	<i>\$ 355,660</i>	<i>\$ 368,165</i>	<i>\$ 381,119</i>
SEWER MAINTENANCE OPERATIONS							
318.4020 Office Expense	2	\$ 600	\$ 618	\$ 637	\$ 656	\$ 675	\$ 696
318.4030 Special Departmental	2	4,500	4,635	4,774	4,917	5,065	5,217
318.4040 Small to OLS	2	600	618	637	656	675	696
318.4050 Uniform Expense	2	2,800	2,884	2,971	3,060	3,151	3,246
318.4071 Telephone	2	950	979	1,008	1,039	1,070	1,102
318.4080 PG&E	8	180,000	182,500	186,150	189,873	193,670	197,544
318.4081 Water and Sewer	2	2,600	2,600	2,678	2,758	2,841	2,926
318.4100 Building Maintenance	2	2,500	2,575	2,652	2,732	2,814	2,898
318.4111 Vehicle Maintenance	2	20,000	20,600	21,218	21,855	22,510	23,185
318.4112 Vehicle Tires	2	2,000	2,060	2,122	2,185	2,251	2,319
318.4113 Vehicle Fuel	2	7,000	7,000	7,210	7,426	7,649	7,879
318.4115 Equipment Maintenance	2	21,000	21,630	22,279	22,947	23,636	24,345
318.4120 Professional Services	2	35,000	35,000	36,050	37,132	38,245	39,393
318.4130 Contractual Services	2	654,000	673,620	693,829	714,643	736,083	758,165
318.4140 Insurance	6	31,771	33,360	35,362	37,483	39,732	42,116
318.4150 Travel and Meetings	2	300	309	318	328	338	348
318.4160 Dues and Memberships	2	2,000	2,060	2,122	2,185	2,251	2,319
318.4170 Training	2	300	309	318	328	338	348
318.5132 First Aid and Safety	2	250	258	266	274	282	290
318.5631 Discharge Permit	2	10,500	10,815	11,139	11,474	11,818	12,172
318.5632 General Administration	2	39,440	165,154	170,109	175,212	180,468	185,882
<i>Subtotal: Sewer Maintenance Operations</i>		<i>\$ 1,018,111</i>	<i>\$ 1,169,584</i>	<i>\$ 1,203,847</i>	<i>\$ 1,239,162</i>	<i>\$ 1,275,563</i>	<i>\$ 1,313,085</i>
TOTAL: SEWER EXPENSES		\$ 1,333,188	\$ 1,501,517	\$ 1,547,435	\$ 1,594,822	\$ 1,643,728	\$ 1,694,204

**CITY OF WILLOWS
SEWER RATE STUDY
Operating Revenue and Expenses**

EXHIBIT 1

TABLE 6 : FORECASTING ASSUMPTIONS ⁴

INFLATION FACTORS	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 19/20	FY 2025/26
Customer Growth	1	--	0.25%	0.25%	0.25%	0.25%	0.25%
General Cost Inflation	2	--	3.00%	3.00%	3.00%	3.00%	3.00%
Labor Cost Inflation	3	--	3.00%	3.00%	3.00%	3.00%	3.00%
Health Benefits Cost Inflation	4	--	4.00%	4.00%	4.00%	4.00%	4.00%
Retirement Benefits Cost Inflation	5	--	4.00%	4.00%	4.00%	4.00%	4.00%
Insurance	6	--	6.00%	6.00%	6.00%	6.00%	6.00%
Chemicals	7	--	2.00%	2.00%	2.00%	2.00%	2.00%
Energy	8	--	2.00%	2.00%	2.00%	2.00%	2.00%
No Escalation	9	--	0.00%	0.00%	0.00%	0.00%	0.00%

1. Revenues and Expenditures budgeted for FY 2020/21-2021/22 found in source file: *Willows_BUDGET-2020-2021-Adopted.pdf*, Page 5.1-5.3
2. Interest income is calculated in the Financial Plan and excluded from this table.
3. Inflationary factors are applied to these expenses to project costs in 2021/22 and beyond.
4. Inflationary factors estimated by NBS based on ENR annual averages for the region.

CITY OF WILLOWS
SEWER RATE STUDY
Capital Improvement Plan Expenditures

EXHIBIT 2

TABLE 7 : CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST						
Funding Sources:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
FEMA/CalOES Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Use of Connection Fee Reserves	-	-	-	-	-	-
Use of SFR Proceeds	-	-	-	-	-	-
Use of New Revenue Bond Proceeds	-	-	-	-	-	-
Use of Capital Rehabilitation and Replacement Reserve	-	48,315	-	-	-	-
Rate Revenue	30,000	106,185	297,052	393,382	534,617	608,619
Total Sources of Capital Funds	\$ 30,000	\$ 154,500	\$ 297,052	\$ 393,382	\$ 534,617	\$ 608,619
Uses of Capital Funds:						
Total Project Costs	\$ 30,000	\$ 154,500	\$ 297,052	\$ 393,382	\$ 534,617	\$ 608,619
Capital Funding Surplus (Deficiency)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SFR revenue Bonds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
New Revenue Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

CAPITAL IMPROVEMENT PROGRAM

TABLE 8 : Capital Improvement Program Costs (in Current-Year Dollars)¹

Project Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
321.7210 Sewer Line Replacement	\$ 30,000	\$ -	\$ -	\$ -	\$ -	\$ -
318 Sycamore Street Lift Station Rehabilitation	-	50,000	-	-	-	-
318 Pacific Avenue Lift Station Rehabilitation	-	-	50,000	-	-	-
318 Lassen Street Lift Station Rehabilitation	-	-	-	50,000	-	-
318 Road 57 Lift Station Rehabilitation	-	-	-	-	-	50,000
318 6" sewer in alley between Plumas & Shasta, Laurel to Wood	-	-	-	-	200,000	400,000
318 6" sewer in alley between Shasta & Butte, Laurel to Wood	-	-	-	250,000	200,000	-
318 6" sewer in alley between Butte & Tehama, Wood to Vine	-	-	150,000	-	-	-
318 8" sewer in Yolo Street, Ash to Wood	-	-	-	-	-	-
318 6" sewer in Sacramento Street, Central Canal to Wood	-	-	-	-	-	-
318 Install covers over clarifier launders	-	100,000	-	-	-	-
318 Repair cracks in chlorine contact chambers	-	-	50,000	-	-	-
318 Underground sodium bisulfite (SBS) carrier lines	-	-	-	60,000	-	-
318 Construct SBS injection system housing structure	-	-	-	-	75,000	-
318 Construct sodium hypochlorite system housing structure	-	-	-	-	-	75,000
318 Misc. site safety improvements	-	-	30,000	-	-	-
318 Construct new Administration Building	-	-	-	-	-	-
Future Projects²	-	-	-	-	-	-
Total: CIP Program Costs (Current-Year Dollars)	\$ 30,000	\$ 150,000	\$ 280,000	\$ 360,000	\$ 475,000	\$ 525,000

1. Capital outlay for sewer maintenance found in source files: *Willows_BUDGET-2020-2021-Adopted.pdf*, PG 5.4, & *Draft Wastewater CIP Program 2021-03-17.xlsx*

2. Future projects are the average of FY 20/21-21/22.

Capital Improvement Plan Expenditures

TABLE 9 : Capital Improvement Program Costs (in Future-Year Dollars)

Project Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
321.7210 Sewer Line Replacement	\$ 30,000	\$ -	\$ -	\$ -	\$ -	\$ -
318 Sycamore Street Lift Station Rehabilitation	-	51,500	-	-	-	-
318 Pacific Avenue Lift Station Rehabilitation	-	-	53,045	-	-	-
318 Lassen Street Lift Station Rehabilitation	-	-	-	54,636	-	-
318 Road 57 Lift Station Rehabilitation	-	-	-	-	-	57,964
318 6" sewer in alley between Plumas & Shasta, Laurel to Wood	-	-	-	-	225,102	463,710
318 6" sewer in alley between Shasta & Butte, Laurel to Wood	-	-	-	273,182	225,102	-
318 6" sewer in alley between Butte & Tehama, Wood to Vine	-	-	159,135	-	-	-
318 8" sewer in Yolo Street, Ash to Wood	-	-	-	-	-	-
318 6" sewer in Sacramento Street, Central Canal to Wood	-	-	-	-	-	-
318 Install covers over clarifier launders	-	103,000	-	-	-	-
318 Repair cracks in chlorine contact chambers	-	-	53,045	-	-	-
318 Underground sodium bisulfite (SBS) carrier lines	-	-	-	65,564	-	-
318 Construct SBS injection system housing structure	-	-	-	-	84,413	-
318 Construct sodium hypochlorite system housing structure	-	-	-	-	-	86,946
318 Misc. site safety improvements	-	-	31,827	-	-	-
318 Construct new Administration Building	-	-	-	-	-	-
Future Projects ²	-	-	-	-	-	-
Total: CIP Program Costs (Future-Year Dollars)	\$ 30,000	\$ 154,500	\$ 297,052	\$ 393,382	\$ 534,617	\$ 608,619

2. Future projects are the average of FY 20/21-21/22.

TABLE 10 : FORECASTING ASSUMPTIONS

Economic Variables	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Annual Construction Cost Inflation, Per Engineering News Record ³	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Cumulative Construction Cost Multiplier from FY 2020/21	1.00	1.03	1.06	1.09	1.13	1.16

3. Construction Cost Inflation Factors averaged from Engineering News Record historical indices.

TABLE 11 : EXISTING DEBT OBLIGATIONS

DISTRICT DEBT OBLIGATIONS						
Annual Repayment Schedules:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
<u>COP on WWTP¹</u>						
Principal Payment	\$ 119,000	\$ 124,000	\$ 129,000	\$ 134,000	\$ 152,200	\$ 152,200
Interest Payment	<u>233,083</u>	<u>228,071</u>	<u>222,853</u>	<u>217,429</u>	<u>199,481</u>	<u>199,481</u>
Subtotal: Annual Debt Service	\$ 352,083	\$ 352,071	\$ 351,853	\$ 351,429	\$ 351,681	\$ 351,681
Coverage Requirement (\$-Amnt. above annual payment) ²	-	-	-	-	-	-
Reserve Requirement (total fund balance) ²	-	-	-	-	-	-

1. Debt schedule from CAFR in source file: Willows debt schedule.msg
2. NBS is assuming no coverage or reserve requirement.

TABLE 12 : EXISTING ANNUAL DEBT OBLIGATIONS TO BE SATISFIED BY SEWER RATES

Existing Annual Debt Service	\$ 352,083	\$ 352,071	\$ 351,853	\$ 351,429	\$ 351,681	\$ 351,681
Existing Annual Coverage Requirement	-	-	-	-	-	-
Existing Debt Reserve Target	-	-	-	-	-	-

**CITY OF WILLOWS
SEWER RATE STUDY
Projected Water Rates Under Existing Rate Schedule**

EXHIBIT 4

TABLE 13 : CURRENT SEWER RATE SCHEDULE

Current Monthly Sewer Rates ¹		Current
		FY 2007/08
Sewer Fixed	All Customers	\$40.19
Commercial Sewer Volumetric (per HCF)²	Motel & Hotel	\$3.22
	Hospital & Rest Home	\$3.17
	Restaurant & Bakery	\$4.18
	Market & Morgue	\$3.94
	Laundry	\$3.42
	Car Wash	\$3.05
	Jail	\$3.54
	Other Commercial	\$3.01
Industrial	Based on individual flow & strength	

1. Source files: *Current 2021 Sewer Service Rates (set in 2005).pdf*, *Reso 9-05 RE Sewer Rates 2005-05-16.pdf*

2. Hundred cubic feet = HCF = 748 gallons.

CITY OF WILLOWS
SEWER RATE STUDY
Cost of Service Analysis

TABLE 14 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses ¹										
Budget Categories	Total Revenue Requirements	Flow	Strength		Customer	Allocation %'s to Classifications				
	FY 2022/23	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)	
Sewer Fund										
SEWER MAINTENANCE PERSONNEL										
318.4001	Salaries	\$ 148,510	\$ 74,255	\$ 29,702	\$ 29,702	\$ 14,851	50.0%	20.0%	20.0%	10.0%
318.4002	Overtime	8,240	4,120	1,648	1,648	824	50.0%	20.0%	20.0%	10.0%
318.4006	PERS	87,666	43,833	17,533	17,533	8,767	50.0%	20.0%	20.0%	10.0%
318.4007	Health Insurance	76,430	38,215	15,286	15,286	7,643	50.0%	20.0%	20.0%	10.0%
318.4008	FICA	12,108	6,054	2,422	2,422	1,211	50.0%	20.0%	20.0%	10.0%
318.4009	Workers Compensation	9,961	4,981	1,992	1,992	996	50.0%	20.0%	20.0%	10.0%
318.4013	Unemployment	412	206	82	82	41	50.0%	20.0%	20.0%	10.0%
318.4014	Life Insurance	262	131	52	52	26	50.0%	20.0%	20.0%	10.0%
	<i>Subtotal: Sewer Maintenance Personnel</i>	<i>\$ 343,588</i>	<i>\$ 171,794</i>	<i>\$ 68,718</i>	<i>\$ 68,718</i>	<i>\$ 34,359</i>				
SEWER MAINTENANCE OPERATIONS										
318.402	Office Expense	\$ 637	\$ 318	\$ 127	\$ 127	\$ 64	50.0%	20.0%	20.0%	10.0%
318.403	Special Departmental	4,774	2,387	955	955	477	50.0%	20.0%	20.0%	10.0%
318.404	Small to OLS	637	318	127	127	64	50.0%	20.0%	20.0%	10.0%
318.405	Uniform Expense	2,971	1,485	594	594	297	50.0%	20.0%	20.0%	10.0%
318.4071	Telephone	1,008	504	202	202	101	50.0%	20.0%	20.0%	10.0%
318.408	PG&E	186,150	93,075	37,230	37,230	18,615	50.0%	20.0%	20.0%	10.0%
318.4081	Water and Sewer	2,678	-	-	-	2,678	0.0%	0.0%	0.0%	100.0%
318.41	Building Maintenance	2,652	1,326	530	530	265	50.0%	20.0%	20.0%	10.0%
318.4111	Vehicle Maintenance	21,218	10,609	4,244	4,244	2,122	50.0%	20.0%	20.0%	10.0%
318.4112	Vehicle Tires	2,122	1,061	424	424	212	50.0%	20.0%	20.0%	10.0%
318.4113	Vehicle Fuel	7,210	3,605	1,442	1,442	721	50.0%	20.0%	20.0%	10.0%
318.4115	Equipment Maintenance	22,279	11,139	4,456	4,456	2,228	50.0%	20.0%	20.0%	10.0%
318.412	Professional Services	36,050	18,025	7,210	7,210	3,605	50.0%	20.0%	20.0%	10.0%
318.413	Contractual Services	693,829	346,914	138,766	138,766	69,383	50.0%	20.0%	20.0%	10.0%
318.414	Insurance	35,362	17,681	7,072	7,072	3,536	50.0%	20.0%	20.0%	10.0%
318.415	Travel and Meetings	318	-	-	-	318	0.0%	0.0%	0.0%	100.0%
318.416	Dues and Memberships	2,122	-	-	-	2,122	0.0%	0.0%	0.0%	100.0%
318.417	Training	318	-	-	-	318	0.0%	0.0%	0.0%	100.0%
318.5132	First Aid and Safety	266	-	-	-	266	0.0%	0.0%	0.0%	100.0%
318.5631	Discharge Permit	11,139	5,570	2,228	2,228	1,114	50.0%	20.0%	20.0%	10.0%
318.5632	General Administration	170,109	-	-	-	170,109	0.0%	0.0%	0.0%	100.0%
	<i>Subtotal: Sewer Maintenance Operations</i>	<i>\$ 1,203,847</i>	<i>\$ 514,018</i>	<i>\$ 205,607</i>	<i>\$ 205,607</i>	<i>\$ 278,614</i>				
TOTAL: SEWER EXPENSES		\$ 1,547,435	\$ 685,812	\$ 274,325	\$ 274,325	\$ 312,973	44.3%	17.7%	17.7%	20.2%

CITY OF WILLOWS
SEWER RATE STUDY
Cost of Service Analysis

TABLE 15 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses Continued ¹									
Budget Categories	Total Revenue Requirements	Flow	Strength		Customer	Allocation %'s to Classifications			
	FY 2022/23	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
Debt Services									
Existing Debt Service	\$ 351,853	\$ 175,927	\$ 70,371	\$ 70,371	\$ 35,185	50.0%	20.0%	20.0%	10.0%
New Debt Service	-	-	-	-	-	50.0%	20.0%	20.0%	10.0%
Capital Expenditures									
Rate Funded Capital Expenses	\$ 297,052	\$ 148,526	\$ 59,410	\$ 59,410	\$ 29,705	50.0%	20.0%	20.0%	10.0%
TOTAL REVENUE REQUIREMENTS	\$ 2,196,340	\$1,010,265	\$ 404,106	\$ 404,106	\$ 377,864	46.0%	18.4%	18.4%	17.2%
Less: Non-Rate Revenues									
Sewer Connection Fee Revenue	\$ (15,038)	\$ (7,519)	\$ (3,008)	\$ (3,008)	\$ (1,504)	50.0%	20.0%	20.0%	10.0%
Interest Income ²	(9,067)	(4,533)	(1,813)	(1,813)	(907)	50.0%	20.0%	20.0%	10.0%
NET REVENUE REQUIREMENTS	\$ 2,172,236	\$ 998,213	\$ 399,285	\$ 399,285	\$ 375,453				
<i>Allocation of Revenue Requirements</i>	<i>100.0%</i>	<i>46.0%</i>	<i>18.4%</i>	<i>18.4%</i>	<i>17.3%</i>				

Adjustments to Classification of Expenses	FY 2022/23				
Adjustment to Current Rate Level:	Total	(VOL)	(BOD)	(TSS)	(CA)
Projected Sewer Rate Revenue at Current Rates	\$1,577,616				
Projected Sewer Rate Increase	12.00%				
Projected Sewer Rate Increase (\$)	\$189,314				
Target Rate Rev. After Rate Increases ³	\$1,766,930				
Adjusted Net Revenue Req't	\$ 1,766,930	\$ 811,962	\$ 324,785	\$ 324,785	\$ 305,399
<i>Percent of Revenue</i>	<i>100.0%</i>	<i>46.0%</i>	<i>18.4%</i>	<i>18.4%</i>	<i>17.3%</i>

1. Revenues and Expenditures budgeted for FY 2020/21-2021/22 found in source file: Willows_BUDGET-2020-2021-Adopted.pdf, Page 5.1-5.3

2. Interest income is calculated in the Financial Plan and excluded from this table.

3. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from rates.

CITY OF WILLOWS
SEWER RATE STUDY
Cost of Service Analysis

TABLE 16 : FLOW ALLOCATION FACTOR

Development of the FLOW Allocation Factor					
Customer Class	Number of Units¹	Annual Volume (hcf)	Average Winter Monthly Consumption² (hcf)	Annualized Winter Avg. Based Volume (hcf)	Percentage of Adjusted Volume
Residential Metered	1,783	294,724	11,814	141,772	56.0%
Multiple Residential Metered	729	38,341	2,390	28,684	11.3%
Business Metered	235	59,986	2,951	35,416	14.0%
Car Wash	2	2,493	138	1,656	0.7%
Hospitals & Rest Homes	3	6,611	356	4,272	1.7%
Laundromat	1	1,035	53	632	0.2%
Markets & Morgues	3	2,016	140	1,684	0.7%
Motels & Hotels	3	4,900	296	3,552	1.4%
Restaurants & Bakeries	8	1,508	72	868	0.3%
Public Authority Metered	47	26,657	1,142	13,704	5.4%
North Willows					
Residential Metered	220	32,810	1,669	20,028	7.9%
Business Metered	3	453	21	256	0.1%
Public Authority Metered	2	727	37	444	0.2%
Total	3,039	472,261	21,081	252,968	100.0%

1. Number of accounts, units & Consumption from 2020 in source file: *Manipulated_Sewer-Complete Customer List by APN 2019.xlsx*

2. Includes months of January through March 2020.

CITY OF WILLOWS
SEWER RATE STUDY
Cost of Service Analysis

TABLE 17 : STRENGTH ALLOCATION FACTOR

Development of the STRENGTH Allocation Factor									
Customer Class	Annualized Winter Flow (hcf)	Biochemical Oxygen Demand (BOD)				Total Suspended Solids (TSS)			
		Average Strength Factor (mg/l)	Calculated BOD (lbs./yr.)	Adjusted BOD (lbs./yr.)	Percent of Total	Average Strength Factor (mg/l)	Calculated TSS (lbs./yr.)	Adjusted TSS (lbs./yr.)	Percent of Total
Residential Metered	141,772	250	221,105	313,101	55.0%	250	221,105	208,140	56.6%
Multiple Residential Metered	28,684	250	44,735	63,348	11.1%	250	44,735	42,112	11.4%
Business Metered	35,416	250	55,234	78,216	13.7%	250	55,234	51,995	14.1%
Car Wash	1,656	20	207	293	0.1%	150	1,550	1,459	0.4%
Hospitals & Rest Homes	4,272	250	6,663	9,435	1.7%	100	2,665	2,509	0.7%
Laundromat	632	150	591	837	0.1%	110	434	408	0.1%
Markets & Morgues	1,684	800	8,404	11,901	2.1%	550	5,778	5,439	1.5%
Motels & Hotels	3,552	310	6,869	9,727	1.7%	120	2,659	2,503	0.7%
Restaurants & Bakeries	868	800	4,332	6,134	1.1%	550	2,978	2,804	0.8%
Public Authority Metered	13,704	250	21,372	30,265	5.3%	250	21,372	20,119	5.5%
North Willows									
Residential Metered	20,028	250	31,235	44,232	7.8%	250	31,235	29,404	8.0%
Business Metered	256	250	399	565	0.1%	250	399	376	0.1%
Public Authority Metered	444	250	692	981	0.2%	250	692	652	0.2%
Total	252,968		401,839	569,035	100%		390,837	367,920	100%
		<i>Target, from WWTP Data</i>		<i>569,035 BOD (lbs./yr.)</i>				<i>367,920 TSS (lbs./yr.)</i>	
				<i>1.42 BOD Adj. Factor</i>				<i>0.94 TSS Adj. Factor</i>	

**CITY OF WILLOWS
SEWER RATE STUDY
Cost of Service Analysis**

TABLE 18 : CUSTOMER ALLOCATION FACTOR

Development of the CUSTOMER Allocation Factor		
Customer Class	Number of Accounts¹	Percentage of Accounts
Residential Metered	1,783	58.7%
Multiple Residential Metered	729	24.0%
Business Metered	235	7.7%
Car Wash	2	0.1%
Hospitals & Rest Homes	3	0.1%
Laundromat	1	0.0%
Markets & Morgues	3	0.1%
Motels & Hotels	3	0.1%
Restaurants & Bakeries	8	0.3%
Public Authority Metered	47	1.5%
<u>North Willows</u>		
Residential Metered	220	7.2%
Business Metered	3	0.1%
Public Authority Metered	2	0.1%
Total	3,039	100.0%

1. Number of accounts 2020 in source file: *Manipulated_Sewer-Complete Customer List by APN 2019.xlsx*

Customer Related Costs : Costs associated with having a customer on the water system. These costs vary with the addition or deletion of customers on the system. Examples: Meter-reading, Postage and billing.

CITY OF WILLOWS
SEWER RATE STUDY
Sewer Cost of Service Analysis

TABLE 19

Allocation of Revenue Requirements by Customer Class						
Customer Class	Cost Classification Components				Cost-of-Service Net Revenue	% of COS Net Revenue
	Volume	Treatment		Customer Related		
		BOD	TSS			
Net Revenue Requirements ¹	\$ 811,962	\$ 324,785	\$ 324,785	\$ 305,399	\$ 1,766,930	--
	<i>46.0%</i>	<i>18.4%</i>	<i>18.4%</i>	<i>17.3%</i>	<i>100.0%</i>	
Residential Metered	\$455,051	\$ 178,707	\$ 183,738	\$ 179,180	\$ 996,676	56.4%
Multiple Residential Metered	\$ 92,068	\$ 36,157	\$ 37,175	\$ 73,260	\$ 238,659	13.5%
Business Metered	\$113,676	\$ 44,643	\$ 45,899	\$ 23,616	\$ 227,834	12.9%
Car Wash	\$ 5,315	\$ 167	\$ 1,288	\$ 201	\$ 6,971	0.4%
Hospitals & Rest Homes	\$ 13,712	\$ 5,385	\$ 2,215	\$ 301	\$ 21,613	1.2%
Laundromat	\$ 2,029	\$ 478	\$ 360	\$ 100	\$ 2,967	0.2%
Markets & Morgues	\$ 5,405	\$ 6,793	\$ 4,801	\$ 301	\$ 17,301	1.0%
Motels & Hotels	\$ 11,401	\$ 5,552	\$ 2,210	\$ 301	\$ 19,464	1.1%
Restaurants & Bakeries	\$ 2,786	\$ 3,501	\$ 2,475	\$ 804	\$ 9,566	0.5%
Public Authority Metered	\$ 43,986	\$ 17,274	\$ 17,760	\$ 4,723	\$ 83,744	4.7%
North Willows						
Residential Metered	\$ 64,285	\$ 25,246	\$ 25,956	\$ 22,109	\$ 137,595	7.8%
Business Metered	\$ 822	\$ 323	\$ 332	\$ 301	\$ 1,778	0.1%
Public Authority Metered	\$ 1,425	\$ 560	\$ 575	\$ 201	\$ 2,761	0.2%
Total	\$811,962	\$ 324,785	\$ 324,785	\$ 305,399	\$ 1,766,930	100%

1. Revenue requirement for each customer class is determined by multiplying the revenue requirement from each cost classification by the allocation factors for each customer class.

CITY OF WILLOWS
SEWER RATE STUDY
Sewer Cost of Service Analysis

TABLE 20 : PROPOSED SEWER RATES:

Customer Class	No. of Accounts	Annualized Winter Consumption (hcf) ¹	Annual Rev. Req't			Monthly Fixed Charge Per HEU	Volumetric Charge Per hcf
			Total	Fixed	Volumetric		
	a	b	c	d	e=b/a/12	f=d/b	
Residential Metered	1,783	141,772	\$996,676	\$996,676	N/A	\$47.19	
Multiple Residential Metered	729	28,684	\$238,659	\$238,659	N/A	\$27.28	
Business Metered	235	35,416	\$227,834	\$102,525	\$125,309	\$55.69	\$3.49
Car Wash	2	1,656	\$6,971	\$3,137	\$3,834	\$55.69	\$2.32
Hospitals & Rest Homes	3	4,272	\$21,613	\$9,726	\$11,887	\$55.69	\$2.78
Laundromat	1	632	\$2,967	\$1,335	\$1,632	\$55.69	\$2.58
Markets & Morgues	3	1,684	\$17,301	\$7,785	\$9,515	\$55.69	\$5.65
Motels & Hotels	3	3,552	\$19,464	\$8,759	\$10,705	\$55.69	\$3.01
Restaurants & Bakeries	8	868	\$9,566	\$4,305	\$5,261	\$55.69	\$6.06
Public Authority Metered	47	13,704	\$83,744	\$37,685	\$46,059	\$55.69	\$3.49
North Willows							
Residential Metered	220	20,028	\$137,595	\$137,595	N/A	\$47.19	
Business Metered	3	256	\$1,778	\$800	\$978	\$55.69	\$3.49
Public Authority Metered	2	444	\$2,761	\$1,243	\$1,519	\$55.69	\$3.49
Total	3,039	252,968	\$1,766,930	\$1,550,230	\$216,700	--	--
<i>Percent of Revenue from Fixed vs. Volumetric Charges</i>			<i>100.0%</i>	<i>87.74%</i>	<i>12.26%</i>		

1. Annualized winter months of January - March 2020.

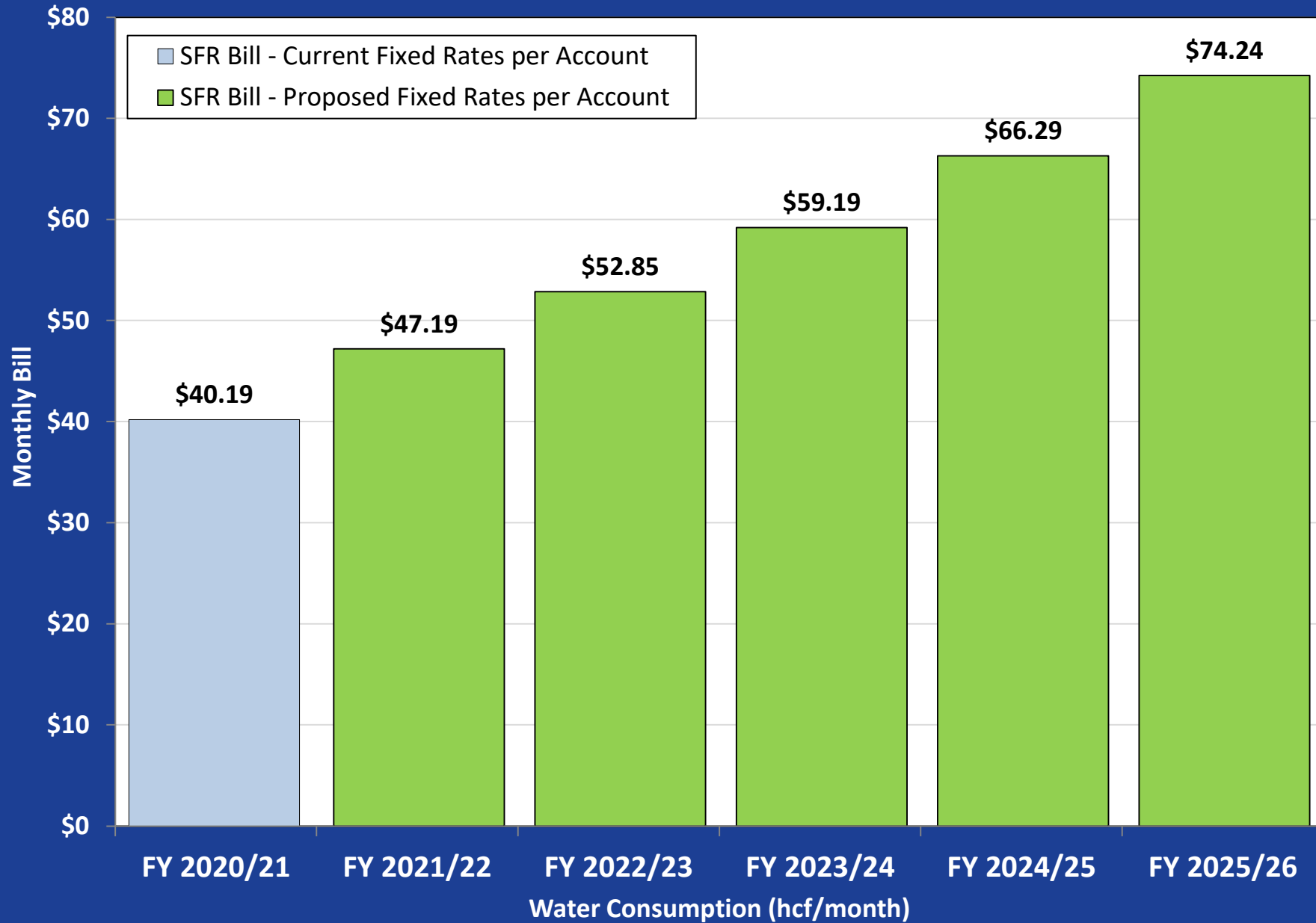
CITY OF WILLOWS
SEWER RATE STUDY
Sewer Rate Development

TABLE 21 : CURRENT VS. PROPOSED SEWER RATES (MONTHLY)

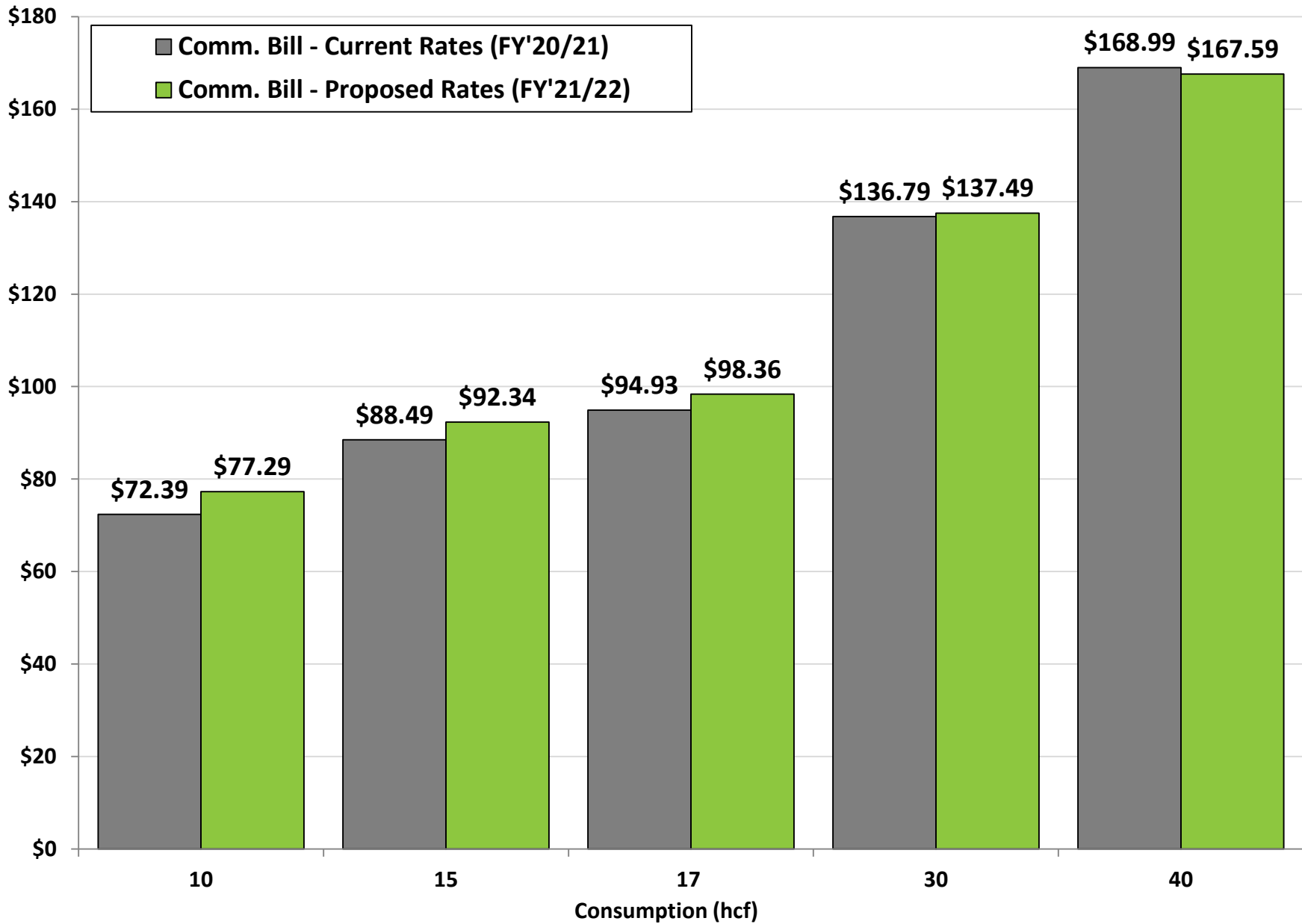
Sewer Rate Schedule	Current Rates ('20/21)	Proposed Sewer Rates ¹				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Fixed Service Charge						
Single Family Residential	\$40.19	\$47.19	\$52.85	\$59.19	\$66.29	\$74.24
Multi-Family Residential (per unit)	\$40.19	\$27.28	\$30.55	\$34.22	\$38.33	\$42.93
Commercial	\$40.19	\$55.69	\$62.37	\$69.85	\$78.23	\$87.62
Volumetric Charge (\$/hcf)						
Commercial (Applied to Average Winter Water Use)						
Car Wash	\$3.05	\$2.32	\$2.60	\$2.91	\$3.26	\$3.65
Hospital & Rest Home	\$3.17	\$2.78	\$3.11	\$3.48	\$3.90	\$4.37
Jail	\$3.54	\$3.49	\$3.91	\$4.38	\$4.91	\$5.50
Laundry	\$3.42	\$2.58	\$2.89	\$3.24	\$3.63	\$4.07
Market & Morgue	\$3.94	\$5.65	\$6.33	\$7.09	\$7.94	\$8.89
Motel & Hotel	\$3.22	\$3.01	\$3.37	\$3.77	\$4.22	\$4.73
Restaurant & Bakery	\$4.18	\$6.06	\$6.79	\$7.60	\$8.51	\$9.53
Other Commercial	\$3.01	\$3.49	\$3.91	\$4.38	\$4.91	\$5.50

1. Implementation date for FY 2021/22 rates is July 1, 2021, then July in 2022 through 2025.

Single Family Residential Sewer Bill Comparison Current vs. Proposed Rates

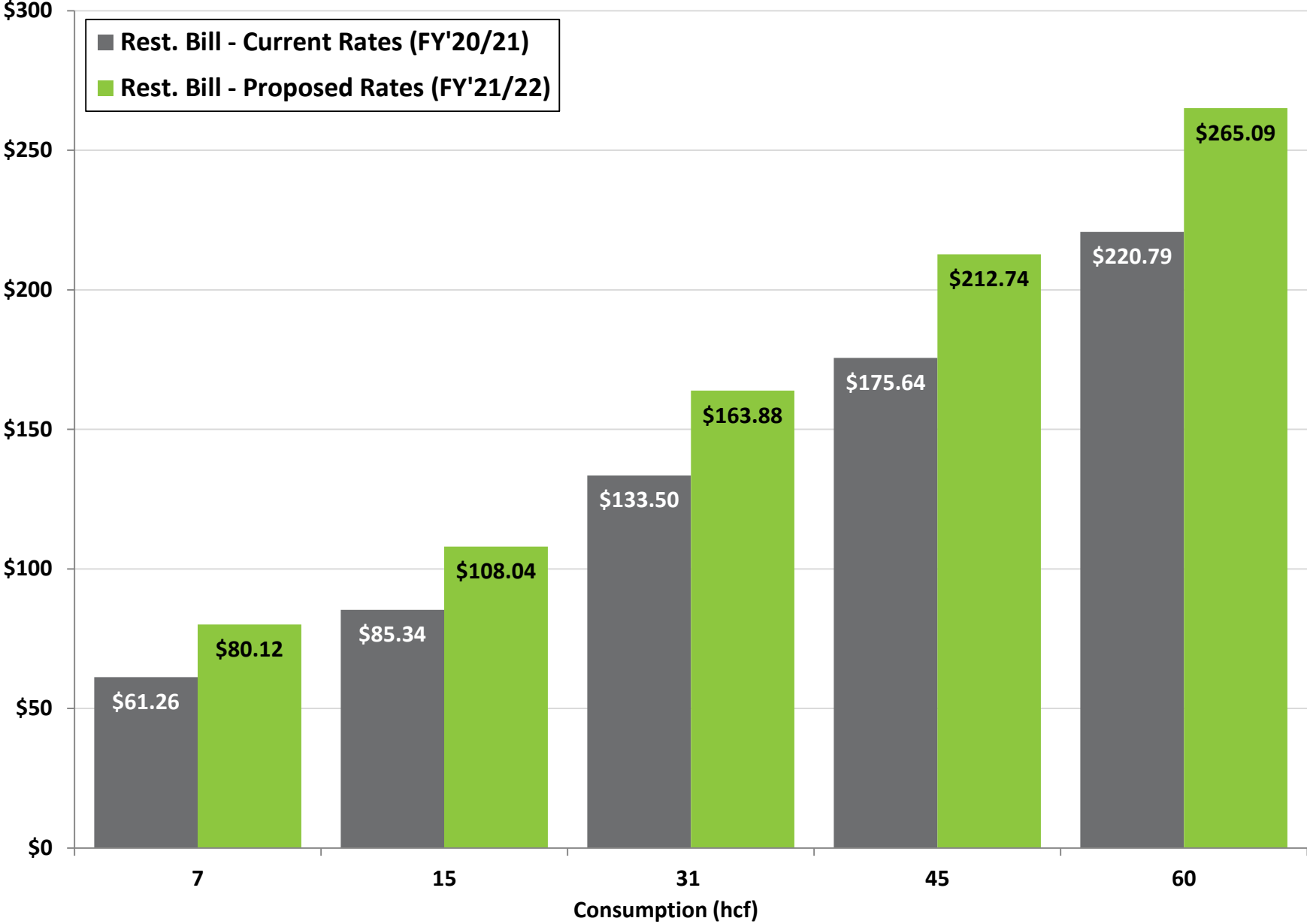


Average Commercial Sewer Bill Comparison Current vs. Proposed Rates *(Assumes 1-inch commercial meter)*

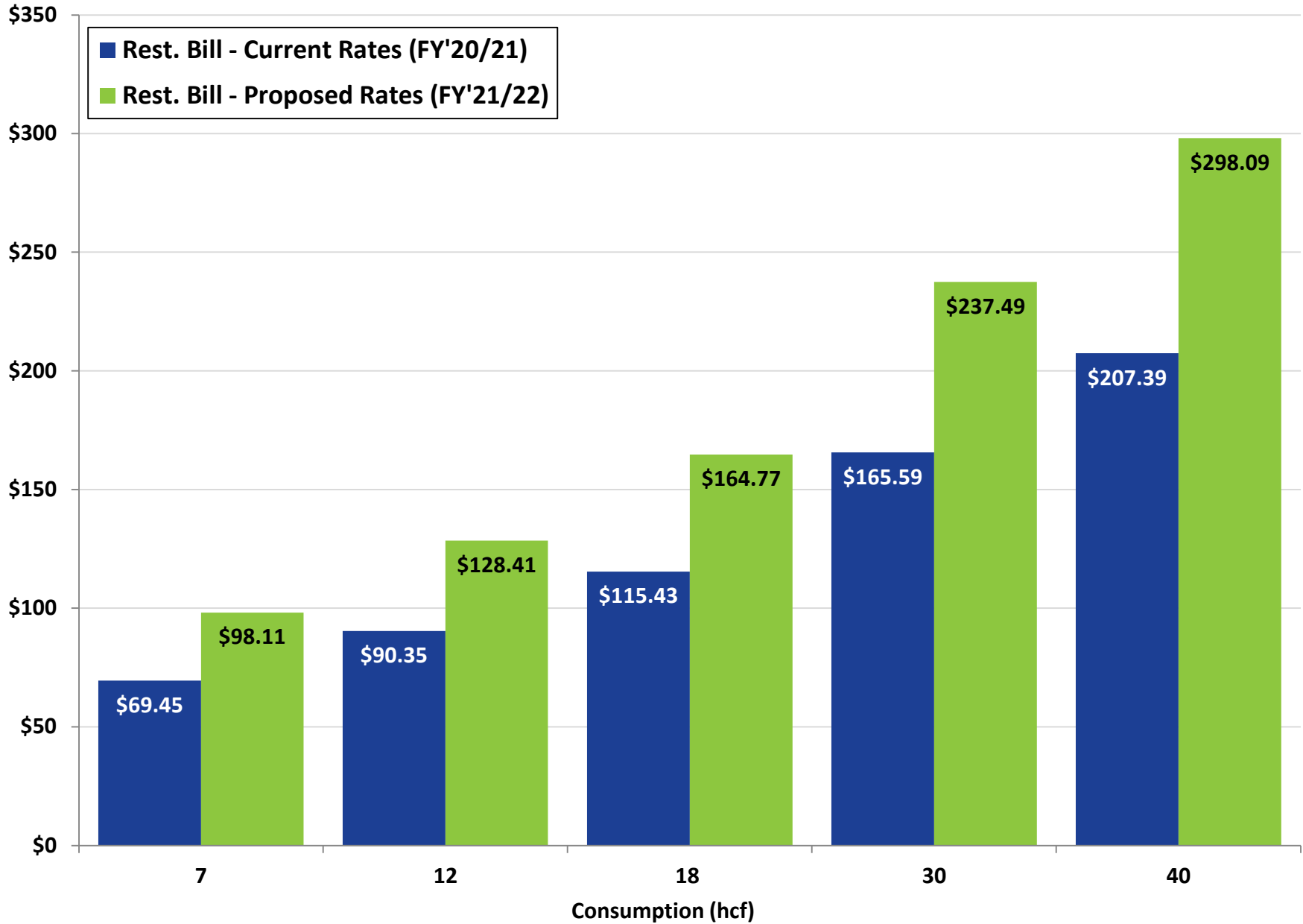


Average Commercial Sewer Bill Comparison

Current vs. Proposed Rates (Assumes 2-inch commercial meter)



Average Restaurant Sewer Bill Comparison Current vs. Proposed Rates (Assumes 1-inch commercial meter)



Average Public Meter Sewer Bill Comparison Current vs. Proposed Rates (Assumes 2-inch commercial meter)

