

Technical Report

CITY OF WEST

COST OF SERVICE AND RATE DESIGN STUDY

FINAL REPORT
NOVEMBER 14, 2023



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COST OF SERVICE ANALYSIS

Nelisa Heddin Consulting, LLC (NH Consulting) is pleased to present the City of West (City) with the results of an update of a cost of service and rate design study performed for the City's water and wastewater utility. The City retained NH Consulting to perform a cost of service and rate design study for the City's water and wastewater utility. The study's intent is to achieve a water and wastewater rate structure that will assure equitable and adequate revenues for operations, debt service retirement, capital improvements and bond covenant requirements. Therefore ensuring the utility operates on a self-sustaining basis while considering the economic impact on the City's customers.

The project team has worked closely with City staff to develop revenue requirements and determine the cost of providing service to each of the City's customers. The project team identified that in order to meet future revenue requirements, the City needs to implement future water and wastewater rate increases. The analysis examined revenue requirements for a five-year study period, FYE2024-FYE2028 and recommended rates sufficient to meet revenue requirements for the five-year study period.

The study determined that the currently effective water rates are sufficient to meet revenue requirements. However, increases in wastewater rates are necessary. NH Consulting developed 5 'options' for the City's consideration:

Option 1: Includes a subsidy from the City's General Fund in the amount of \$425,117 per year. This option includes a base charge and a volumetric charge for all customers. Commercial customers would be billed for 100% of their water use. Residential customers would be billed based upon winter averaging.

Option 2: Includes a subsidy from the City's General Fund in the amount of \$425,117 per year. This option includes a base charge and a volumetric charge for all commercial customers. Commercial customers would be billed for 100% of their water use. Residential customers would be a flat fee each month, regardless of individual customer use.

Option 3: This option does not include a subsidy from the General Fund. This option includes a base charge and a volumetric charge for all customers. Commercial customers would be billed for 100% of their water use. Residential customers would be billed based upon winter averaging.

Option 4: This option does not include a subsidy from the General Fund. This option includes a base charge and a volumetric charge for all commercial customers. Commercial customers would be billed for 100% of their water use. Residential customers would be a flat fee each month, regardless of individual customer use.



COST OF SERVICE ANALYSIS



Option 5: Includes a subsidy from the City’s General Fund in the amount of \$425,117 in year one, and then reduces that subsidy each year so that in the 5th year, the subsidy has been eliminated. This option includes a base charge and a volumetric charge for all customers. Commercial customers would be billed for 100% of their water use. Residential customers would be billed based upon winter averaging.

Option 6: Includes a subsidy from the General Fund in the amount of \$425,117 in year one, and then reduces that subsidy each year so that in the 5th year, the subsidy is \$185,117. This option includes a base charge and a volumetric charge for all customers. Commercial customers would be billed for 100% of their water use. Residential customers would be billed based upon winter averaging.

The recommended rates for each option are presented in Tables 1-6 below.

Table 1: Recommended Wastewater Rates, Option 1

Option 1	Current	2024	2025	2026	2027	2028
Residential Base Fee	\$20.40	\$30.40	\$35.40	\$35.40	\$35.40	\$35.40
Commercial Base Fee	\$30.00	\$50.00	\$55.00	\$55.00	\$55.00	\$55.00
Volumetric Fee	\$ 2.59	\$ 6.52	\$ 9.83	\$ 10.40	\$ 10.96	\$ 11.53

Table 2: Recommended Wastewater Rates, Option 2

Option 2	Current	2024	2025	2026	2027	2028
Residential Monthly	\$20.40	\$ 66.60	\$ 81.66	\$ 85.10	\$ 85.55	\$ 85.95
Commercial Base Fee	\$30.00	\$50.00	\$55.00	\$55.00	\$55.00	\$55.00
Volumetric Fee	\$ 2.59	\$ 6.27	\$ 9.79	\$ 10.91	\$ 11.38	\$ 11.86

Table 3: Recommended Wastewater Rates, Option 3

Option 3	Current	2024	2025	2026	2027	2028
Residential Base Fee	\$20.40	\$30.40	\$35.40	\$35.40	\$35.40	\$35.40
Commercial Base Fee	\$30.00	\$50.00	\$55.00	\$55.00	\$55.00	\$55.00
Volumetric Fee	\$ 2.59	\$ 12.09	\$ 15.34	\$ 15.85	\$ 16.35	\$ 16.86



Table 4: Recommended Wastewater Rates, Option 4

Option 4	Current	2024	2025	2026	2027	2028
Residential Monthly	\$20.40	\$ 90.28	\$ 104.96	\$ 108.02	\$ 108.10	\$ 108.14
Commercial Base Fee	\$30.00	\$50.00	\$55.00	\$55.00	\$55.00	\$55.00
Volumetric Fee	\$ 2.59	\$ 11.84	\$ 15.36	\$ 16.48	\$ 16.95	\$ 17.43

Table 5: Recommended Wastewater Rates, Option 5

Option 5	Current	2024	2025	2026	2027	2028
Residential Base Fee	\$20.40	\$30.40	\$35.40	\$35.40	\$35.40	\$35.40
Commercial Base Fee	\$30.00	\$50.00	\$55.00	\$55.00	\$55.00	\$55.00
Volumetric Fee	\$ 2.59	\$ 6.52	\$ 9.83	\$ 11.75	\$ 13.63	\$ 16.86

Table 6: Recommended Wastewater Rates, Option 6

Option 6	Current	2024	2025	2026	2027	2028
Residential Base Fee	\$20.40	\$30.40	\$35.40	\$35.40	\$35.40	\$35.40
Commercial Base Fee	\$30.00	\$50.00	\$55.00	\$55.00	\$55.00	\$55.00
Volumetric Fee	\$ 2.59	\$ 6.52	\$ 10.60	\$ 11.94	\$ 13.24	\$ 14.54

COST OF SERVICE ANALYSIS

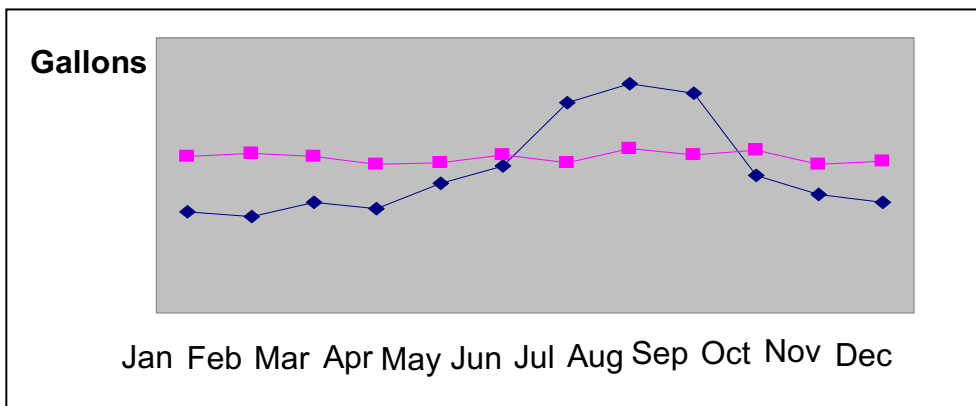
RATE SETTING THEORY

The American Water Works Association (AWWA) sets forth a methodology for rate setting based on cost-of-service principles. The premise of this methodology is to require users to pay the cost incurred by the utility to provide that user with water service.

The water utility infrastructure is created to meet times of peak demand. Although on an annual basis, the average usage of water is at a lower level, the system must meet times of peak usage, such as irrigation in summer months or early mornings when residents are showering, doing laundry and washing dishes. Chapter 290 of the Texas Administrative Code outlines strict guidelines that the water utility must abide by while providing retail water services. These guidelines outline specific requirements for items such as minimal system capacities, to meet these times of peak usage. Thus, the water utility must maintain the infrastructure to meet these requirements. To determine the utilities capacity requirements, one must factor in the number of connections served, the size of each connection, in addition to the usage patterns of those customers. Therefore, even though the utility may have average usage at a certain level, it must have the capacity to serve customers at a greater level in order to meet peaking demands.

Different customer classes utilize water in different manners, thus putting different strains on the utility. Examination of the utility's customer classes while applying a cost-of-service methodology recommended by the AWWA reveals the usage pattern of each class. Figure 1 exhibits different usage patterns for two different types of customers.

Figure 1: Usage Patterns





The customers represented by a blue line in Figure 1 show a dramatic peaking pattern in summer months. This peak pattern commonly occurs with customers who, for example irrigate during the summer. The customers represented by a pink line show very little deviation in their month-to-month usage. An example of a customer using water in this manner may be a commercial customer who uses water in a consistent pattern year round.

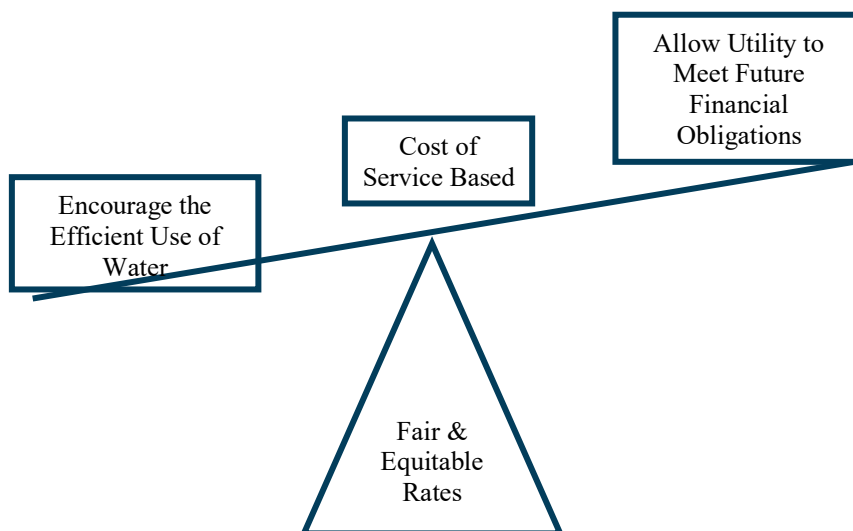
According to the AWWA, “A water utility is required to supply water in total amounts and at such rates of use desired by the customer. A utility incurs costs in relationship to the various expenditure requirements caused by meeting those customer demands. Since the needs for total volume of supply and peak rates of use vary among customers, the costs to the utility of providing service also vary among customers or classes of customers.” In other words, there are significant cost implications to the ability a utility system must have to meet peaking patterns.

The blue-line customer in Figure 1 has a higher peak to average ratio of water usage. Whereas the pink-line customer has a lower peak to average ratio, even though the total volume used is greater for this customer class. In this example, the utility has to maintain a total system capacity to serve the maximum (or peak) usage of all customers, even though the blue-line customer uses a peak amount of water for 3-months out of the year. There is a significant cost implication to this irregular usage pattern. The rates charged to customers should reflect this cost differential.

RATE DESIGN GENERAL COMPONENTS

During rate analysis, the primary consideration is to determine rates that are fair and equitable among all customers. Rates should recover the cost associated with providing service to each customer from that particular customer. Determining rates that fully achieve this goal involves a detailed analysis of each individual customer's consumption pattern. Since this is an impractical feat for most utility systems, a typical rate design establishment fits average conditions for groups of customers having similar service requirements.

When grouping customer classes, one divides customers that utilize water in a similar pattern (such as residential, commercial, apartments and irrigation). Then, analysis of historical usage patterns for each customer grouping and assignment of costs accordingly.



The AWWA emphasizes, “Departure from rates based on cost of service is generally a decision made for political, legal or other reasons. Consideration of rates deviating from cost of service, therefore, is made by politicians, not the rate designer.” In addition, the AWWA states that “when a deviation from cost-related rates is made, the reason for such modification should be explicitly understood so that the responsibility for such deviation is placed on legal and policy-making factors, and the public is not misled into believing that the resulting rates are fully cost-related when they are not.”

It is important to consider when designing and implementing a new rate structure that, while the goal is to get as close as possible to cost of service based rates, with respect for each City's own political environment.

RATE COMPONENTS

Typically, billing of water services are in a structure that consists of a minimum bill and a volumetric component. The intention of the minimum bill is to recover the basic costs associated with providing service to the customer, regardless of the volume of the water utilized. The bill structure usually recovers a high percentage of the utility's fixed costs to ensure the utility some degree of revenue stability. Minimum bills are a fixed monthly fee. The second component of the rates is a volumetric charge. This charge is based on the amount of water utilized by the customer, and may fluctuate based on actual usage.



Minimum Bill

The AWWA provides guidelines for the determination of the minimum bill on a cost basis. Many utilities set their minimum bill based on policy initiatives. The utility may want to use the minimum charge to guarantee a certain percentage of revenue. Another strategy in setting a minimum bill involves providing lifeline rates for customers, where the customer receives a certain amount of water included in the base charge fee. This allows the customer a higher degree of control over their water bill.

There are two (2) primary options available regarding the structure of the minimum bill:

Meter Size – As previously described, the utility is obligated under State Law to maintain system capacity based on the number and size of connections the utility serves. The reasoning is that the larger the meter a customer has, the greater the ability to place a larger demand on the system. Thus, regardless of the amount of water that a customer actually uses, the utility is still required to maintain the capacity to serve that customer based on their meter size.

Accordingly, a minimum bill based on meter size, in which the larger the meter, the higher the bill, recovers the cost the utility incurs due to the potential increased demand placed on the system by that particular customer. The AWWA provides “meter size equivalency factors,” a scale of factors are applied to the base charge for a $\frac{5}{8}$ inch connection to determine the minimum that should be charged to larger connections.

Equalized Minimum Bill – The alternative minimum bill structure would be an equalized minimum bill in which all customers pay the same fee, regardless of meter size. This very simple fee structure is easy to understand by the utility’s customers. In addition, most billing systems are able to accommodate this fee structure. However, it may not be equitable among the utility’s customers, depending on that particular utility’s customer base.

Volumetric Rate

The second component of the fee structure is the volumetric rate. The basis for the volumetric fees is the actual volume of water each customer uses each month. The volumetric rates usually recover the variable costs associated with providing water to the utility’s customers as well as a portion of fixed costs. Utilities also use volumetric rates as a pricing signal to encourage the efficient usage of water. Below are some volumetric rate design options for consideration.

Customer Class – As previously described, different classes of customers utilize water in different ways. Some customers use large amounts of water seasonally for irrigation, while other customers’ monthly water use varies only slightly. There is a significant cost implication to different water usage patterns. Those customers who use water irregularly throughout the year, such as those who irrigate, cause the utility’s water system to have a higher peaking than those customers who use a consistent amount of water monthly. A case can be made that utilities should classify customers into like groupings (such as residential, commercial, apartments and irrigation) and charge those customers different rates based on their relative usage patterns. The AWWA has outlined a methodology for determining these rates called the Base-Extra Capacity methodology. The basic premise of this methodology is to isolate usage patterns based on customer classifications and



allocate costs to those customers based on peaking patterns. While this is a complex task, it is arguably the most equitable means of charging customers for water usage.

The drawback to this methodology is that it is a slightly more complex fee structure that some customers may have difficulty understanding. Prior to implementation, the utility's billing system requires examination to ensure that it is capable of charging customers based on this structure.

Equalized Rate – An alternative to varying volumetric rates based on customer class is to charge all customers the same volumetric rate. This is appropriate for utilities that have a relatively homogenous customer base in which most customers use water in a similar pattern. This rate structure is easy for customers to understand, and usually most billing systems can accommodate equalized rates. The industry recommends that each utility examine its customer base to determine if it is a homogenous group of customers, or if there are customers who use water in different patterns. If the latter is the case, then equalized rates may not be equitable to some customer classifications.

WATER CONSUMPTION

As of December 2022, the City provides water services to 1,205 retail, potable water customers. The City meters all active potable water connections. Annual metered water consumption was approximately 112 million gallons in 2022.

Table 7: Historical Water Consumption and Customer Count

Year	Customer Count	Consumption (Gal)
2020	1,205	98,458,414
2021	1,211	91,949,303
2022	1,232	112,544,408



WORK PLAN

In determining water rates, NH Consulting relies upon a methodology described by the American Water Works Association called the Base-Extra Capacity methodology. This methodology approximates the cost associated with serving various classifications of customers.

Essentially, the methodology utilizes a five-step approach:

- Step 1: Revenue Requirement Determination
- Step 2: Cost Functionalization
- Step 3: Customer Cost Allocation
- Step 4: Customer Count and Billing Unit Determination
- Step 5: Rate Design

NH Consulting has performed each of these steps in coordination with City staff. The next sections describe each step along with the results.

STEP 1: REVENUE REQUIREMENT DETERMINATION

BASE YEAR REVENUE REQUIREMENT

WATER FUND

To account for the water utility operations, the City has an Enterprise Fund that accounts for water operational revenues and expenditures. To determine the water utility revenue requirements, NH Consulting relied on the City's budgeted and historical actual expenditures within the Water Enterprise Fund as a starting point.

SYSTEM EXPENDITURES

A base year estimate of costs helps to determine the City's future revenue requirements. This cost estimate is reflective of the normal operation of the water utility, and adjusted for known and measurable changes into the future. NH Consulting used the FYE2024 budget as the Test Year for the revenue requirement phase of the study. A comparison FYE2021 actual, FYE2022 estimated and FYE2023 budgeted expenditures has indicated that the FYE2024 Budget provides a conservative estimate of the revenues and expenses associated with the operation of the water utility.

REVENUE OFFSETS

In order to isolate the revenues required by rates from all customers, it was necessary to capture all revenue offsets and remove the corresponding dollar amount from the gross revenue requirement to determine the net revenue requirement. Revenue offsets are items such as late fees and interest income that offset the City's expense.

BASE YEAR REVENUE REQUIREMENT

The base year total revenue requirement determined by the project team for the water utility for FYE 2024 was \$909,940.



FIVE-YEAR REVENUE REQUIREMENT

INFLATION

NH Consulting accounted for inflationary influences on annual expenditures by applying a 5% annual inflation rate for most expenditure categories in developing the five-year revenue requirement.

FIVE-YEAR REVENUE REQUIREMENT

Table 8 outlines the five-year revenue requirement for the Water Utility. Schedule 1 shows each line item with details.

Table 8: Water Utility Five-Year Revenue Requirement.

	2023	2024	2025	2026	2027
Revenue Requirements	\$ 909,940	\$ 982,197	\$ 955,821	\$1,005,372	\$1,057,402

STEP 2: COST FUNCTIONALIZATION

BACKGROUND ON COST FUNCTIONALIZATION

The American Water Works Association (“AWWA”) and the Texas Commission on Environmental Quality (“TCEQ”) have accepted the base-extra capacity methodology and it is commonly used in the water utility industry. This is a methodology of functionalization, allocating costs to service functions, and distributing costs to customer classes. It recognizes the differences in the cost of providing service due to variations in average rate of use and peak rate of use by a customer class. This method also distinguishes the effects of system diversity on costs. Generally, the three components of costs include:

- Base Costs
- Extra-Capacity Costs
- Customer Billing Costs

Base costs fluctuate with the total amount of water taken under average operating conditions. Extra-capacity costs are those costs incurred that are above the average operating conditions and are necessary to support peaking conditions. Customer billing costs are those costs associated with serving customers, such as meter reading and billing.

COST FUNCTIONALIZATION ANALYSIS

The project team thoroughly analyzed The City’s cost structure and functionalized the costs into appropriate categories. Table 8 presents the cost functionalization for the three-year study period.



Table 9: Cost Functionalization.

	2024	2025	2026	2027	2028
Base Costs	\$ 470,123	\$ 501,259	\$ 501,521	\$ 527,632	\$ 555,048
Extra-Capacity Costs	249,547	270,497	255,264	268,439	282,273
Customer Costs	<u>190,269</u>	<u>210,441</u>	<u>199,036</u>	<u>209,302</u>	<u>220,081</u>
Total	\$ 909,940	\$ 982,197	\$ 955,821	\$1,005,372	\$1,057,402

STEP 3: CUSTOMER COST ALLOCATION

CUSTOMER COST ALLOCATION BACKGROUND

The establishment of customer classes is important in setting equitable rates, so that costs designated for each class are appropriate. A customer class should include only those customers who:

- a. Are in similar location in relation to the utility;
- b. Use the same or similar facilities of the utility;
- c. Receive similar service from the utility;
- d. Place similar demands on the utility.

The objective of the distribution of costs to customer groups is to avoid cross-subsidization (inequities between customer classes). With this objective in mind, it is imperative to weigh all differences in service commitment and service requirements when determining the customer classes.

Once all appropriate customer classifications have been determined, the next step is to analyze usage patterns for each customer class. Usage analysis includes evaluating the average and peak usage for each customer class. Finally, the cost allocation to customer classes, based on relative usage patterns, is completed.

In analyzing the City's customers and historical use, NH Consulting recommends the City continue to utilize the customer class categories of residential, commercial and apartment.



STEP 4: CUSTOMER GROWTH AND BILLING UNITS

CUSTOMER GROWTH

Population projections for a City should reasonably reflect anticipated future conditions within the City. NH Consulting worked closely with City staff to make projections of future growth within the City.

Table 10: Projected Customer Count.

	2024	2025	2026	2027	2028
Total Customer Count	1,249	1,265	1,283	1,300	1,318

BILLING UNIT PROJECTION

Projecting future consumption first involves an in-depth examination of historical use for each classification of customer. Historical use is analyzed to determine the average use per connection in a “normal” rainfall year. This normalized average use is then applied to the future projected customer could in order to make a future projection of consumption.

Table 11: Projected Water Consumption (Gallons).

	2024	2025	2026	2027	2028
Annual Consumption	102,587,572	103,712,367	104,855,627	106,017,656	107,198,761

STEP 5: RATE DESIGN

NH Consulting has determined that the City’s currently effective water rates are sufficient to meet projected revenue requirements. As such, NH Consulting recommends that the City leave water rates at the currently effective level.

WASTEWATER SYSTEM

As of December 2022, the City had 1,146 wastewater connections. As wastewater is not typically metered, and for many residential customers, a portion of their water use is for outdoor irrigation purposes, their water use is not necessarily representative of what is coming back to the system as wastewater. As a result, it is necessary to employ a methodology for reasonably estimating wastewater use based on water consumption for residential customers.

For residential customers, a winter averaging methodology was utilized for estimating residential wastewater use.

Generally commercial customers are not irrigating, thus, their water use also comes back to the system as wastewater. For that reason, commercial customer billing uses water consumption as a foundation for wastewater billing.

Wastewater Utility





WORK PLAN

The determination of wastewater rates is somewhat simpler as the wastewater utility is not subject to the same influences of peaking as the water utility.

NH Consulting utilized a three-step approach to determining the wastewater rates:

Step 1: Revenue Requirement Determination

Step 2: Customer Count and Billing Unit Determination

Step 3: Rate Design

NH Consulting has performed each of these steps in coordination with City staff; below shows the description and results of each step.

STEP 1: REVENUE REQUIREMENT DETERMINATION

BASE YEAR REVENUE REQUIREMENT

WASTEWATER FUND

To account for the wastewater utility operations, the City has an Enterprise Fund that accounts for water operational revenues and expenditures. To determine the wastewater utility revenue requirements, NH Consulting relied on the City's budgeted and historical actual expenditures within the Wastewater Enterprise Fund as a starting point.

SYSTEM EXPENDITURES

A base year estimate of costs helps to determine the City's future revenue requirements. This cost estimate is reflective of the normal operation of the wastewater utility, and adjusted for known and measurable changes into the future. NH Consulting used the FYE2024 budget as the Test Year for the revenue requirement phase of the study. A comparison FYE2021 actual, FYE2022 estimated and FYE2023 budgeted expenditures has indicated that the FYE2024 Budget provides a conservative estimate of the revenues and expenses associated with the operation of the wastewater utility.

REVENUE OFFSETS

In order to isolate the revenues required by rates from all customers, it was necessary to capture all revenue offsets and remove the corresponding dollar amount from the gross revenue requirement to determine the net revenue requirement. Revenue offsets are items such as late fees and interest income that offset the City's expense.

BASE YEAR REVENUE REQUIREMENT

The base year total revenue requirement determined by the project team for the water utility for FYE 2024 was \$1,195,645.



FIVE-YEAR REVENUE REQUIREMENT

INFLATION

NH Consulting accounted for inflationary influences on annual expenditures by applying a 5% annual inflation rate for most expenditure categories in developing the five-year revenue requirement.

FIVE-YEAR REVENUE REQUIREMENT

Table 12 outlines the five-year revenue requirement for the Wastewater Utility. Schedule 2 shows each line item with details.

Table 12: Wastewater Utility Five-Year Revenue Requirement.

	2024	2025	2026	2027	2028
Revenue Requirements	\$1,195,645	\$1,490,001	\$1,578,363	\$1,612,643	\$1,646,848

STEP 2: CUSTOMER GROWTH AND BILLING UNITS

CUSTOMER GROWTH

The project team worked with City staff to develop reasonable growth projections for the wastewater utility.

Table 13: Wastewater Customer Count Projection.

	2024	2025	2026	2027	2028
Total Customer Count	1,162	1,179	1,195	1,212	1,229

BILLING UNIT PROJECTION

To anticipate usage for each customer classification requires an examination of historical billing units, also known as water consumption, to find the “normal” pattern for each class. Through a “normalized” average usage, per connection, per month, then multiplying the usage by the projected customer count, results in the estimated billing units and consumption. Table 13 presents wastewater billing projections.

Table 14: Wastewater Usage (Gallons)

	2024	2025	2026	2027	2028
Wastewater Billing Projection	76,294,441	77,130,077	77,979,432	78,842,729	79,720,199



STEP 3: DETERMINATION OF WASTEWATER RATES

NH Consulting developed 5 ‘options’ for the City’s consideration:

Option 1: Includes a subsidy from the City’s General Fund in the amount of \$425,117 per year. This option includes a base charge and a volumetric charge for all customers. Commercial customers would be billed for 100% of their water use. Residential customers would be billed based upon winter averaging.

Option 2: Includes a subsidy from the City’s General Fund in the amount of \$425,117 per year. This option includes a base charge and a volumetric charge for all commercial customers. Commercial customers would be billed for 100% of their water use. Residential customers would be a flat fee each month, regardless of individual customer use.

Option 3: This option does not include a subsidy from the General Fund. This option includes a base charge and a volumetric charge for all customers. Commercial customers would be billed for 100% of their water use. Residential customers would be billed based upon winter averaging.

Option 4: This option does not include a subsidy from the General Fund. This option includes a base charge and a volumetric charge for all commercial customers. Commercial customers would be billed for 100% of their water use. Residential customers would be a flat fee each month, regardless of individual customer use.

Option 5: Includes a subsidy from the City’s General Fund in the amount of \$425,117 in year one, and then reduces that subsidy each year so that in the 5th year, the subsidy has been eliminated. This option includes a base charge and a volumetric charge for all customers. Commercial customers would be billed for 100% of their water use. Residential customers would be billed based upon winter averaging.

The recommended rates for each option are presented in Tables 14-20 below.

Table 15: Recommended Wastewater Rates, Option 1

Option 1	Current	2024	2025	2026	2027	2028
Residential Base Fee	\$20.40	\$30.40	\$35.40	\$35.40	\$35.40	\$35.40
Commercial Base Fee	\$30.00	\$50.00	\$55.00	\$55.00	\$55.00	\$55.00
Volumetric Fee	\$ 2.59	\$ 6.52	\$ 9.83	\$ 10.40	\$ 10.96	\$ 11.53



Table 16: Recommended Wastewater Rates, Option 2

Option 2	Current	2024	2025	2026	2027	2028
Residential Monthly	\$20.40	\$ 66.60	\$ 81.66	\$ 85.10	\$ 85.55	\$ 85.95
Commercial Base Fee	\$30.00	\$50.00	\$55.00	\$55.00	\$55.00	\$55.00
Volumetric Fee	\$ 2.59	\$ 6.27	\$ 9.79	\$ 10.91	\$ 11.38	\$ 11.86

Table 17: Recommended Wastewater Rates, Option 3

Option 3	Current	2024	2025	2026	2027	2028
Residential Base Fee	\$20.40	\$30.40	\$35.40	\$35.40	\$35.40	\$35.40
Commercial Base Fee	\$30.00	\$50.00	\$55.00	\$55.00	\$55.00	\$55.00
Volumetric Fee	\$ 2.59	\$ 12.09	\$ 15.34	\$ 15.85	\$ 16.35	\$ 16.86

Table 18: Recommended Wastewater Rates, Option 4

Option 4	Current	2024	2025	2026	2027	2028
Residential Monthly	\$20.40	\$ 90.28	\$ 104.96	\$ 108.02	\$ 108.10	\$ 108.14
Commercial Base Fee	\$30.00	\$50.00	\$55.00	\$55.00	\$55.00	\$55.00
Volumetric Fee	\$ 2.59	\$ 11.84	\$ 15.36	\$ 16.48	\$ 16.95	\$ 17.43

Table 19: Recommended Wastewater Rates, Option 5

Option 3	Current	2024	2025	2026	2027	2028
Residential Base Fee	\$20.40	\$30.40	\$35.40	\$35.40	\$35.40	\$35.40
Commercial Base Fee	\$30.00	\$50.00	\$55.00	\$55.00	\$55.00	\$55.00
Volumetric Fee	\$ 2.59	\$ 6.52	\$ 9.83	\$ 11.75	\$ 13.63	\$ 16.86

Table 20: Recommended Wastewater Rates, Option 6

Option 6	Current	2024	2025	2026	2027	2028
Residential Base Fee	\$20.40	\$30.40	\$35.40	\$40.00	\$45.00	\$45.00
Commercial Base Fee	\$30.00	\$50.00	\$58.00	\$65.00	\$70.00	\$70.00
Volumetric Fee	\$ 2.59	\$ 6.52	\$ 10.53	\$ 10.96	\$ 11.34	\$ 12.63

City of West
Water and Wastewater Department

Cost of Service and Rate Design Study

Schedule 1
Five-Year Revenue Requirement Projection - Water
DRAFT

	2024	2025	2026	2027	2028	Inflation	Notes
Expenses							
Salaries	\$ 222,649	\$ 258,781	\$ 271,720	\$ 285,306	\$ 299,572	5%	Assumed 1 new employee split with wastewater. Estimated \$50,000 annual expense
Payroll Taxes	17,022	17,873	18,767	19,705	20,690	5%	
Benefits - Retirement	17,956	18,853	19,796	20,786	21,825	5%	
Benefits - Group Insurance	30,884	32,428	34,049	35,752	37,539	5%	
Utilities	62,500	65,625	68,906	72,352	75,969	5%	
Telephone	10,773	11,312	11,878	12,471	13,095	5%	
General Supplies	71,822	75,413	79,184	83,143	87,300	5%	
Office Supplies	1,436	1,508	1,584	1,663	1,746	5%	
Postage	3,884	4,079	4,283	4,497	4,722	5%	
Chlorine Supplies	40,000	42,000	44,100	46,305	48,620	5%	
Repair - Maint. Equip/Fac	75,000	78,750	82,688	86,822	91,163	5%	
Repair - Maint. Concrete Work	-	-	-	-	-	5%	
Dues & Subscriptions	17,956	18,853	19,796	20,786	21,825	5%	
Legal & Professional	22,179	23,288	24,452	25,675	26,958	5%	
Engineering Fees	-	-	-	-	-	5%	
Travel & Training	2,155	2,262	2,376	2,494	2,619	5%	
Laboratory Fees	15,000	15,750	16,538	17,364	18,233	5%	
Gasoline & Oil	7,182	7,541	7,918	8,314	8,730	5%	
Miscellaneous	71,880	75,474	2,000	2,100	2,205	5%	Due to meter program for next 2 years.
Insurance	38,021	39,922	41,918	44,014	46,214	5%	
Bonding Interest							
Bonding Principal							
Capital Outlay/Improvements	56,500	59,325	62,291	65,406	68,676	5%	
Uniforms	359	377	396	416	437	5%	
Water Purchase	160,000	168,000	176,400	185,220	194,481	5%	
Grant Expense	-	-	-	-	-	5%	
Total Expenditures	\$ 945,157	\$ 1,017,415	\$ 991,038	\$ 1,040,590	\$ 1,092,619		
Revenues							
Property Taxes	\$ -	\$ -	\$ -	\$ -	\$ -		

**City of West
Water and Wastewater Department**

Cost of Service and Rate Design Study

Schedule 1

Five-Year Revenue Requirement Projection - Water

DRAFT

	2024	2025	2026	2027	2028	Inflation	Notes
Water Sales	-	-	-	-	-		
Sewer Service	-	-	-	-	-		
Water Tap	5,000	5,000	5,000	5,000	5,000		
Sewer Tap	-	-	-	-	-		
Late Charges	18,364	18,364	18,364	18,364	18,364		
Miscellaneous	1,836	1,836	1,836	1,836	1,836		
Interest	-	-	-	-	-		
Collection Fees	<u>10,017</u>	<u>10,017</u>	<u>10,017</u>	<u>10,017</u>	<u>10,017</u>		
Total Revenues	\$ 35,218	\$ 35,218	\$ 35,218	\$ 35,218	\$ 35,218		

Total Revenue Requirement	\$ 909,940	\$ 982,197	\$ 955,821	\$ 1,005,372	\$ 1,057,402		
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TRUE

2022 Estimated Actual Revenues \$ 1,135,000

City of West
Water and Wastewater Department

Cost of Service and Rate Design Study

Schedule 2A

Five-Year Revenue Requirement Projection - Wastewater - OPTION 5, 5-Year Transitional Plan for Alleviation of General Fund Subsidy
DRAFT

	2024	2025	2026	2027	2028	Inflation	Notes
Expenses							
Salaries	\$ 87,351	\$ 166,719	\$ 175,055	\$ 183,807	\$ 192,998	5%	Assumed 1 new employee split with water. Estimated \$50,000 annual expense. Plus added a second employee to be fully dedicated to sewer.
Payroll Taxes	6,678	7,012	7,363	7,731	8,117	5%	
Benefits - Retirement	7,044	7,397	7,767	8,155	8,563	5%	
Benefits - Group Insurance	12,116	12,722	13,358	14,026	14,728	5%	
Utilities	62,500	85,313	89,578	94,057	98,760	5%	30% increase in electricity, per engineer
Telephone	4,227	4,438	4,660	4,893	5,138	5%	
General Supplies	28,178	29,587	31,066	32,619	34,250	5%	
Office Supplies	564	592	621	652	685	5%	
Postage	3,616	3,796	3,986	4,185	4,395	5%	
Chlorine Supplies	-	-	-	-	-	5%	
Repair - Maint. Equip/Fac	75,000	78,750	82,688	86,822	91,163	5%	
Repair - Maint. Concrete Work	-	-	-	-	-	5%	
Dues & Subscriptions	7,044	7,397	7,767	8,155	8,563	5%	
Legal & Professional	12,821	13,462	14,135	14,842	15,584	5%	
Engineering Fees	50,000	52,500	55,125	57,881	60,775	5%	
Travel & Training	845	888	932	979	1,028	5%	
Laboratory Fees	-	-	-	-	-	5%	
Gasoline & Oil	2,818	2,959	3,107	3,262	3,425	5%	
Miscellaneous	1,099	1,154	1,212	1,272	1,336	5%	
Insurance	21,979	23,078	24,232	25,444	26,716	5%	
Bonding Interest	970,022	1,027,665	1,003,165	978,190	951,678		Per debt payment schedule
Bonding Principal	475,000	445,000	480,000	510,000	540,000		Per debt payment schedule
Capital Outlay/Improvements	56,500	59,325	62,291	65,406	68,676	5%	
Uniforms	141	148	155	163	171	5%	
Water Purchase	-	-	-	-	-	5%	
Grant Expense	-	-	-	-	-	5%	
Total Expenditures	\$ 1,885,544	\$ 2,029,900	\$ 2,068,262	\$ 2,102,542	\$ 2,136,747		

Revenues

City of West
Water and Wastewater Department

Cost of Service and Rate Design Study

Schedule 2A

Five-Year Revenue Requirement Projection - Wastewater - OPTION 5, 5-Year Transitional Plan for Alleviation of General Fund Subsidy
DRAFT

	2024	2025	2026	2027	2028	Inflation	Notes
Property Taxes	\$ 425,117	\$ 425,000	\$ 320,000	\$ 215,000	\$ -		
Water Sales	-	-	-	-	-		
Sewer Service	-	-	-	-	-		
Water Tap	-	-	-	-	-		
Sewer Tap	4,500	4,500	4,500	4,500	4,500		
Late Charges	36,636	36,636	36,636	36,636	36,636		
Miscellaneous	3,664	3,664	3,664	3,664	3,664		
Interest	200,000	50,000					Per staff. Due to spending of CO funds.
Collection Fees	<u>19,983</u>	<u>19,983</u>	<u>19,983</u>	<u>19,983</u>	<u>19,983</u>		
Total Revenues	\$ 689,899	\$ 539,782	\$ 384,782	\$ 279,782	\$ 64,782		

Total Revenue Requirement	\$ 1,195,645	\$ 1,490,118	\$ 1,683,480	\$ 1,822,760	\$ 2,071,965		
	TRUE						

2022 Estimated Actual Revenues \$ 430,000

City of West
Water and Wastewater Department

Cost of Service and Rate Design Study

Schedule 2B

Five-Year Revenue Requirement Projection - Wastewater - OPTION 6 - 7-Year Transitional Plan from General Fund Subsidy

DRAFT

	2024	2025	2026	2027	2028	Inflation	Notes
Expenses							
Salaries	\$ 87,351	\$ 166,719	\$ 175,055	\$ 183,807	\$ 192,998	5%	Assumed 1 new employee split with water. Estimated \$50,000 annual expense. Plus added a second employee to be fully dedicated to sewer.
Payroll Taxes	6,678	7,012	7,363	7,731	8,117	5%	
Benefits - Retirement	7,044	7,397	7,767	8,155	8,563	5%	
Benefits - Group Insurance	12,116	12,722	13,358	14,026	14,728	5%	
Utilities	62,500	85,313	89,578	94,057	98,760	5%	30% increase in electricity, per engineer
Telephone	4,227	4,438	4,660	4,893	5,138	5%	
General Supplies	28,178	29,587	31,066	32,619	34,250	5%	
Office Supplies	564	592	621	652	685	5%	
Postage	3,616	3,796	3,986	4,185	4,395	5%	
Chlorine Supplies	-	-	-	-	-	5%	
Repair - Maint. Equip/Fac	75,000	78,750	82,688	86,822	91,163	5%	
Repair - Maint. Concrete Work	-	-	-	-	-	5%	
Dues & Subscriptions	7,044	7,397	7,767	8,155	8,563	5%	
Legal & Professional	12,821	13,462	14,135	14,842	15,584	5%	
Engineering Fees	50,000	52,500	55,125	57,881	60,775	5%	
Travel & Training	845	888	932	979	1,028	5%	
Laboratory Fees	-	-	-	-	-	5%	
Gasoline & Oil	2,818	2,959	3,107	3,262	3,425	5%	
Miscellaneous	1,099	1,154	1,212	1,272	1,336	5%	
Insurance	21,979	23,078	24,232	25,444	26,716	5%	
Bonding Interest	970,022	1,027,665	1,003,165	978,190	951,678		Per debt payment schedule
Bonding Principal	475,000	445,000	480,000	510,000	540,000		Per debt payment schedule
Capital Outlay/Improvements	56,500	59,325	62,291	65,406	68,676	5%	
Uniforms	141	148	155	163	171	5%	
Water Purchase	-	-	-	-	-	5%	
Grant Expense	-	-	-	-	-	5%	
Total Expenditures	\$ 1,885,544	\$ 2,029,900	\$ 2,068,262	\$ 2,102,542	\$ 2,136,747		

Revenues

City of West
Water and Wastewater Department

Cost of Service and Rate Design Study

Schedule 2B

Five-Year Revenue Requirement Projection - Wastewater - OPTION 6 - 7-Year Transitional Plan from General Fund Subsidy

DRAFT

	2024	2025	2026	2027	2028	Inflation	Notes
Property Taxes	\$ 425,117	\$ 365,117	\$ 305,117	\$ 245,117	\$ 185,117		
Water Sales	-	-	-	-	-		
Sewer Service	-	-	-	-	-		
Water Tap	-	-	-	-	-		
Sewer Tap	4,500	4,500	4,500	4,500	4,500		
Late Charges	36,636	36,636	36,636	36,636	36,636		
Miscellaneous	3,664	3,664	3,664	3,664	3,664		
Interest	200,000	50,000					Per staff. Due to spending of CO funds.
Collection Fees	<u>19,983</u>	<u>19,983</u>	<u>19,983</u>	<u>19,983</u>	<u>19,983</u>		
Total Revenues	\$ 689,899	\$ 479,899	\$ 369,899	\$ 309,899	\$ 249,899		

Total Revenue Requirement	\$ 1,195,645	\$ 1,550,001	\$ 1,698,363	\$ 1,792,643	\$ 1,886,848		
	TRUE						

2022 Estimated Actual Revenues \$ 430,000