KITSAP COUNTY

Sewer Revenue Requirement and Cost of Service Findings

Submitted by:

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Submitted to:

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July 26, 2025

DRAFT REPORT

July 26, 2025

Nick Martin, PMP
Sewer Utility Division Manager
507 Austin Avenue
Port Orchard, WA 98366

Re: Kitsap County Sewer Revenue Requirement and Cost of Service Findings

Dear Mr. Martin,

In this report, we present the sewer utility revenue requirement forecast, cost of service findings, and rate plan scenarios presented at the County Board of Commissioners meeting on April 2, 2025. The recommended rate strategy described in this draft report is the option preferred by the Board, based on the April 2 presentation and subsequent discussions between the Board and staff.

It has been a pleasure to work with you and other County staff on this effort. Please let us know if you have any questions or need additional information.

Sincerely,

John Ghilarducci
Principal

Gordon Wilson
Senior Program Manager

Chase Bozett
Assistant Project Manager

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1.0 Executive Summary

Study Background

In January 2025, Kitsap County contracted with FCS, a Bowman company, for follow-up work related to the financial forecast that was originally completed in December 2024 as part of the updated General Sewer Plans for the County's four basins—Central Kitsap, Manchester, Suquamish, and Kingston. The updated General Sewer Plans were prepared by the engineering firm Consor, and FCS was contracted as a subconsultant to Consor. The December 2024 financial forecast was incorporated into the Plan documents that were submitted by Consor to the County and the Washington Department of Ecology in January 2025.

The December 2024 forecast assumed that any needed rate increases would be across-the-board (ATB)—in other words, there would be equal percentage increases to the rates for each customer class. Rates for 2025 had already been adopted by the County, so the rate projections extended from 2026 through 2042. The results of the forecast were that across-the-board rate increases of 6% per year would be needed over that 17-year period. These increases were necessary to fund projected capital, operating and debt service requirements and achieve the County's fiscal policy targets.

Updated Revenue Requirement Forecast

One reason for the follow-up work is that the capital cost estimates changed in early 2025, after the December 2024 forecast. There was a $29.8 million increased cost for the largest of the planned projects—the Solids and Liquid Hauled Waste Upgrades at the Central Kitsap Treatment Plant. (For convenience, this is sometimes referred to as the "digester project," even though it actually includes other elements in addition to new digesters.) The digester project is currently underway, and as the design engineering and bid process moved forward, the cost estimates became more reliable and also—in this case—higher. Because of the higher cost and changes to the timing of the digester project, the overall rate forecast needed to be updated.

Cost-of-Service Analysis and Updated Hauled Waste Rates

In addition to updating the overall financial forecast, the County requested a cost-of-service analysis to evaluate the relative cost burden of each of the major customer classes. The forecast submitted with the General Sewer Plans had assumed across-the-board rate increases to fund the CIP, but a cost-of-service analysis was expected to reveal different levels of cost recovery for different customer classes. So there was a possibility that the rates to be adopted for 2026 and beyond would be able to address the imbalance in cost recovery.

The major customer classes connected to sewer lines are Residential, Multi-family, Commercial, and Restaurant. There are also three types of wastes that are hauled to the Central Kitsap Plant in trucks, not through pipes: septage collected from private septic systems, Fats Oils & Grease (FOG) collected from restaurant FOG tanks, and Waste-Activated Sludge (WAS) received from non-County treatment plants. (The County has opted to combine FOG and WAS into a single blended rate, so this report often refers to a single "FOG/WAS" rate.) Part of the cost-of-service analysis was aimed at determining the rates at which the septage, FOG and WAS services would fully recover their costs.

Results

That analysis has been performed and is the subject of this report. First, the across-the-board rate increases were updated in light of updated capital costs for the digester project. Then the cost-of-service was analyzed for each customer class. As expected, the hauled waste rates can justifiably be raised faster than the across-the-board rate increases. If hauled waste rates rise to their full cost of service, this change can take some of the pressure off the rate increases for connected sewer customers. In addition, the cost-of-service analysis revealed imbalances among the different classes of connected sewer customers. Relative to the cost of serving them, restaurant and multi-family customers have been paying too little, while residential and commercial customers have been paying too much.

On April 2, 2025, we presented the updated forecast and cost-of-service analysis to the County Board of Commissioners. The presentation included three potential strategies for implementing the needed rate increases. In Scenario 1, if rates were increased across-the-board with no cost-of-service adjustment, annual increases for the first five years would need to be 8% rather than the previously projected 6%, because of the increased cost of the digester project. (In all scenarios, the projected annual rate increases in future years are 6% for 2031-2037 and 4.5% for 2038-2042.) Scenario 2 assumed that higher hauled waste rates would be phased in over a five-year period, thus allowing the overall increases to connected sewer customers to be 6% per year for the first five years—the same increases originally called for in the December 2024 forecast. However, in Scenario 2, imbalances among the connected sewer customers would remain. In Scenario 3, all classes would gradually be adjusted so that they each pay their full cost of service by 2030. After the April 2 meeting and subsequent discussions between the Board and staff, Scenario 3 was preferred by the Board and is recommended here.

Exhibit 1 below outlines the recommended 2026-2030 rate strategy. Annual increases through 2030 for connected sewer customers are 5.25% for residential and commercial, 7.75% for multi-family, and 10% for the restaurant class. For septage and WAS/FOG customers, the increases are 50% in 2026, 37.5% in 2027, 30.3% in 2028, and 25.58% in 2029. The 2030 increase is 20.37% for septage and 22.22% for FOG/WAS. The recommended strategy achieves the goal of charging each customer class for its equitable share of utility costs by 2030.

Exhibit 1. Summary of Recommended Rates 2026-2030

Customer Class	2026	2027	2028	2029	2030
Residential (per unit per month)	$109.72	$115.48	$121.55	$127.93	$134.64
Multi-Family (per unit per month)	$89.53	$96.47	$103.94	$112.00	$120.68
Commercial (per cubic foot)	$0.156	$0.164	$0.173	$0.182	$0.191
Restaurant (per cubic foot)	$0.260	$0.286	$0.314	$0.346	$0.380
FOG/WAS (per gallon)	$0.240	$0.330	$0.430	$0.540	$0.660
Septage (per gallon)	$0.240	$0.330	$0.430	$0.540	$0.650

FOG refers to Fats, Oils & Grease delivered from restaurants.
WAS refers to Waste-Activated Sludge received from non-County treatment plants.

2.0 Introduction

Study Background

General Sewer Plan Updates

The Kitsap County sewer system has four basins, each with a treatment plant and a corresponding collection system: Central Kitsap, Manchester, Suquamish, and Kingston. As required by the Washington Department of Ecology, the County has been updating its General Sewer Plans. The engineering firm Consor prepared a set of General Sewer Plan Updates in 2024, including an updated capital improvement plan (CIP) for each basin.

As a part of the General Sewer Plan Updates, FCS, a Bowman company was contracted as a subconsultant to Consor to conduct a financial forecast. The purpose of the forecast was to demonstrate the financial viability of the capital plan presented in the plan. This forecast was performed during 2024, with projected rates to be effective beginning January 2026. The draft Plan documents—including the financial forecast—were prepared in December 2024 and submitted in January 2025 by Consor for review by the County and the Washington Department of Ecology.

While the capital planning was performed separately for each basin, the County does not separate its sewer utility financial information by basin, so all financial data and sewer rates in the December 2024 forecast—and in this report—apply to the combined County sewer utility.

The December 2024 forecast assumed that any needed rate increases would be across-the-board (ATB)—in other words, there would be equal percentage increases to the rates for each customer class. Rates for 2025 had already been adopted by the County, so the time horizon for the rate forecast was 2026-2042. The results of the forecast were that annual across-the-board rate increases of 6% per year would be needed over that 17-year period. These increases were necessary to fund projected capital, operating and debt service requirements and achieve the County's fiscal policy targets.

Follow-up Analysis

In January 2025, the County contracted directly with FCS for follow-up work related to the financial forecast that had been prepared for the General Sewer Plans. The capital cost estimates had changed in January and February, with increases to the largest of the projects—the Solids and Liquid Hauled Waste Upgrades at the Central Kitsap Treatment Plant. (For convenience, this is sometimes referred to as the "digester project," even though it actually includes other elements in addition to new digesters.) The digester project is currently underway, and as the design engineering and the bid process move forward, the cost estimates became more reliable and also—in this case—higher. The total cost of the project increased from $140 million to $169.8 million. Because of the higher cost and changes to the timing of the digester project, an updated rate forecast was needed.

In addition to updating the capital cost information, the County requested a cost-of-service analysis to evaluate the relative cost burden of each of the major customer classes. The forecast submitted with the General Sewer Plans had assumed across-the-board rate increases to fund the CIP, but a cost-of-service analysis was expected to reveal different levels of cost recovery for different customer classes. So there was a possibility that the rates to be adopted for 2026 and beyond would be able to address the imbalance in cost recovery.

The major customer classes connected to sewer lines are Residential, Multi-family, Commercial, and Restaurant. There are also three types of wastes that are hauled to the Central Kitsap Plant in trucks, not through pipes:

septage collected from private septic systems, Fats Oils & Grease (FOG) collected from restaurant FOG tanks, and Waste-Activated Sludge (WAS) received from non-County treatment plants.[1] (The County has opted to combine FOG and WAS into a single blended rate, so this report often refers to a single "FOG/WAS" rate.) Part of the cost-of-service analysis was aimed at determining the rates at which the septage, FOG and WAS services would fully recover their costs.

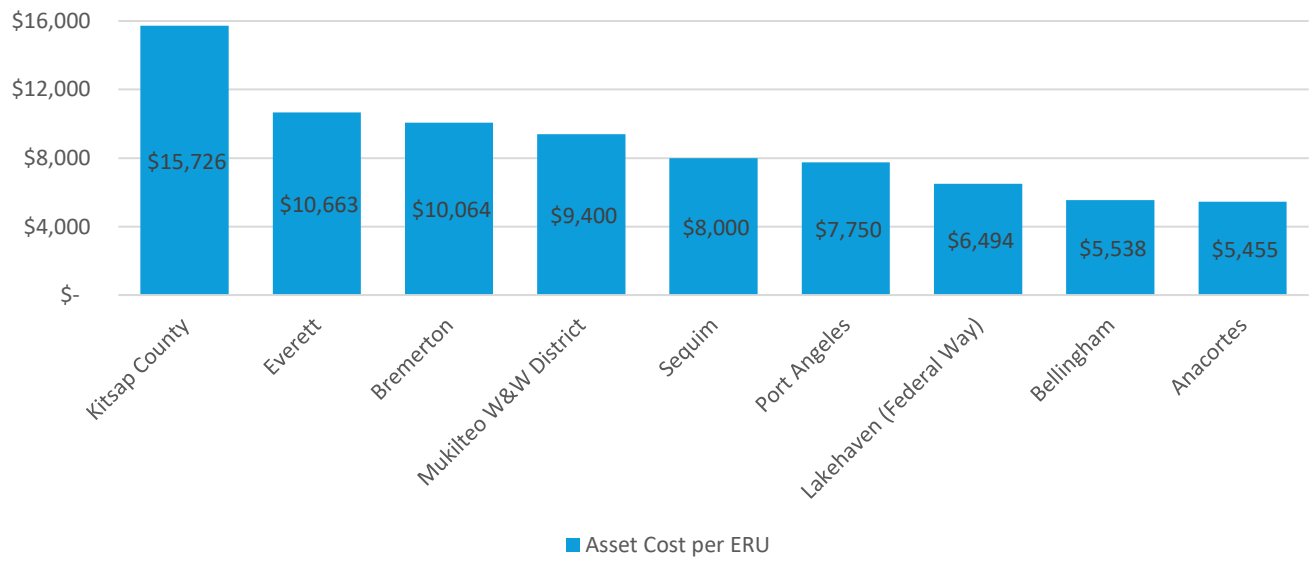
Context – Impact of Population Density on Sewer Rates

The Kitsap County sewer system has an unusually large amount of infrastructure in relation to its customer base. According to the General Sewer Plan Updates prepared by Consor, the County sewer system includes not only the four wastewater treatment plants but also 195.5 miles of sewer pipe and 59 pump stations. According to the County's accounting records, the original cost of the assets in the sewer system totals about $309 million.

The General Sewer Plan Updates also contain data on the number of equivalent residential units (ERUs). For the four basins, there was a total of 19,649 ERUs as of 2020, meaning that the estimated total asset cost was $15,726 per ERU. This indicates that the County has a very spread-out service area, with low population density.

Exhibit 2 shows the approximate cost of assets per ERU for several other sewer utilities for which we would obtain data. (The data was approximate and not always current, but our goal here was just to compare the order of magnitude.) In this comparison, the Kitsap County asset cost per ERU was over $15,000, the next three utilities were on either side of $10,000 per ERU, and the remaining sewer utilities were well below $10,000 per ERU.

Exhibit 2. Asset Cost per Equivalent Residential Unit (ERU) - Sewer Utilities



This observation is significant because assets drive costs, but ERUs drive revenue. The higher the cost per ERU, the higher a utility's rates will likely have to be in order to build, maintain, and operate the system. The implication is that the Kitsap County sewer rates will tend to be higher than other utilities with higher-density

[1] The sludge is transported to the Central Kitsap plant to undergo a higher level of treatment than is available at smaller treatment plants. The Central Kitsap plant also receives WAS from the County's Manchester, Suquamish and Kingston plants, but there is no charge for internal WAS deliveries.

populations in their service areas. This is not an indication of poor management; rather, it reflects the characteristics of the service area.

In fact, there are indicators of good management of the County sewer system. One is that the four basins have combined budgets and blended rates. As a result of this policy decision, capital investment can rotate among the basins, and all areas can have the same performance standards. Another indicator of good management is the fact that the County has kept up with its rates and newcomer charges over time. Gradual increases are less disruptive to customers and avoid the "rate shock" that would occur if rates were frozen and then had a sudden spike.

But good management cannot overcome the disadvantage resulting from relatively few customers paying for a large amount of fixed infrastructure. In Washington, cities tend to benefit from higher-density sewer service areas, while counties and public utility districts (PUDs) tend to shoulder the responsibility for smaller, less efficient service areas.

Significance of Septage Business

One implication of the County's spread-out service area is that hauled septage waste is a significant share of the total treated waste at the Central Kitsap treatment plant. According to staff, there are about 54,000 households in the County on septic systems, while there are 19,649 ERUs connected to sewers. In areas with more urban development, septage revenue tends to be a minor percentage of the total revenue collected. For example, septage fees in Everett were about 0.5% of rate revenue in 2023; in Bellingham, septage fees in 2023 were about 0.2% of rate revenue. In Kitsap County, septage revenue in 2023 was 5.1% of rate revenue.

Later in this report, the cost-of-service analysis will show that the County's hauled waste fees currently recover less than 40% of the cost of serving these customers. In other words, hauled waste customers have been subsidized in the past by connected sewer customers. Because hauled waste is already a large share of total revenue, correcting the imbalance in cost recovery can significantly offset the rate increases that would otherwise be needed from connected sewer customers.

Overview of Report

This report documents three main subjects presented to the Kitsap County Board of Commissioners in April 2025.

1. **Revenue Requirement Forecast:** This determines the annual level of overall rate increases needed to support the sewer utility. The rate increases presented to the Board in April 2025 and documented in this report supersede the rate increases that were included in the General Sewer Plan Updates. The revenue requirement section of the report includes a separate discussion of the County's fiscal policies, which contain key parameters for the revenue requirement forecast.
2. **Cost of Service Analysis:** This evaluates how different customer classes utilize the system, and it compares the revenue generated by each customer class with the cost to serve those customers.
3. **Rate Strategy Options:** These options consider how best to incorporate the findings of the cost-of-service analysis to meet the projected revenue requirement.

Revenue Requirement Forecast

The revenue requirement forecast identifies the total revenue needed to fully fund the utility on a stand-alone basis considering current and future financial obligations.

Exhibit 3 shows that the revenue requirement forecast is a two-step process.

Exhibit 3. Revenue Requirement Process

	Capital Funding Strategy
	Total Capital Projects
-	Grants
-	Wholesale Contributions
-	Newcomer Fees
-	Rate-Funded Capital
-	Cash Reserves
=	Debt Funding (Loans or Bonds)

	Annual Forecast
	Fiscal Policy Targets
+	Operating Costs
+	Existing & New Debt Service
+	Rate-Funded Capital
=	Revenue Requirement
-	Offset Revenues
=	Revenue Required from Retail Rates

The first step is the capital funding strategy, shown in the left column. We begin with the total capital improvement program (CIP) provided by Consor and County staff. We then subtract all of the non-debt funding sources. The remainder is the amount of borrowing needed. The number at the bottom of the first column—the debt needed to fund the remainder of the capital program—determines the amount of new debt service, which is an annual cost seen in the next column.

The second step is the annual forecast, shown in the column to the right. The fiscal policy targets include minimum reserve balances that must be maintained in the forecast. To that number we add each year's projected operating costs, existing and new debt service, and the amount of current rate funding used for capital expenditures. After deducting non-rate revenue, we now know how much money is needed each year from rates.

The rate revenue requirement is next compared with the revenue projected to be generated by current rates. In addition, we test the current rates against required "debt service coverage," which is an important fiscal policy explained below. If the current rates are insufficient—either because they do not generate enough cash or because the debt service coverage target is not met—then the forecast rates are adjusted to the degree necessary to balance the cash flow requirements and ensure that the coverage target is achieved.

Cost of Service Analysis

The purpose of a cost-of-service analysis is to provide a rational basis for distributing the total utility cost in proportion to the demands each customer class places on the system. Detailed cost allocations, along with appropriate customer class designations, help to improve the degree of equity that can be achieved in the resulting rate structure design. The key analytical steps in the cost-of-service analysis are as follows:

- **Functional Cost Allocation**. This step apportions the annual revenue requirement to the major functions of the system: customer, flow (both collection and treatment), biological oxygen demand (BOD), and total suspended solids (TSS). In addition, the County has identified specific parts of the digester project that are driven solely by septage and FOG deliveries; the cost of those improvements are assigned to separate functional categories. Note that at a later stage of the analysis, septage, FOG, and WAS customers all receive a share of the general treatment costs: treatment flow, BOD, and TSS.

- **Customer Class Designation**. This step identifies the customer classes that will be evaluated as part of the study. It is appropriate to group customers that exhibit similar usage characteristics and facility requirements. In this study, we kept the County's current rate classes: residential, multi-family, commercial, restaurant, septage, and FOG/WAS. FOG and WAS have separate costs, but the County has opted to combined them into a single FOG/WAS blended rate.
- **Customer Cost Allocation**. This step allocates the costs from the functional cost allocation to different customer classes based on their unique demands for each service as defined by system planning documents, industry practice, operational data from the treatment plant, and recorded user history (from billing data). The resulting allocated cost is compared with the actual revenue generated under current rates, thus revealing where the rate burden needs to shift from one group of customers to another.

Rate Strategy Options

This study assumed that there are no changes to the *rate structure*—i.e., the basic units that determine how each customer bill is defined and calculated. Therefore, residential and multi-family bills are still calculated *per residential unit*; commercial and restaurant bills are still charged *per cubic foot of billed water usage*; and septage and FOG/WAS bills are still based on the *number of gallons* in each delivery of hauled waste.

However, it is still important to consider how best to incorporate the cost-of-service findings into the rates. To this end, we prepared three scenarios for Board consideration. The impact of each scenario is discussed below.

3.0 Fiscal Policies

Fiscal policies are part of the basic framework for determining the adequacy of rate revenue. The policy topics most relevant to a revenue requirement forecast have to do with cash reserves, debt management, and the amount of rate revenue committed to capital funding. (Reserves are another term for fund balance.)

Target Operating Reserve

An operating reserve is a liquidity cushion; it protects the utility from the risk of short-term variation in the timing of revenues or expenses. For operating reserves, the target often has a minimum and a maximum. For any given year, if the forecast shows an ending fund balance *below the minimum*, rates need to be raised higher. If the forecast shows the ending balance *above the maximum*, the excess cash is re-characterized as a capital reserve.

The Kitsap County operating reserve target for its sewer utility is 90 days (25%) of annual operating expenses. The most common operating reserve target for sewer utilities is between 45 days and 60 days (12%-16%) of annual operating expenses. However, Kitsap County sewer rates include a volume charge for non-residential customers, which introduces more variability and risk into the revenue stream. The County cash reserve policy therefore calls for a larger cushion, and that is the target assumed in this study.

Recommended Policy: Achieve a year-end operating fund balance of **90 days (25%)** of total annual operating expenses. *Results:* For 2025, this amount is forecasted to be about $4.0 million; it increases throughout the forecast period as operating costs increase with inflation.

Minimum Capital Reserve

The capital fund balance fluctuates naturally because it serves two functions. First, capital reserves are a capital funding tool, the means by which a utility saves up in advance of major capital projects and avoids overreliance on debt. Utilities tend to go through waves of capital investment, so the reserve balance tends to grow over time and then drop suddenly after a large capital project.

There is also a second function of a capital reserve. It also serves as a risk reserve just like the operating reserve, giving the utility the flexibility to respond to unanticipated needs. Such needs could include a capital cost overrun, an unexpected failure of a major asset, or an unexpected regulatory requirement requiring capital investment. A cash cushion gives the utility flexibility to address unforeseen capital needs in a logical way, without disrupting other capital projects.

That cash cushion is achieved by having a *minimum* capital fund balance in the projections. In other words, when we forecast capital spending and the fund balance naturally goes up and down, we only allow it to go down so far—only as far as the target minimum—not all the way to zero.

The County's minimum capital reserve is defined as 1% of the original cost of fixed assets, and that is the target assumed in this study. This minimum naturally increases over time, as capital investment leads to a growing inventory of assets.

Recommended Policy: Achieve a year-end minimum capital balance target of **1% of the original cost of assets**. *Results:* This equates to roughly $3.1 million for year-end 2025 and increases to $9.3 million in 2042 as capital is constructed.

Minimum Operating and Capital Cash

In recent years, bond rating agencies have increasingly focused on the combined operating and capital cash balance. A favorable indicator is when a utility maintains a combined year-end cash reserve of at least 180 days (50%) of annual operating expenses. That is the policy target we recommend here.

Recommended Policy: Maintain a minimum year-end operating and capital balance of 180 days (50%) of annual operating expenses. *Results:* This equates to roughly $8.1 million for year-end 2025 and increases thereafter. In this forecast, the 180-day target is achieved in all years.

In the early years of the forecast, this target is higher than the sum of the previous two metrics (90 days of operating reserves plus 1% of original cost of assets). In the latter years of the forecast, the sum of the other two reserve targets exceeds the 180-day metric. This is shown graphically later in this report as part of **Exhibit 11**. Either way, it may be beneficial for the utility to monitor the combined operating and capital cash balance in relation to the 180-day target, separate from the policy minimum operating and capital reserves.

Debt Management

The assumption in this forecast is that revenue bonds, when needed, will be issued in even numbered years with a 20-year term, an issuance cost of 1%, and an annual interest rate of 5%.

Debt Service Coverage

Debt service coverage is a requirement typically associated with revenue bonds and some state loans. It is also a useful benchmark to measure the riskiness of a utility's capital funding plans. Coverage is best understood as a factor applied to annual debt service. A typical requirement in selling revenue bonds is that bonded debt service coverage must be at least 1.25 throughout the life of the bonds. That means the County agrees to collect enough revenue each year to meet operating expenses and not only pay debt service but also an additional 25% above bonded debt service. This cushion makes bondholders more confident that debt service will be paid on time. The extra revenue can be used for capital expenditures, to build reserves, or for debt service on subordinate debt.

While the County's contractual minimum coverage is 1.25, achieving coverage greater than the minimum is a positive signal that bond rating agencies notice, and it can result in more favorable borrowing terms. For that reason, we recommend a policy target of at least 1.5 for the County's bonded debt service coverage.

Recommended Policy: Set rates to achieve **bonded debt service coverage of at least 1.50.** *Results:* The utility is forecasted to achieve this policy in all years of the forecast.

Additional Debt-Related Metrics

In addition to the policy on debt service coverage, our forecast also paid attention to two other debt-related metrics:

- Outstanding debt as a percentage of total assets ("debt-to-total-assets ratio"), and
- Projected debt service as a percentage of annual revenue ("Debt service load").

These supplemental metrics are useful for assessing the cumulative effect of a long series of borrowing decisions over time. There is not a formal policy for these two metrics, but we do have a "soft" guideline when we look at the forecast results. While allowing for exceptions in any given year, we aim to keep both of these measures below 50% through the forecast period. These metrics will be seen later in this report, in **Exhibit 13**.

Rate-Funded Capital Investment

To avoid overreliance on debt, it is useful to have a target for the amount of capital investment that is funded by rates ("pay-as-you-go"). A common benchmark is to aim for rate-funded capital of at least 100% of original cost depreciation by the end of the forecast period. We recommend that approach.

Recommended Policy: Rate revenue should **fund 100% of original cost depreciation expense** by the end of the forecast period. Annual depreciation is $7.8 million in 2025, growing to $20.4 million by 2042. *Results:* In this forecast, rate-funded capital at 100% of depreciation is first achieved in 2036 and continues through the remainder of the forecast.

Exhibit 4 provides a summary of the recommended fiscal policies for the sewer utility.

Exhibit 4. Summary of Fiscal Policies

Policy	Recommended Target
Operating Reserve	90 days (25%) of annual O&M expenses (initially, $4.0 million)
Minimum Capital Reserve	1% of original cost of plant-in-service (initially, $3.1 million)
Minimum Operating & Capital Cash	180 days (50%) of annual O&M expenses (initially, $8.1 million)
Debt Service Coverage	A policy target of at least 1.50 for bonded debt, which is higher than the contractual minimum of 1.25
Rate-Funded (Pay-as-You-Go) Capital Investment	At least 100% of original cost depreciation by the end of the study period ($20.4 million by 2042)

4.0 Revenue Requirement Forecast

The revenue requirement forecast identifies the overall rate increases needed to fully fund the utility on a standalone basis through the forecast horizon of 2042, considering current and projected financial obligations. The financial obligations include operating expenditures, debt service, fiscal policies, and future capital projects. Rates have already been adopted for 2025, with a 6.31% increase, so the projected future rates begin in 2026. At this stage of the analysis, rate increases are characterized as "across-the-board" increases. The cost-of-service analysis described in the next section considers separate rate increases for different customer classes.

Key Assumptions and Data Sources

The operating expenditure forecast relies primarily on the County's 2024 adopted budget. The line items in the budget are then adjusted each year by one of the following factors:

- **General Cost Inflation –** After conversations with staff, we assumed 4% in 2024 followed by 3% per year thereafter.
- **Construction Cost Inflation –** Unless otherwise mentioned, all project costs were given in 2023 dollars, then escalated for construction inflation of 8% in 2024, 4% per year thereafter.
- **Labor Cost Inflation –** Assumed at 10% for 2025 to reflect the County's compensation study adjustments, followed by 3.5% per year based on the Employment Cost Index for state & local government wages, published by the U.S. Bureau of Labor Statistics.
- **Benefits Cost Inflation –** Assumed at 5% per year, based on the Employment Cost Index for state & local government benefits, published by the U.S. Bureau of Labor Statistics.
- **Taxes –** The State excise tax rate is 3.852%; the State Business and Occupation (B&O) tax rate is 1.75%. The State excise tax applies to rate revenue allocated to the collection system. The B&O tax applies to rate revenue allocated to treatment and transmission, as well as to system development charges and other miscellaneous fees. The forecast assumes that 45% of rate revenue is allocated to the collection system.
- **Fund Earnings –** Assumed to be 4% in 2024 and decreasing one percentage point per year until 2027 and then remaining at 1% for the forecast period. This assumption is based on market conditions as well as historical Local Government Investment Pool (LGIP) returns.
- **Customer Growth –** Conservatively assumed to be 0.5% per year, based on discussion with staff.
- **Operating Budget Execution Factor –** 95% in 2024 followed by 90% for all other years, based on discussions with staff and historical data on actual vs. budgeted spending.

Fund Balances

The County manages two funds related to the sewer utility—an operating and capital fund. In our financial model, we created a third category—debt reserves—to show separately the cash balances that are restricted for debt service repayment. These funds were assumed to come from the operating fund.

Since this analysis was initially performed during 2024, the starting point for the operating forecast was the January 2024 beginning fund balance.

Exhibit 5 shows the 2024 beginning cash balance allocated to operating, capital, and debt purposes for the financial modeling.

Exhibit 5. Cash Balances

Description	2024 Beginning Cash Balances
Operating Fund	$11,560,996
Capital Fund	$369,483
Debt Reserves	$6,827,376
Total Fund Balance	**$18,784,376**

While the capital fund reserves at the beginning of 2024 were below the target of $2.9 million, the operating fund balance more than covered the difference. In our forecast model, any excess operating reserves at the end of a year are re-categorized as available for capital purposes.

Existing Debt

As of January 1, 2025, the sewer utility had $91.7 million in outstanding debt, stemming from four revenue bonds, two state loans from the Public Works Trust Fund (PWTF), and five loans from the State Department of Ecology (DOE). In addition, at the outset of 2025 the County was in the process of securing another DOE loan ($9.85 million) and another PWTF loan ($10 million). Another $10 million PWTF loan is planned for 2026.

Annual debt service payments were about $5.2 million in 2024. In 2025, projected debt service on existing debt (including the large bond issue at the end of 2024 and the two new State loans in 2025) is about $7.9 million. Annual debt service will grow in future years as additional debt is issued, even after taking debt retirements into account.

Capital Expenditure Forecast

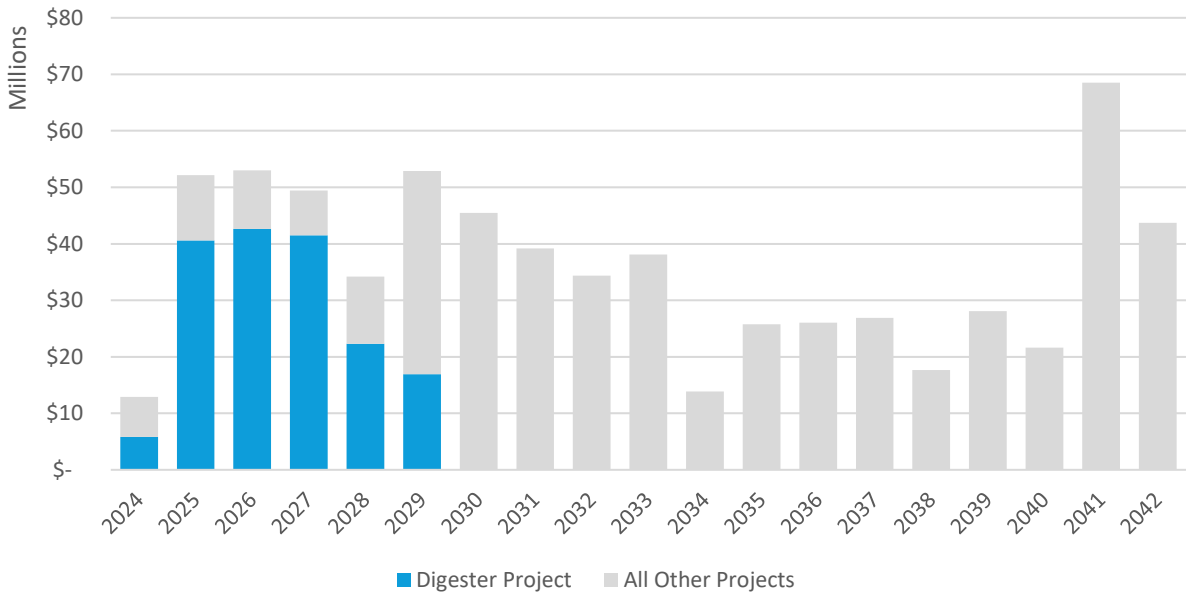
Capital project costs and timing for the period 2024-2042 were developed by Consor with County staff input as part of the General Sewer Plans for the four basins.

County staff have continued to track closely the estimated total cost of the Solids and Liquid Hauled Waste Upgrades project (the digester project). The digester project represents $169.8 million, or 25 percent of the total capital costs through 2042. Because of the size of the digester project and the fact that its engineering is so advanced, its cost estimate is given in escalated dollars—no further inflation factor is applied to the $169.8 million cost estimate.

Overall cost estimates for the 2024-2042 time period totaled approximately $488.9 million before inflation. Applying the escalation assumptions to all projects except the Digester project, total project costs from 2024-2042 after inflation are estimated at $683.7 million.

Exhibit 6 outlines the total capital expenditures per year in inflated dollars, with the digester project shown in the blue columns.

Exhibit 6. Capital Expenditure Forecast 2024-2042 (escalated dollars)



In 2041, the CIP shows a major project ($50.3 million, in escalated dollars) to construct Aeration Basins 5 and 6 at the Central Kitsap plant, based on assumed requirements from the State. In 2042, a major upgrade (Class A Reclaimed Water Improvements, costing $29.9 million in escalated dollars) is shown. For these 2041 and 2042 projects, the nature of the regulatory requirements from the State are uncertain, but these estimates serve as a placeholder to flag the need for additional major investments in future years.

Capital Funding Strategy

As we have seen, the CIP in escalated dollars over the full 19-year period from 2024 through 2042 contains $683.7 million in projects. In the capital funding strategy, our task is to identify where that $683.7 million will come from.

In the forecast model, funding the CIP is based on a set of capital financing alternatives described below:

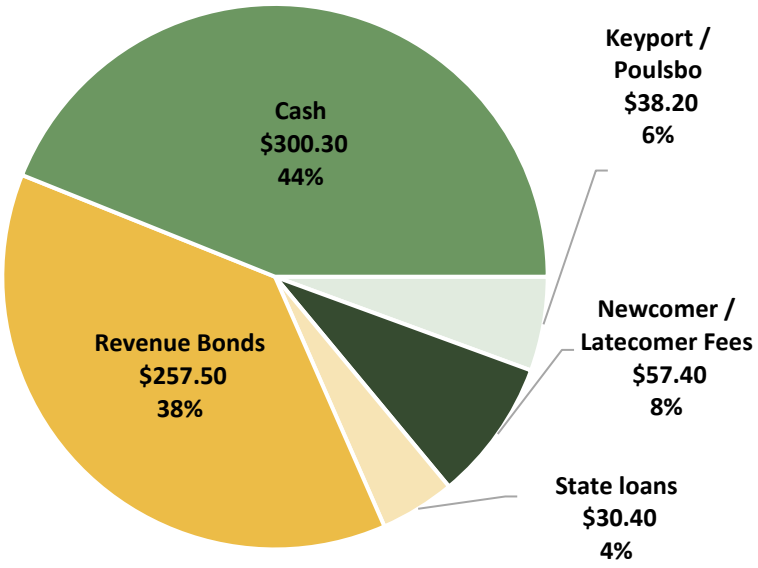
- First is capital cost sharing from U.S. Navy Keyport and Poulsbo. County staff provided estimates for 2024-2029, totaling $28.1 million for the 6-year period. We assumed that the cost share for 2029 ($778,000) continues as an annual amount in future years, so the total through 2042 is $38.2 million.
- Second, any available newcomer or latecomer fee revenue is applied to the capital program. The forecast assumes about $3,000,000 per year in revenue assuming no changes to the charge, or a total of $57.4 million.
- Next, we assume the low-interest loans that the County has received or is pursuing from both PWTF and the Department of Ecology. The assumed total is $30.4 million. Two loans are expected in 2025 and one in 2026.

- The remaining capital funding need is balanced with a mix of cash financing ("pay as you go") and revenue bond debt. Each type of funding works to complement the other to fill the remaining funding gap. This includes:
  - *Cash financing:* Cash financing (also called "pay as you go" funding or "rate-funded capital") can include rate revenue spent on capital expenditures in the same year the revenue is generated. However, most cash financing consists of rate revenue saved as cash reserves and then drawn down in future years. The debt service coverage requirement—by prescribing an additional margin of revenue above the cost of bonded debt service—has the effect of increasing the cash financing of capital.

    In the Kitsap County revenue requirement forecast, cash financing is sufficient to fund $300.3 million of capital expenditures, or 44% of the total.
  - Revenue bonds: After cash reserves are taken into account, we assume that remaining capital costs are funded by revenue bonds. Bonds are assumed to be issued in two-year cycles as needed to cover capital costs for the year of issuance and the following year. In this forecast, revenue bonds are assumed to fund $257.5 million through 2042, or 38% of the total CIP. After the December 2024 bond issue, future bond issues are assumed to be 20-year bonds with 1% cost of issuance and 5% annual interest rate.

Exhibit 7 shows in graphical form the projected sources of funding for this capital program.

Exhibit 7. Capital Funding Sources 2024 – 2042 ($ million)



Planned Low-Interest State Loans

The forecast assumes that the County receives the maximum $10 million in both 2025 and 2026 from the Public Works Trust Fund as well as an additional $9.85 million from the Department of Ecology. The total forecasted debt service on these loans is $1.8 million dollars.

The forecast conservatively assumes that future borrowing will be through revenue bonds, since State loans are competitive and the total pool of available State loan funds can be uncertain from one legislative session to another. However, the County has a good track record of applying for and receiving State loans. To the degree

that the County continues to be successful at receiving State loans in future years, it will help the forecast in two ways:

- State loans generally have lower interest rates than revenue bonds, and
- State loans usually do not come with a debt service coverage requirement.

Grants from the State are much more scarce than low-interest loans, but if any are available in future years, they would also be worth pursuing.

Planned Revenue Bond Debt Issues

The first set of revenue bonds in our 2024-2042 forecast period was issued at the end of 2024. The 2024 bond issue was $30 million; including the bond premium, total proceeds were about $32.5 million. Beginning in 2026, the forecast assumes additional bond issues every two years through 2036, and then another bond issue in 2041.

Exhibit 8 shows the timing and magnitude of the bonded debt proceeds assumed in the financial plan, along with the annual debt service associated with each issue.

Exhibit 8. Planned Revenue Bond Issues in the Financial Forecast

Year	Net Proceeds	Annual Debt Service
2024	$32.5 million*	$2.5 million*
2026	$24 million	$2.1 million
2028	$65 million	$5.7 million
2030	$63 million	$5.3 million
2032	$49 million	$4.1 million
2034	$5 million	$0.4 million
2036	$9 million	$0.8 million
2041	$10 million	$0.8 million
Total	**$257.5 million**	**$21.8 million**

**The 2024 issue includes a premium of approximately $2.5m. Debt service has two years of interest-only payments in 2025 and 2026*

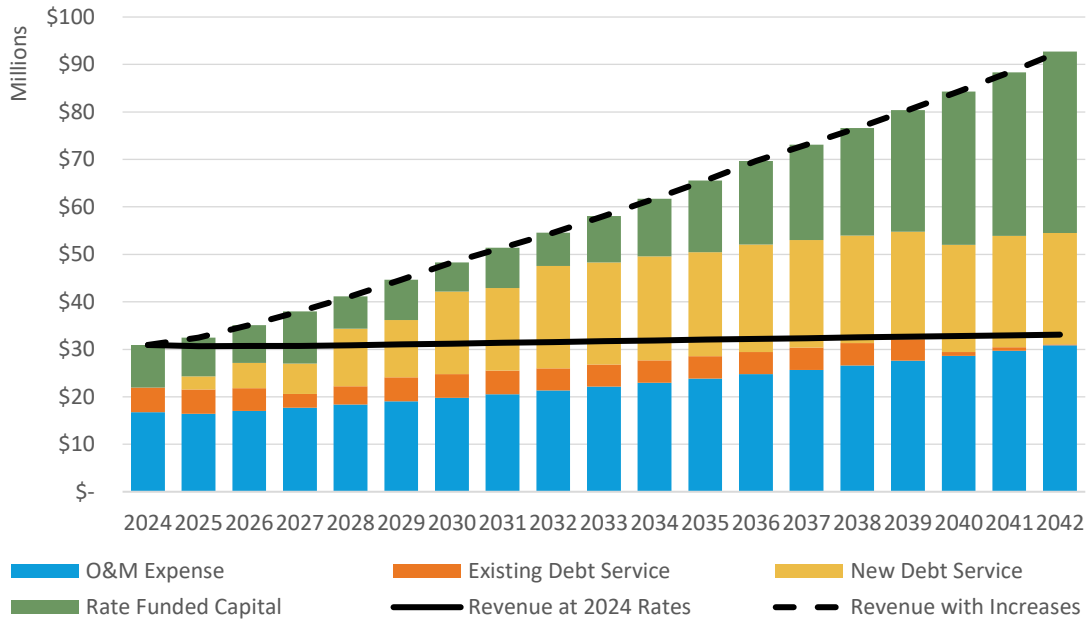
Annual Forecast

The capital funding strategy tells us how much in borrowing and cash reserves will be needed to pay for the CIP. After that, the second step of the revenue requirement analysis is the annual forecast.

Exhibit 9 graphically shows the 2024-2042 annual forecast. The stacked columns represent utility costs, while the lines represent operating revenue, with and without rate increases. Each variable is discussed below.

- Solid line: Operating revenue at existing rates. This excludes revenue restricted for capital purposes, such as debt proceeds, capital cost sharing from Poulsbo and U.S. Navy Keyport, and newcomer charges.
  - » Without rate increases, customer growth pushes revenue upward over time, but not by enough to keep up with costs.
- Dashed line: Operating revenues after rate increases to both monthly and hauled waste customers.
  - » After the recommended rate increases, revenue is projected to grow to $92.7 million by 2042. This growth is achieved by the County's already adopted 6.31% increase in 2025 for connected customers, followed by systemwide increases (to both connected and hauled waste customers) shown below:
    - 2026-2030: 8.0% annual rate increases
    - 2031-2036: 6.0% annual rate increases
    - 2037-2042: 4.5% annual rate increases
- Blue bar: Operating expenses.
  - » Operating expenses increase with the annual cost escalation assumptions described earlier.
- Orange bar: Existing debt service (prior to the 2024 bond issue and planned State loans in 2025).
  - » Annual payments of about $5.2 million in 2024, declining to $214,000 by 2042.
- Yellow bar: New debt service (including debt service on the 2024 bond issue and planned 2025 State loans).
  - » New debt service begins in 2025. By 2042, it is about $23.5 million per year.
- Green bar: Rate revenue available for capital projects.
  - » This amount is the difference between revenue and total other obligations. It grows over time, but the every-other-year bond issues cause this variable to fluctuate from year to year.

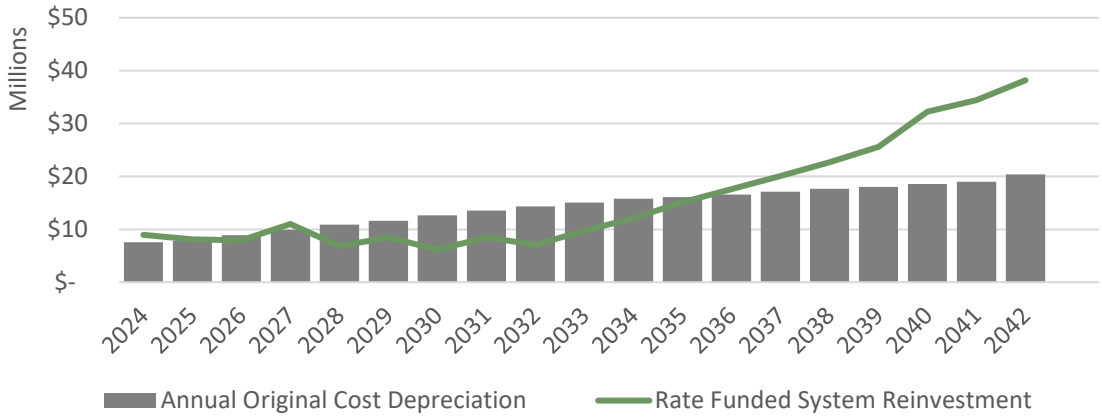
Exhibit 9. Revenue Requirement Forecast



Rate-Funded Capital Investment

The line in **Exhibit 10** shows the sewer utility's projected annual level of rate-funded capital investment in comparison with annual depreciation.

Exhibit 10. Annual Rate-Funded System Reinvestment



The gray bars show the annual depreciation cost, which gradually increases as the County completes capital projects. The line represents the same values as the green bar from **Exhibit 9**. Over this period, rate-funded system reinvestment reaches a low of 49% of annual depreciation in 2030 and 2032. Beginning in 2036, rate-funded capital is projected to achieve the assumed policy target of at least 100% of annual depreciation cost. The rate forecast contains relatively moderate increases of 4.5% per year beginning in 2037. The cumulative effect of the prior year increases plus these 4.5% annual increases will allow the County to fund two large CIP projects in 2041 and 2042 without excessive borrowing.

Operating and Capital Reserve Level

The County's financial policy is to maintain a minimum operating fund balance of 90 days of total annual operating expenses, and a minimum capital fund balance of 1% of the original cost of assets. The sum of these two targets represents the combined minimum reserve balance—about $6.7 million in 2024. This combined target grows to $16.8 million in 2042 as operating costs increase and the County adds assets to the system.

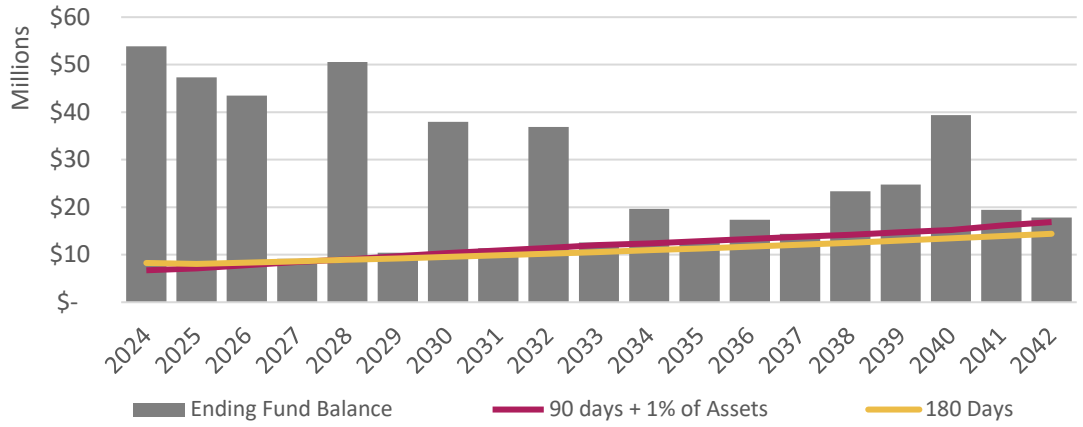
The Fiscal Policies section described another metric, Minimum Operating and Capital Cash, that has become increasingly important to bond ratings agencies in recent years. The target for that metric is 180 days of total annual operating expenses, or about $8.3 million in 2024, growing to $14.4 million in 2042.

For many sewer utilities, the 180-day Minimum Operating and Capital Cash metric would result in a notably higher target value than the sum of the minimum operating and capital reserves. However, because Kitsap County's operating reserve policy (90 days of annual operating expenses) is more stringent than that of most sewer utilities, the Minimum Operating and Capital Cash metric for the County is not much different than simply adding together the operating target (which is based on operating expenses) and the capital target (which is based on total assets). In fact, the County's combined cash target can be described as "180 days of operating expenses, *or* the sum of the minimum operating and capital targets, whichever is greater."

Exhibit 11 shows projected unrestricted fund balances through 2042 in relation to the two types of reserve targets—the 180-day overall target and the sum of the operating and capital targets. Prior to 2028, the 180-day overall target is a little bit higher; after that, the sum of the operating and capital targets is higher.

Throughout the forecast period, the utility is projected to exceed both types of reserve targets. Larger fund balances occur in even years, since revenue bonds are assumed to be issued every two years to cover the needs of the current and next year.

Exhibit 11. Operating and Capital Reserve Forecast

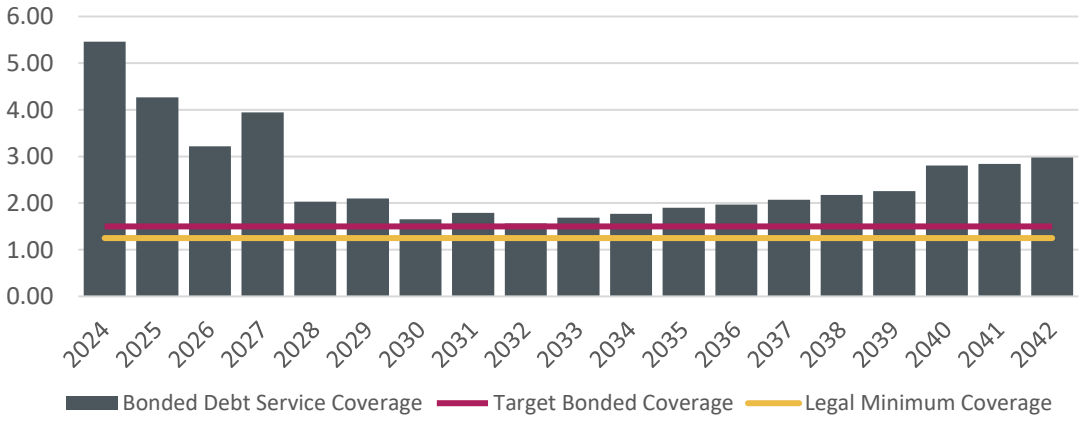


Bonded Debt Service Coverage

The legal minimum for debt service coverage on County revenue bonds is 1.25 in each year in which bonds are outstanding. To enhance creditworthiness, many utilities set a policy target that is higher than the legal minimum. In this forecast, we assumed a policy goal of at least 1.50 for bonded debt service coverage.

Exhibit 12 shows projected bonded debt service coverage through 2042 in relation to the assumed policy target of 1.50 and the legal minimum of 1.25. The utility is projected to achieve the policy target each year. The lowest year, 2032, has a forecasted debt service coverage of 1.56.

Exhibit 12. Projected Bonded Debt Service Coverage in Relation to Target and Legal Minimum



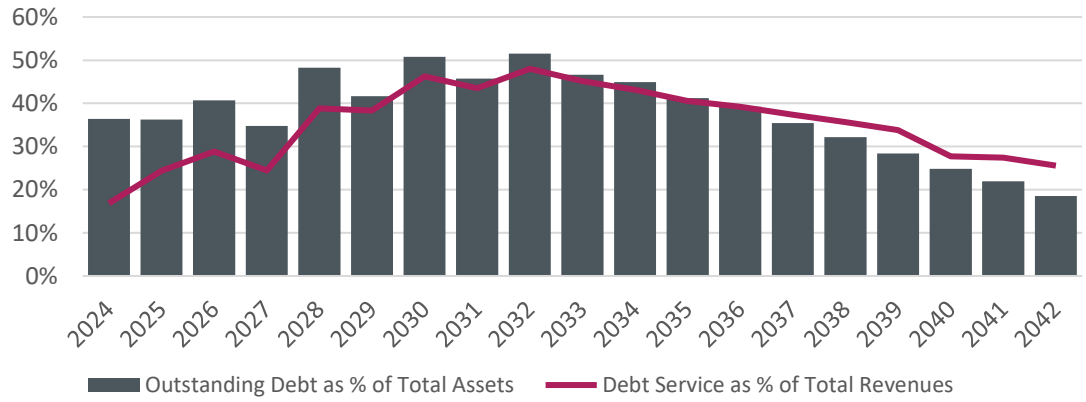
Analysis of Outstanding Debt and Debt Service Load

Because the County will need to borrow heavily to fund this CIP, two supplemental debt-related metrics were projected: the level of outstanding debt in relation to total assets ("debt-to-total assets ratio"), and the projected debt service as a percentage of total revenues ("debt service load"). Debt is a useful component in the capital funding toolbox, but it should not be overused. The cumulative effect of a series of borrowing decisions can be assessed by looking at these two metrics. **Exhibit 13** shows the projected debt-to-total assets ratio and the debt service load throughout the 2024-2042 forecast period.

There is not a formal policy for these two metrics, but we do have a "soft" guideline when we look at the forecast results. While allowing for exceptions in any given year, we aim to keep both of these measures below 50% through the forecast period. In this forecast, the debt-to-total-assets ratio stays below 50% except in 2030 and 2032, when outstanding debt is 51% and 52%, respectively, of total assets. The debt service load stays below 50% during all of the years of the forecast.

Based on these results, we observe that this forecast relies heavily on debt during the 19-year period, and we do not suggest greater borrowing. The significance of this finding comes from the fact that there is a tradeoff between rate increases and the level of borrowing. Higher rate increases allow more "pay-as-you-go" rate-funded capital funding (in lieu of debt), while higher levels of borrowing allow the rate impact to be pushed into future years. In this forecast, the recommended rate increases should not be ameliorated by more borrowing.

Exhibit 13. Projected Debt-to-Total Assets Ratio and Debt Service as % of Total Revenue



5.0 Cost-of-Service Analysis

A cost-of-service analysis allows the equitable recovery of costs from customers based on the unique demands that each customer class places on the system. There are three fundamental steps to allocating the annual revenue requirement to customer classes and developing recommended rates:

- Allocate total utility costs by function,
- Develop customer-specific allocation factors, and
- Allocate costs to customer classes.

The methodology used here conforms to industry-accepted practices as identified by *Financing & Charges for Wastewater Systems*, published by the Water Environment Federation.

Functional Allocation

The functions of service to which service costs were allocated are listed below.

- **Customer**: These are the costs associated with billing, revenue collection, and customer service. These costs are generally uniform by customer regardless of their volume of wastewater discharged to the sewer system.
- **Collection**: These costs are related to the pipes and pumps that convey wastewater to the treatment plants.
- **Treatment – Flow:** This functional category is used for operating and capital costs related to the volume of wastewater entering the treatment plant. For general treatment costs, this function is allocated 40% of the total.
- **Treatment – BOD:** This functional category is for operating and capital costs related to the biochemical oxygen demand (BOD) of sewage entering the treatment plant. For general treatment costs, this function is allocated 30% of the total.
- **Treatment – TSS:** This functional category is for operating and capital costs related to the total suspended solids (TSS) of sewage entering the treatment plant. For general treatment costs, this function is allocated 30% of the total.
- **Septage**: Part of the digester capital project consists of improvements to the receiving and processing of septage from haulers. Based on data from the County, the septage-related cost of the digester project is assigned to a separate functional category.
- **Treatment – FOG:** Part of the digester capital project consists of improvements to the receiving and processing of deliveries from FOG haulers. Based on data from the County, the FOG-related cost of the digester project is assigned to a separate functional category.

The County data did not identify a share of the digester project that was solely driven by WAS deliveries. Even though there is not a separate WAS category at the functional allocation stage, all of the hauled waste customer groups (septage, FOG, and WAS) receive a share of the three major treatment operating and capital costs—treatment flow, BOD, and TSS.

Exhibit 14 summarizes the sewer functional cost allocation results for 2026. As the County's costs change over the next five years, so does the functional allocation of costs. **Exhibit 15** shows the same summary for 2030.

Exhibit 14. Sewer Utility Functional Cost Allocation - 2026

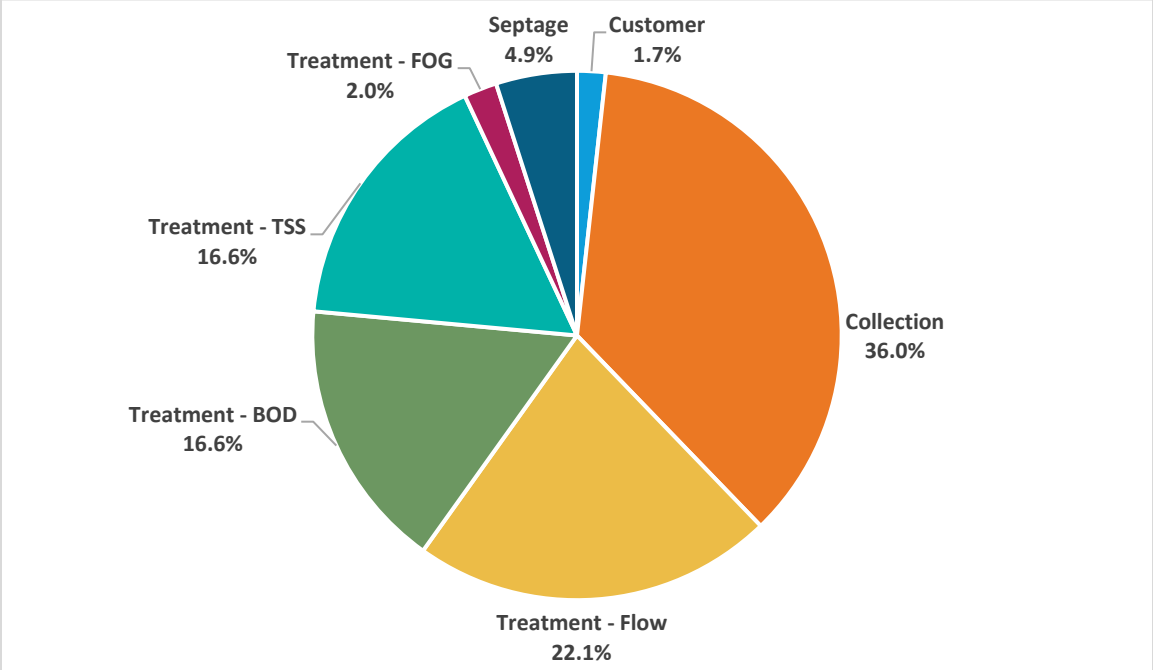
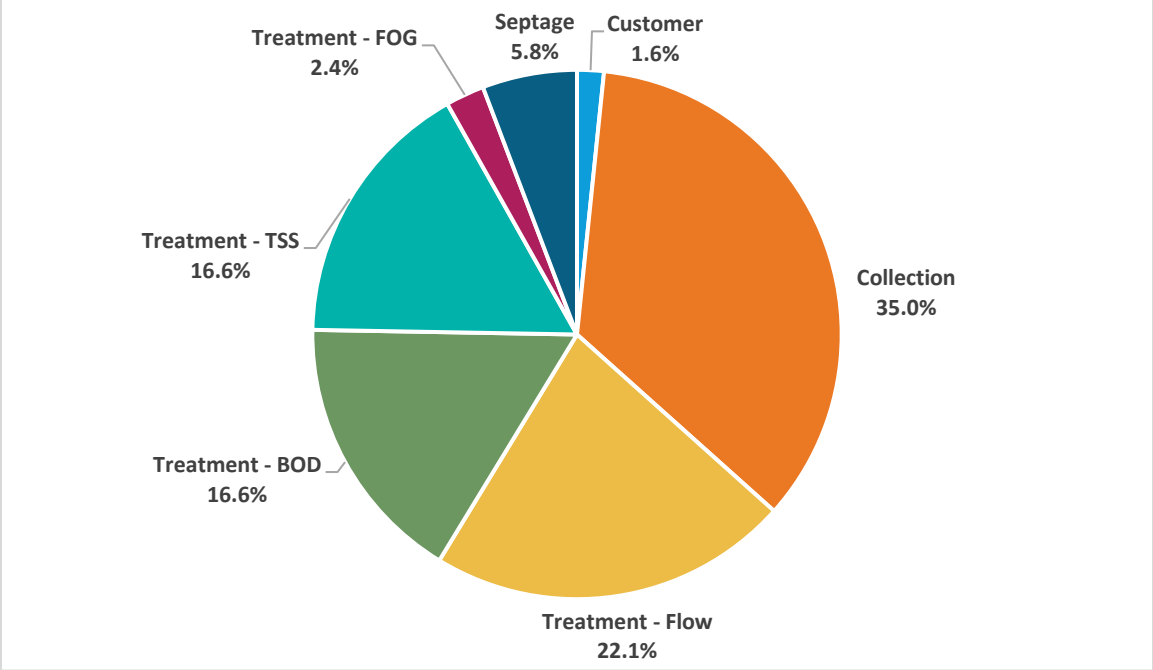


Exhibit 15. Sewer Utility Functional Cost Allocation - 2030



As the County completes the Digester project and issues debt to fund it, the share of its costs related to hauled waste gradually increases.

Customer Classes

The County provides service to two separate groups of customers. The first consists of customers connected to a sewer pipe; these customers pay a monthly bill. The second group consists of haulers that bring septage, FOG or WAS on trucks to the Central Kitsap plant. The first group of customers has no choice but to deliver their wastewater into the collection system. The second group is on wheels and could conceivably send their waste deliveries to other plants. That makes the second group closer to a competitive market. However, not all plants have the capacity to accept hauled waste deliveries, and the travel distance to alternate disposal sites can be a barrier to a hauler considering the diversion of waste deliveries to another plant.

Exhibit 16 summarizes the current customer categories used by the County.

Exhibit 16. Current Customer Class Distinctions

Connected Customer Classes	Hauled Waste Customers
Residential	Septage
Multi-Family	External WAS*
Commercial	Septage
Restaurant	

**The County receives but does not bill for WAS from the other County-owned treatment plants.*

Connected sewer customers are charged a monthly bill. Residential and multi-family customers receive a fixed monthly charge per dwelling unit. Multi-family rates are approximately 80% of the residential rates, which reflects the fact that multi-family households tend to use less water and generate less effluent than single family homes. Commercial and restaurant customers are charged a rate per cubic foot (cf) of average metered water use. Restaurants are currently charged approximately 160% the rate of commercial customers, which reflects the fact that restaurants tend to generate higher-strength wastewater (that is, wastewater that costs more to treat because it has higher BOD and TSS).

Haulers that deliver waste to the Central Kitsap plant are charged per gallon for each delivery. Currently, each type of hauled waste is charged the same amount—16 cents per gallon. The County plans to continue blending the rate for FOG and WAS, which constitute a small part of the hauled waste received by the Central Kitsap plant. However, the County plans to allow for a separate rate for septage, depending on the results of this cost-of-service analysis.

Allocation Factors

The next step in the cost-of-service analysis involves the distribution of allocated system costs to the customer classes served by the system. This step requires that each type of functional cost have an allocation factor that can be measured and distributed to members of a given customer class.

The functionally allocated costs are allocated to the customer classes based on the following metrics:

- **Customer**: Allocated based on the number of accounts for each connected customer class. These costs are not allocated to hauled waste customers.
- **Collection**: Allocated based on the assumed volume of sewer flow for each connected customer class from the County customer billing statistics and billable ERU data. These costs are not allocated to hauled waste customers.
- **Treatment – Flow:** Allocated based on the flows assumed from connected customers in addition to the forecasted hauled volume of FOG, WAS, and septage.
- **Treatment – BOD:** Allocated based on the assumed number of pounds of BOD attributed to each class based on flow data used for the Treatment – Flow allocation and class-specific BOD concentrations. The BOD concentration assumptions came from treatment plant data and County staff input.
- **Treatment – TSS:** Allocated based on the assumed number of pounds of TSS attributed to each class based on flow data used for the Treatment – Flow allocation and class-specific TSS concentrations. The TSS concentration assumptions came from treatment plant data and County staff input.
- **Treatment – FOG:** Allocated 100% to the restaurant class. The rationale for this is discussed below.
- **Treatment - Septage**: Allocated 100% to the septage class.

Note that septage, FOG, and WAS are all much thicker than the wastewater conveyed by pipes, so their share of flow-related costs is minimal, their share of BOD costs is higher, and their share of solids-related costs is very high in relation to their volume. At the Central Kitsap plant, septage deliveries account for only 0.6% of total volume but 9% of total BOD and 29% of total suspended solids.

Also, as we mentioned above, the "Treatment – FOG" and "Treatment – Septage" functional categories refer to a share of the digester capital costs, not all of their relevant costs. The three main types of treatment costs—flow, BOD, and TSS—are spread across all three types of hauled waste customers—septage, FOG, and WAS—as well as sewer customers.

After determining the total costs applicable to FOG and WAS, we added them together and divided by the combined number of gallons to create the blended FOG/WAS rate.

Allocation of FOG Costs

The assignment of FOG-related functional costs to the restaurant customer class is based on the following considerations. First of all, the costs that are assigned to the restaurant class are only part of the FOG costs—the part that is the FOG share of the digestor capital project. The FOG-related flow, BOD, and TSS costs—both operating and capital—are included in the blended FOG/WAS rate.

Secondly, cost recovery is not the only rationale that can justify rates and charges. Some kinds of charges are explicitly intended to act as an incentive. Incentive pricing is not justified by the cost of providing a service; instead, its purpose is to affect customer behavior. A small example is the late fees that can be attached to a delinquent account. The primary purpose of a late fee is not to recover the cost of customer service staff; it is to give customers an incentive to be timely in their payments. A more substantial example comes from water utilities: block pricing for single-family residential customers. Inclined block pricing charges a higher rate for water consumed above a certain threshold, so that single-family customers who conserve water save money, while those who are more profligate in their water usage pay a higher average rate for the water they consume. The "steepness" of the block pricing structure is justified by the policy goal of encouraging conservation.

Utilities also have considerable discretion in the blending of rate classes. For example, many water utilities opt to blend their rates for irrigation customers with the much larger class of commercial customers. When that occurs, the rationale is that the businesses that have a separate irrigation meter (in order to minimize sewer charges) are often the same businesses that are also paying commercial rates.

A parallel situation occurs with restaurants and FOG deliveries in Kitsap County—both the rate-blending and the incentive pricing. We asked the staff whether the source of FOG deliveries—the restaurants with grease traps and FOG tanks--are more likely to be inside or outside the sewer service area. The County does not have formal data, but based on their local knowledge of the area, the staff's conclusion was that most of those restaurants are inside the sewer service area. Our cost allocation approach was based on that assumption.

If a restaurant is inside the sewer service area and it has a grease trap and FOG tank, then it is following the pre-treatment rules. Those restaurants are the "good citizens" who save the County money. Rather than dumping their kitchen waste directly down the drain, they keep their FOG out of the sewer pipes and pumps; furthermore, they pay a hauler to deliver it to the treatment plant. It is not in the County's interest to have the cost of delivering FOG to the plant be so astronomically high as to be a disincentive to compliance with pre-treatment rules. The charge to deliver FOG need not be zero—there are real costs from every gallon of FOG—but the assignment of a portion of costs to a broader rate class can be justified in order to keep the delivery charge from being prohibitively high. Because we are assuming that most restaurants paying for a FOG hauler are inside the sewer service area, those businesses also pay a monthly restaurant rate on a sewer bill. By assigning the FOG-related capital cost of the digester project to the restaurant sewer rate, we are effectively spreading some of the cost of FOG disposal from restaurants with *both* a FOG tank and a sewer connection to a broader group of restaurants which includes those with a sewer connection but *not* a FOG tank.

Summary of Allocation Factors

Exhibit 17 summarizes the allocation factors used to distribute functional costs to customer classes.

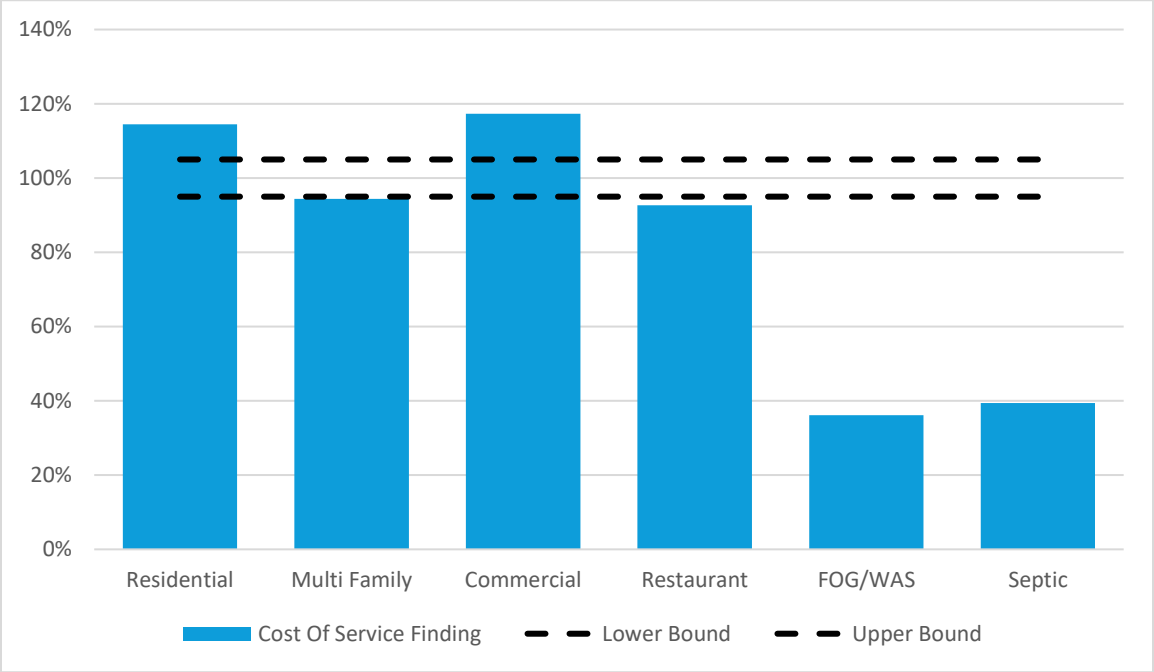
Exhibit 17. Summary of Cost Allocation Factors

Class	Customer	Collection	Treatment - Flow	Treatment - BOD	Treatment - TSS	Treatment - FOG	Septage
Residential	90.3%	51.0%	50.7%	45.1%	32.1%	0.0%	0.0%
Multi-Family	3.6%	25.8%	25.7%	22.8%	16.3%	0.0%	0.0%
Commercial	5.4%	20.2%	20.1%	17.8%	12.7%	0.0%	0.0%
Restaurant	0.6%	3.0%	2.9%	4.4%	3.1%	100.0%	0.0%
FOG/WAS	0.0%	0.0%	0.1%	0.5%	7.0%	0.0%	0.0%
Septage	0.0%	0.0%	0.6%	9.4%	28.8%	0.0%	100.0%

Cost-of-Service Results

Exhibit 18 provides a comparison of how much revenue each class currently collects as a percentage of the cost to serve that class.

Exhibit 18. Current Cost Recovery by Rate Class



The dashed lines above show a range of 95% to 105% cost recovery. If the revenue for a given class falls within plus-or-minus 5% of the target 100% of the cost-of-service, the class is considered close enough that a rate adjustment may not be warranted.

In Kitsap County, both the Residential and Commercial classes are currently collecting approximately 115% of their cost-of-service, which indicates that they are subsidizing the other customer classes. Multi-family and Restaurant are both slightly under the lower bound for an acceptable cost recovery—between 90% and 95%. The hauled waste customer groups are recovering less than 40% of their share of costs.

Normally the results of a cost-of-service analysis are a snapshot at a single point in time. However, the specific capital improvements included in the digester capital project affect the overall cost-of-service allocations, and bond issues (and therefore new debt service) for that project are projected over the coming five years. For that reason, we projected the cost recovery by class each year through 2030. The projected 2030 results are similar to that shown above, but the imbalance is even greater. Without rate adjustments, the cost recovery for Residential and Commercial customers would be about 120%. Multi-family would be inside the range, at 97% cost recovery, but the Restaurant class would be recovering only 89% of its costs. Most significantly, the hauled waste categories are projected to be recovering only 26% of their costs by 2030 without rate adjustments.

As we consider how best to incorporate the cost-of-service findings into the revenue requirement forecast, it is clear that an adjustment to the relative rates of the different classes is warranted. These adjustments should take into account not just the current cost recovery but the projected 2030 cost recovery. Because of the magnitude of the adjustments for hauled waste customers, we suggest that they be phased in over five years.

6.0 Rate Strategy Options

Based on the cost-of-service findings, we developed three rate scenarios for the years 2026-2030 for consideration by the Board of Commissioners. In all scenarios, the forecast calls for across-the-board increases of 6% per year for 2031-2036 and 4.5% per year for the last six years of the forecast period, 2037-2042.

- **Scenario 1: Across the Board Increases** – Increase all customer classes by the overall revenue requirement, which is 8% annually through 2030. This scenario is not recommended, but it provides a useful frame of reference in assessing the impact of potential cost-of-service rate adjustments.
- **Scenario 2: Adjust Hauled Waste Rates Only** – Adjust rates over the five-year period (2026-2030) to eliminate the subsidy to hauled waste customers, while leaving the relative shares for residential, multi-family, commercial and restaurant sewer rates unchanged.
- **Scenario 3: Full Cost-of-Service Adjustments** – Adjust the relative rates of all rate classes—including connected sewer customers—to gradually bring them to a full cost recovery level by 2030.

Scenario 1: Across-the-Board Increases

An across-the-board rate adjustment would collect proportionately the same revenue from each customer class. While this strategy would collect the overall revenue requirement, it would not address the inequities between classes shown in the cost-of-service analysis. In fact, the cost recovery imbalance would grow as debt service for the digester capital project is added to the annual forecast.

Exhibit 19 shows the 2026-2030 rate increases by class for Scenario 1. Because this scenario assumes across-the-board increases, the percentage increases are the same for all classes.

Exhibit 20 applies these percentage increases to the County's current rates to create a five-year rate schedule for Scenario 1.

Exhibit 19. Scenario 1 (Across-the-Board Increases) – Annual Increases by Class

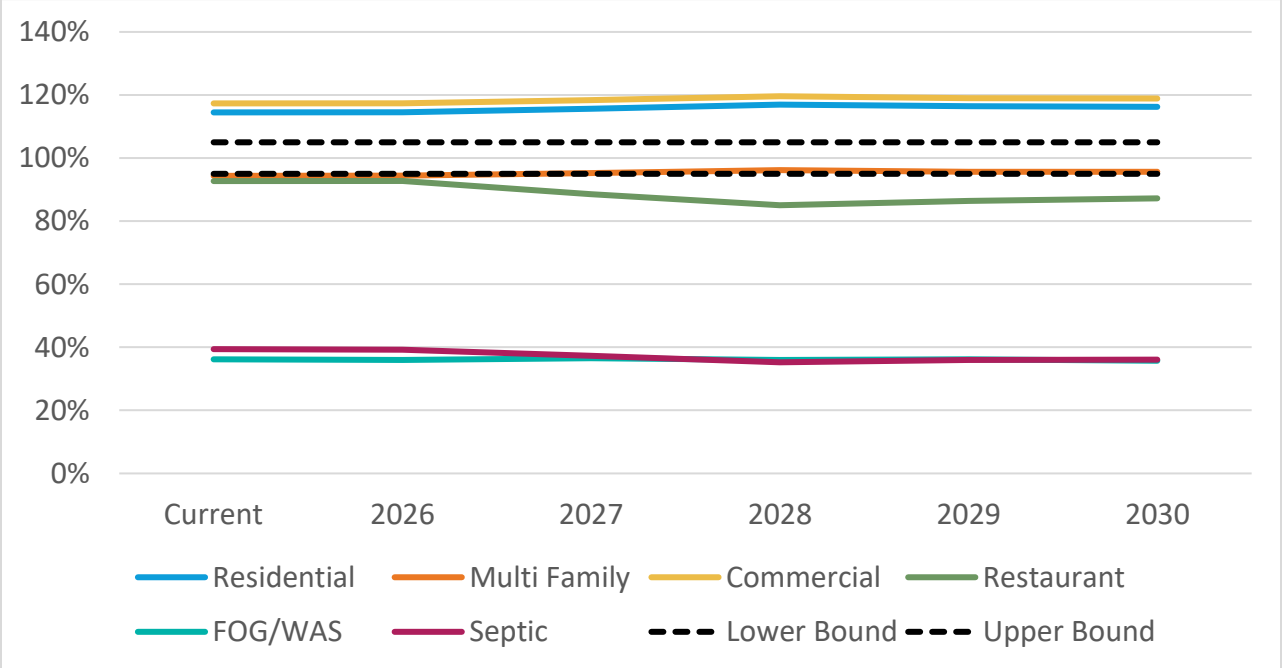
Customer Class	2026	2027	2028	2029	2030
Residential	8.00%	8.00%	8.00%	8.00%	8.00%
Multi-Family	8.00%	8.00%	8.00%	8.00%	8.00%
Commercial	8.00%	8.00%	8.00%	8.00%	8.00%
Restaurant	8.00%	8.00%	8.00%	8.00%	8.00%
FOG/WAS	8.00%	8.00%	8.00%	8.00%	8.00%
Septage	8.00%	8.00%	8.00%	8.00%	8.00%

Exhibit 20. Scenario 1 (Across-the-Board Increases) – Rates by Class

Customer Class	2026	2027	2028	2029	2030
Residential (per unit per month)	$112.59	$121.60	$131.32	$141.83	$153.18
Multi-Family (per unit per month)	$89.74	$96.92	$104.67	$113.04	$122.09
Commercial (per cubic foot)	$0.160	$0.173	$0.186	$0.201	$0.217
Restaurant (per cubic foot)	$0.255	$0.275	$0.297	$0.321	$0.347
FOG/WAS (per gallon)	$0.173	$0.187	$0.202	$0.218	$0.235
Septage (per gallon)	$0.173	$0.187	$0.202	$0.218	$0.235

Exhibit 21 shows the cost recovery for each class resulting from Scenario 1. The digester project includes improvements to how the Central Kitsap plant treats BOD and TSS, as well as improvements to the receiving of hauled waste. As this project moves forward over the next five years, the cost-of-service for restaurant and hauled waste customers increases, so the cost recovery percentage for those classes drifts downward.

Exhibit 21. Scenario 1 (Across-the-Board Increases) – Cost Recovery by Class



Scenario 2: Adjust Hauled Waste Rates Only

Scenario 2 addresses the large discrepancy between hauled waste revenues and the cost of serving those customer classes. It creates a phased-in series of increases to hauled waste rates that gradually bring hauled waste customers up to 100% cost recovery. This does not address the cost recovery imbalances within the four groups of connected sewer customers, but it does reduce allow the connected sewer rate increases to be 6% per year instead of 8% per year.

There are a number of reasons to increase hauled waste rates gradually rather than tripling them all at once:

1. Phasing in rates gives haulers the ability to plan ahead for a predictable set of increases to their operating costs.
2. Hauled waste operators can divert their loads to other treatment plants if other treatment capacity is available within a reasonable distance. The proposed increases to hauled waste rates will put the County above the rates charged by other plants—at least at first. (Other plants may eventually follow the County's lead and raise rates also.) With a five-year phase-in period, the County will have the opportunity to monitor changes in hauler behavior and adapt its strategy if needed in order to preserve its revenue stream.
3. Because connected sewer customers do not have other alternatives, they are a more stable revenue source for the County than hauled waste deliveries. In developing Scenario 2, we made sure that at least 6% annual increases came from the most reliable revenue source (representing three-quarters of the 8% overall revenue growth needed). This will help assure bondholders that the County sewer system can generate the cash needed to pay debt service on future revenue bonds.

Exhibit 22 shows the 2026-2030 rate increases by class for Scenario 2. **Exhibit 23** applies these percentage increases to the County's current rates to create a five-year rate schedule for Scenario 2.

Exhibit 22. Scenario 2 (Adjust Hauled Waste Rates Only) – Annual Increases by Class

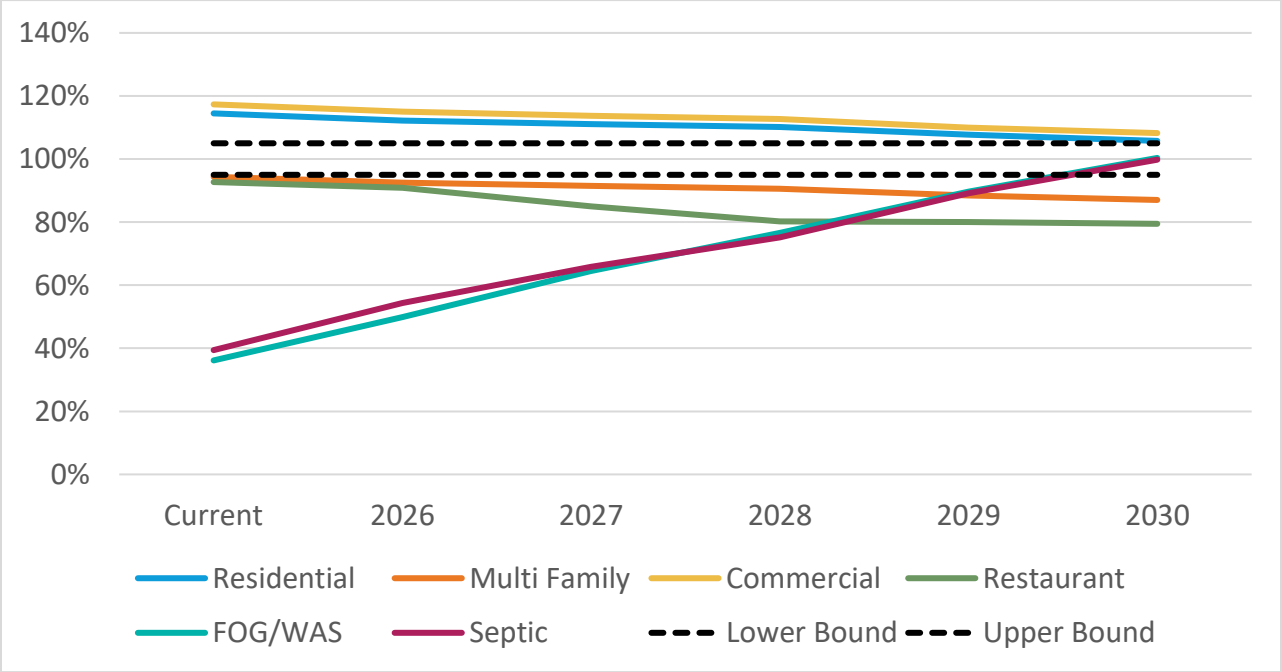
Customer Class	2026	2027	2028	2029	2030
Residential	6.00%	6.00%	6.00%	6.00%	6.00%
Multi-Family	6.00%	6.00%	6.00%	6.00%	6.00%
Commercial	6.00%	6.00%	6.00%	6.00%	6.00%
Restaurant	6.00%	6.00%	6.00%	6.00%	6.00%
FOG/WAS	50.00%	37.50%	30.30%	25.58%	22.22%
Septage	50.00%	37.50%	30.30%	25.58%	20.37%

Exhibit 23. Scenario 2 (Adjust Hauled Waste Rates Only) – Rates by Class

Customer Class	2026	2027	2028	2029	2030
Residential (per unit per month)	$110.51	$117.14	$124.16	$131.61	$139.51
Multi-Family (per unit per month)	$88.08	$93.36	$98.96	$104.90	$111.19
Commercial (per cubic foot)	$0.157	$0.166	$0.176	$0.187	$0.198
Restaurant (per cubic foot)	$0.250	$0.265	$0.281	$0.298	$0.316
FOG/WAS (per gallon)	$0.240	$0.330	$0.430	$0.540	$0.660
Septage (per gallon)	$0.240	$0.330	$0.430	$0.540	$0.650

Exhibit 24 shows the cost recovery for each class that would result from implementation of Scenario 2. Under this scenario, the hauled waste rates would align with the cost of service by 2030. However, subsidies between the connected customer classes would still exist.

Exhibit 24. Scenario 2 (Adjust Hauled Waste Rates Only) – Cost Recovery by Class



Scenario 3: Full Cost-of-Service Adjustments

This scenario addresses not only the hauled waste subsidy but also the imbalance in cost recovery among the connected sewer customer classes. By 2030, it places the revenue from each customer class at approximately 100% of its cost-of-service, which means full cost recovery by class.

Exhibit 25 shows the 2026-2030 rate increases by class for Scenario 3. **Exhibit 26** applies these percentage increases to the County's current rates to create a five-year rate schedule for Scenario 3.

Exhibit 25. Scenario 3 (Full Cost-of-Service Adjustments) – Annual Increases by Class

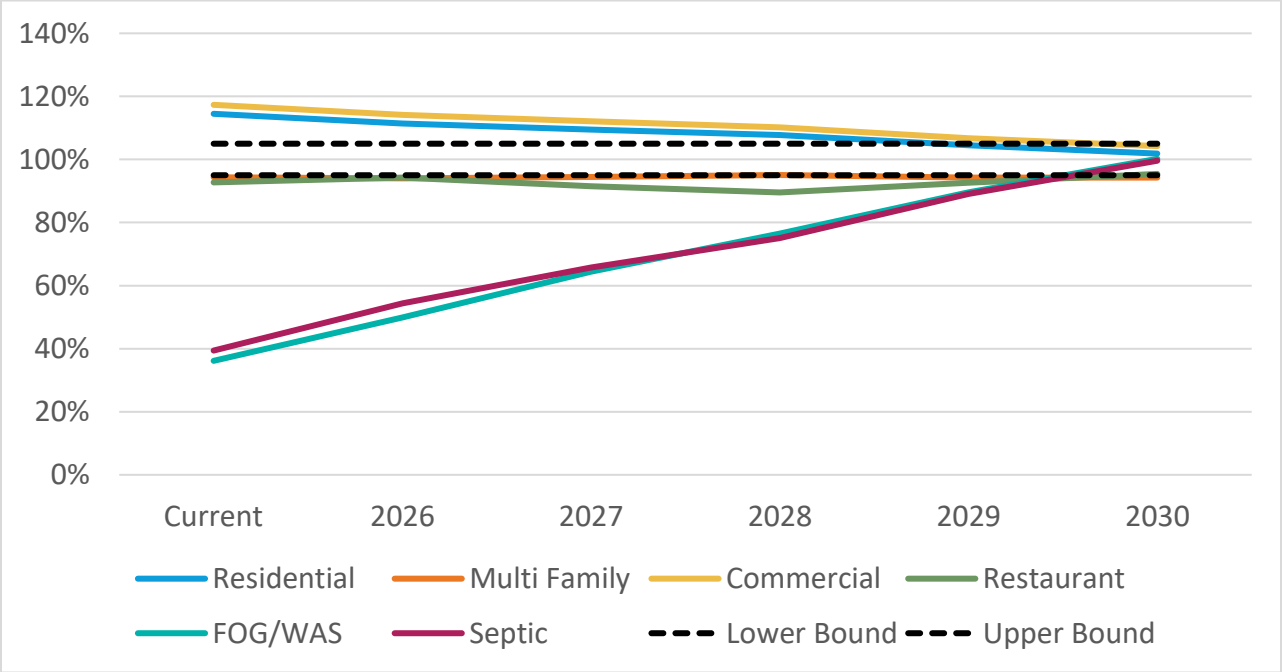
Customer Class	2026	2027	2028	2029	2030
Residential	5.25%	5.25%	5.25%	5.25%	5.25%
Multi-Family	7.75%	7.75%	7.75%	7.75%	7.75%
Commercial	5.25%	5.25%	5.25%	5.25%	5.25%
Restaurant	10.00%	10.00%	10.00%	10.00%	10.00%
FOG/WAS	50.00%	37.50%	30.30%	25.58%	22.22%
Septage	50.00%	37.50%	30.30%	25.58%	20.37%

Exhibit 26. Scenario 3 (Full Cost-of-Service Adjustments) – Rates by Class

Customer Class	2026	2027	2028	2029	2030
Residential (per unit per month)	$109.72	$115.48	$121.55	$127.93	$134.64
Multi-Family (per unit per month)	$89.53	$96.47	$103.94	$112.00	$120.68
Commercial (per cubic foot)	$0.156	$0.164	$0.173	$0.182	$0.191
Restaurant (per cubic foot)	$0.260	$0.286	$0.314	$0.346	$0.380
FOG/WAS (per gallon)	$0.240	$0.330	$0.430	$0.540	$0.660
Septage (per gallon)	$0.240	$0.330	$0.430	$0.540	$0.650

Exhibit 27 shows the cost recovery for each customer class from 2026 to 2030. As a result of this rate strategy, all customer classes fall within plus or minus 5% of 100% cost recovery by 2030, while the overall revenue still achieves the revenue requirement.

Exhibit 27. Scenario 3 (Full Cost-of-Service Adjustments) – Cost Recovery by Class



7.0 Summary

Because of the low-density population in its service area, Kitsap County sewer rates will be predictably higher than those of utilities serving more densely populated areas. However, the County has done a good job managing its sewer utility finances, with blended rates and annual rate changes to keep up with costs over time.

Utilities go through waves of capital investment, and right now, the County faces a big wave of required capital investment. Capital investment leads to upward rate pressure, whether cash or debt funded. The revenue requirement forecast—updated since the submission of the General Sewer Plans—shows the need for overall rate revenue to increase by 8% per year for the five years from 2026-2030. For 2031-2036, increases should be 6% per year, followed by 4.5% per year from 2037-2042.

However, the hauled waste from septage, FOG (fats, oils, and grease), and WAS (waste-activated sludge) has been deeply subsidized in the past by connected sewer customers. Increasing the hauled waste rates by enough to gradually eliminate that subsidy would allow the County to increase rates for connected customers over the next five years by 6% per year instead of 8% per year.

Within the group of connected monthly customers, residential and commercial have been overpaying, while multi-family and restaurants have been underpaying in comparison with the cost of serving each customer class. Therefore, the rate increases for residential and commercial through 2030 should be *less than* 6% pear year, while the increases for multi-family and restaurant should be *more than* 6% per year.

We recommend that the County adopt either a five-year rate schedule through 2030 or a six-year rate schedule through 2031. The best time frame depends on the County's capital planning cycle. With a six-year schedule, the next rate study can begin in mid-2030; with a five-year schedule, the next rate study should begin in mid-2029. If a six-year rate schedule is chosen, the 2031 rate increases should be 6% across-the-board.

For 2026-2030, after discussion with the County Board of Commissioners, we recommend the Scenario 3 rate increases shown above in **Exhibits 25** and **26**. This brings all rate classes to approximate full cost recovery by 2030. If the County wants to adopt a six-year rate schedule, **Exhibit 28** shows the rates to be adopted.

Exhibit 28. Recommended Rates through 2031

Customer Class	2026	2027	2028	2029	2030	2031
Residential (per unit per month)	$109.72	$115.48	$121.55	$127.93	$134.64	$142.72
Multi-Family (per unit per month)	$89.53	$96.47	$103.94	$112.00	$120.68	$127.92
Commercial (per cubic foot)	$0.156	$0.164	$0.173	$0.182	$0.191	$0.203
Restaurant (per cubic foot)	$0.260	$0.286	$0.314	$0.346	$0.380	$0.403
FOG/WAS (per gallon)	$0.240	$0.330	$0.430	$0.540	$0.660	$0.700
Septage (per gallon)	$0.240	$0.330	$0.430	$0.540	$0.650	$0.689