City of Mountlake Terrace

SEWER UTILITY RATE STUDY

FINAL REPORT
February 2020

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February 11, 2020

Eric LaFrance, Public Works Director
City of Mountlake Terrace
6100 219th Street SW; Suite 200
Mountlake Terrace, WA 98043

Subject: Sewer Utility Rate Study

Dear Mr. LaFrance:

FCS GROUP is pleased to submit this Sewer Utility Rate Study report prepared for the City of Mountlake Terrace. This report summarizes the methodology, findings, and recommendations for each of the core study elements. On November 4, 2019, the City Council adopted the recommended rates shown below.

Sewer Service Charge Schedule	Existing 2019	Adopted 2020	Adopted 2021	Adopted 2022	Adopted 2023	Adopted 2024
% Increase		*42.5%*	*12.5%*	*12.5%*	*11.0%*	*11.0%*
Base Charge (All Metered Customers)						
Bi-monthly base rate	$40.00	$57.00	$64.13	$72.14	$80.08	$88.88
Volume Charge (per 100 cubic feet)						
Residential	$2.80	$3.99	$4.49	$5.05	$5.61	$6.22
Multifamily	$2.88	$4.10	$4.62	$5.19	$5.77	$6.40
Commercial	$3.14	$4.47	$5.03	$5.66	$6.29	$6.98
Mixed Use	$2.88	$4.10	$4.62	$5.19	$5.77	$6.40
Base Charge (Non-Metered Customers)						
Bi-monthly base rate	$85.70	$122.12	$137.39	$154.56	$171.56	$190.43

We appreciate the contributions from you and other City staff throughout this study process. It has been a pleasure working with you and we look forward to assisting you with your future financial / management needs. Any questions or comments regarding this report can be directed to Tage Aaker at (425) 615-6487 or tagea@fcsgroup.com.

Yours very truly,

John Ghilarducci
Principal / President

Tage Aaker
Project Manager

Chase Bozett
Senior Analyst

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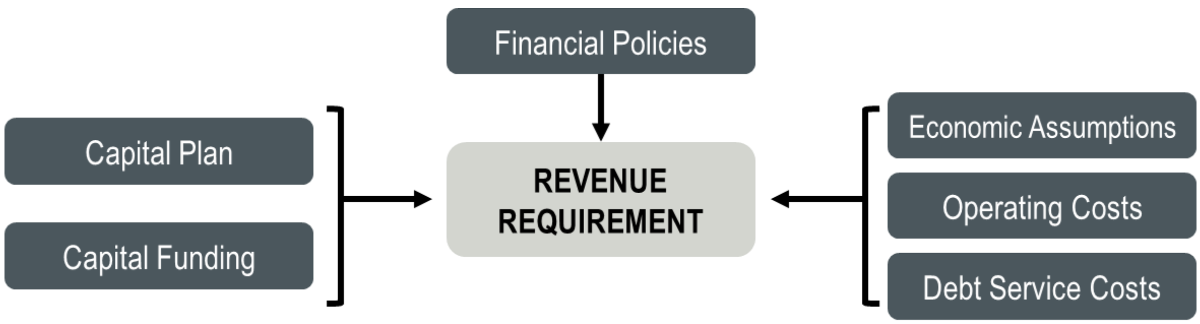
Section I. INTRODUCTION

FCS GROUP was engaged by the City of Mountlake Terrace ("City") to conduct a rate study for the sewer utility. The purpose of the study was to provide an updated rate forecast and financial plan targeting financial stability and revenue sufficiency through the ten year period 2019-2028.

The methods used to complete the study are based on analytical principles that are generally accepted and widely followed throughout the industry – rates and charges should generate enough revenue to maintain a self-supporting and financially viable utility.

The key purpose of this study is to develop a funding plan ("revenue requirement") for the City's sewer utility. The revenue requirement identifies the total revenue needed to fully fund the utility on a standalone basis, considering operating and maintenance expenditures, existing annual debt service, capital funding needs identified in the comprehensive plan, future debt requirements, and identified financial policies. The general methodology of the revenue requirement is shown below.

Exhibit 1: Revenue Requirement Process



Throughout the study, FCS GROUP worked with the City to arrive at rate conclusions that meet forecasted financial obligations, achieve City goals and policies, comply with legal requirements, and adhere to industry best practices. Meetings were held with City staff to validate input parameters, review interim findings, and receive policy direction.

Section II. Policy Framework

There are several policy topics that are important to consider as part of managing the finances of the sewer utility, including operating reserves, capital reserves, replacement reserve funding, and debt management.

II.A. RESERVES

When evaluating fund reserve levels and objectives, it is important to recognize that the value of reserves lies in their potential use. A reserve strategy that deliberately avoids any use of reserves negates their purpose. Fluctuation of reserve levels may indicate that the system is working, while lack of variation over many years strongly suggests that the reserves are, in fact, unnecessary.

II.A.1. Operating Reserves

An operating reserve is designed to provide a liquidity cushion; it protects the utility from the risk of short-term variation in the timing of revenue collection or payment of expenses. Like other types of reserves, operating reserves also serve another purpose: they can help smooth rate increases over time. Target funding levels for an operating reserve are generally expressed as a certain number of days of operating and maintenance (O&M) expenses, with the minimum day requirement varying with the expected revenue volatility of the utility.

Industry practice for utility operating reserves typically ranges from 30 to 120 days (8 - 33%) of O&M expenses, with the lower end more appropriate for utilities with stable revenue streams and the higher end more appropriate for utilities with significant seasonal or consumption-based variations.

Recommended Policy: The City's current policy is to maintain a minimum balance of 15% (55 days) of O&M. It is recommended that the City target between 15% and 25% of O&M to safeguard against seasonal fluctuations in revenue and expenditures. This policy equates to a range of $580,000 to $960,000 based on estimated expenditures in 2019.

II.A.2. Capital Reserves

In addition to protecting against variations in the timing of operating costs and revenues, it is prudent to maintain a capital contingency reserve to meet unexpected emergency capital outlays. There are several methods used in the industry to set the level of these types of reserves, including:

- Most costly piece of equipment or infrastructure: A utility may predict the cost of replacing its most expensive piece of equipment or infrastructure.
- Average annual cost of capital program: A utility may use a percentage of its projected capital program, or set the reserve equal to the average annual cost of its capital program.
- Percentage of utility plant: The most common method is for a capital contingency to be a percentage of the cost of fixed assets, usually 1-2% of the original cost of total assets. Alternatively, a percentage of replacement value can also be used, with the percentage adjusted downward to reflect the fact that replacement value is higher than original cost.

Recommended Policy: The City's current policy is to maintain a minimum balance of $250,000. FCS GROUP recommends that the City strive to achieve a year-end minimum balance target of $250,000 or 1% of the original cost of existing assets – whichever is greater. It is projected that by 2021, 1% of the original cost of sewer capital assets will exceed $250,000, and the capital fund minimum target should increase accordingly as capital projects are completed and added to the utility's asset inventory.

II.B. CAPITAL FUNDING

Utilities typically fund capital improvement projects from a variety of sources, such as grants, developer extensions (a contractual agreement that a developer will fund the cost of City-owned infrastructure for a private project – such as an extension of sewer service lines for a new housing development), capital facilities charges, utility rates, and debt. The City's general hierarchy for funding capital projects is 1) grants, 2) restricted funding sources, 3) debt, and 4) cash. The following sections discuss cash funding and debt funding policies for the City's consideration.

II.B.1. Replacement Reserve Funding (RRF)

In order to avoid excessive reliance on debt, it is prudent to have a policy that commits a certain amount of annual rate revenue to the replacement of system assets. A common approach is to establish a planning target for this replacement need; this policy will be referred to as 'Replacement Reserve Funding' throughout this report. This funding target is commonly set as a percentage of depreciation expense each year, where depreciation data is available. Conceptually, basing the target on depreciation expense addresses more than one criterion for reasonable rates:

- Financial integrity: Funding depreciation expense from current rates avoids a decline in system asset value; and
- Adequacy of capital funding: Funding depreciation expense from current rates provides a stable funding source for capital expenditures, especially those related to the repair and replacement of existing infrastructure.

Recommended Policy: The City has a policy to annually fund 2% of the total replacement cost of sewer assets. In order to mitigate near-term rate increases, the analysis assumes that the City will aim to fund original cost depreciation each year, rather than 2% of total replacement cost. Original cost depreciation expense is expected to be approximately $490,000 in 2020, and is forecast to grow to $1.5 million per year by 2028. Depreciation expense is expected to increase in the next ten years as the City completes projects from its capital plan.

The City has opted to phase into funding original cost depreciation expense over the next ten years – starting at 10% in 2020 ($49,000) increasing to 100% by 2029 ($1.6 million).

II.B.2. Debt Management

Debt financing is also an appropriate tool for capital funding. Compared with pay-as-you-go funding, debt smooths out the rate impact of a capital program by spreading costs over time. It also creates intergenerational equity — sometimes called "pay-as-you-use" because future customers who use the assets are the ones paying for them. Debt also reduces budget flexibility. Pay-as-you-go capital projects can be delayed if there is a revenue shortfall, but once the utility has sold debt, the debt service needs to be paid in good times or bad. So while debt is a useful part of the toolbox, it needs to be monitored to ensure that the system does not become too heavily dependent on it.

The City currently has one outstanding revenue bond that was jointly issued with the water and stormwater utilities. The sewer utility is responsible for approximately $76,000 in annual debt service for this bond. To evaluate the City's debt level, we will discuss a measurement called debt service coverage in the next section.

II.B.2.a Debt Service Coverage

Debt service coverage is a requirement associated with revenue bonds and some state loans. A typical minimum coverage requirement for utility revenue bonds is 1.25. Because of the coverage requirement, if it sells bonds, the City agrees to collect enough revenue to meet operating expenses and not only pay debt service but collect an additional 25% increment above bonded debt service. The extra revenue is a cushion that makes bondholders more confident that debt service will be paid on time. The extra revenue can be used for capital expenditures, to build utility reserves, or for debt service on subordinate debt. Achieving a bonded debt service coverage level greater than the minimum required level is a positive signal that bond rating agencies notice, and it can result in more favorable terms when the City goes to the market for revenue bonds.

Recommended Policy: While the minimum debt service coverage requirement for the City's existing revenue bonds is 1.25, FCS GROUP recommends that the City strive to achieve a more conservative debt service coverage result of at least 1.50 to 2.00. The City's existing bonds are 'cross-pledged' which means that revenues from all three utilities can technically be considered when evaluating debt service coverage achievement. However, it is recommended that each utility individually meets the coverage requirements for its portion of annual debt payments.

II.C. FINANCIAL PERFORMANCE STANDARDS

This analysis evaluates the sufficiency of the utility's revenues to meet its financial obligations in the context of two revenue sufficiency tests:

- **Cash Flow Sufficiency Test.** The cash flow test determines whether or not the utility's annual revenues are sufficient to cover the known cash requirements for each year of the planning period. These cash requirements typically include operating expenses, debt service payments, rate-funded capital outlays, and any additions to reserve balances.
- **Coverage Test.** The coverage test evaluates the utility's ability to meet applicable bond coverage requirements, as specified by the City's bond covenants and internal debt policies. As discussed above, the minimum coverage requirement is at least 1.25. As this test focuses on annual financial performance, it precludes the use of reserves to cover shortfalls in net revenue and may result in excess cash flow which can be used to fund capital projects or any other utility purpose.

In determining the annual revenue requirement, the test with the greatest deficiency generally drives the rate increase in any given year. It is worth noting that the City can temporarily waive the requirements of the cash flow test as part of a conscious decision to phase-in rate increases, as long as its operating reserve balance is sufficient to absorb the resulting cash-flow deficit. However, as the City has revenue bonds outstanding, the coverage test must always be met as failure to do so may result in a downgrading of the City's credit rating.

Section III. Revenue Requirement

III.A. BACKGROUND

The revenue requirement is the amount of revenue that a utility's rates must generate to enable it to meet its various financial obligations. This analysis has two main purposes – it serves as a means of evaluating the utility's fiscal health and adequacy of current rate levels, and it sets the revenue basis for near-term and long-term rate planning. The rate revenue requirement is defined as the difference between total revenue needs and the revenue generated through non-rate sources (e.g., miscellaneous revenue). Hence, the revenue requirement analysis involves defining and forecasting both needs and resources. The key assumptions and inputs used to develop the forecast are described below.

III.B. BEGINNING FUND BALANCE

The City maintains one sewer fund which is estimated to have had a beginning fund balance of $2.9 million in 2019. Within this fund, $76,000 is reserved for bond covenant balance requirements, with the remaining funds available for operating and capital needs.

III.C. ECONOMIC ASSUMPTIONS

Operating costs are initially based on the 2019-2020 utility budget, with adjustments for inflation and any anticipated future changes such as changes to programs or staffing levels. The following major assumptions were used in this rate forecast.

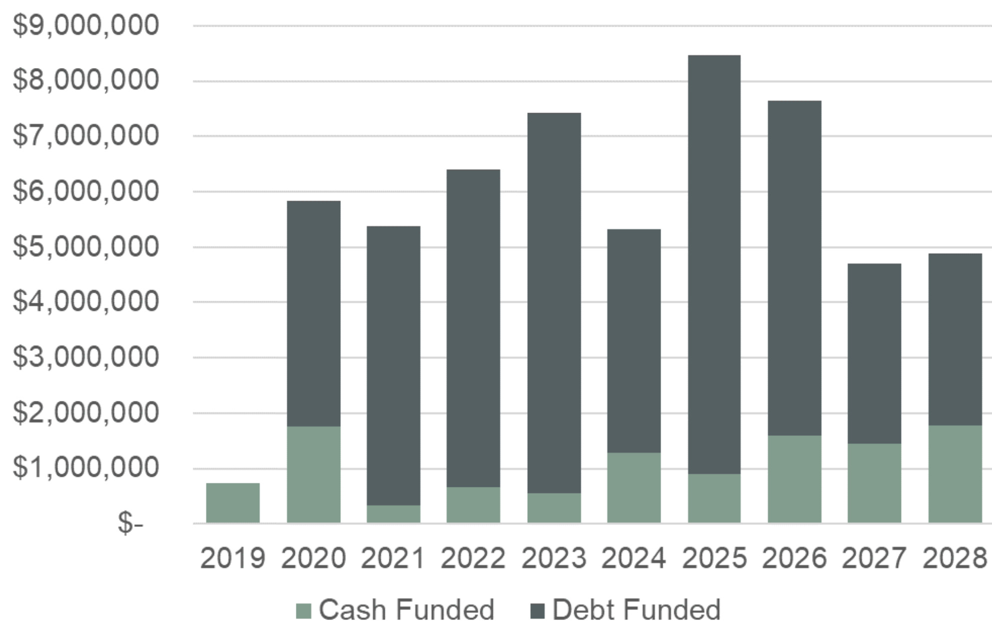
- General Cost Inflation: assumed to be 2.0% per year based on historical data from the Consumer Price Index Urban Consumers – Seattle / Tacoma / Bellevue (CPI - U).
- Construction Cost Inflation: assumed to be 4.0% per year based on historical data from the Engineering News-Record Construction Cost Index (CCI) - 20 City Average.
- Labor Cost Inflation: assumed to be 1.9% per year based on a 10-year historical average of the Employment Cost Index – Wages and Salaries.
- Benefits Cost Inflation: assumed to be between 4.0% and 7.0% per year based on discussions with the City.
- Treatment Cost Increases:
  - » The City of Edmonds treatment cost increases are assumed to be 3.0% per year based on historical rate increases excluding a one-time adjustment payment in 2019, as confirmed by City staff.
  - » King County treatment increases are assumed to be 2.5% in 2019, 0.0% in 2020, 4.5% in 2021, 0.0% in 2022, 2.3% in 2023, and 2.3% in 2024, all based on a rate forecast provided by the County. Beginning in 2025, an average increase of 1.9% is assumed annually, based on the annual average percent change for 2019-24.
- State Taxes:
  - » Business & Occupation (B&O) Tax: 1.5%

  - Excise Tax: 3.852%
    - Excise tax is applied to the 58.00% of the system that is considered collection related, as provided by the City. The B&O tax is applied to the remainder, which results in a composite tax rate of approximately 2.9%.
- City Utility Tax: 10.0%
- Fund Earnings: 0.5% informed by the Local Government Investment Pool (LGIP) yields at the time of the original analysis and conservatively lowered in the forecast.
- Customer Growth: assumed to be 0.85% based on the City's 2019 Comprehensive Sewer System Plan Update.

III.D. CAPITAL FORECAST

The capital forecast involves projecting annual capital expenditures and developing a strategy to fund those expenditures. This forecast includes capital projects totaling $56.8 million from 2019 to 2028 (escalated). As seen in **Exhibit 2** these costs vary by year and average $5.7 million per year.

Exhibit 2: Annual Capital Costs (Escalated $)



The capital program is projected to have two main funding sources as shown above: 20% cash (light colored bars) and 80% revenue bonds (dark colored bars). Cash funding of $11.1 million includes the replacement reserve funding policy that increases over the forecast period, capital facilities charge revenue, and available fund balances. The revenue bonds are projected to be issued every other year throughout the forecast, totaling $45.7 million by 2028. The resulting new debt service payments begin in 2020 at $770,000 and increase to $3.9 million by 2028.

The detailed list of capital projects is shown below in **Exhibit 3**. All of the replacement projects that are spread over two years assume the following spending pattern: 25% in year one (design) / 75% in year two (construction). The Edmonds Wastewater Treatment Plant and Aging Infrastructure Replacement Program are ongoing projects with annual investments. All costs are escalated to the estimated year of construction.

Exhibit 3: Sewer Capital Expenditure Details

<table>
<tr><th rowspan="2">Project Description</th><th colspan="9">Escalated Cost (thousand $s)</th></tr>
<tr><th>2020</th><th>2021</th><th>2022</th><th>2023</th><th>2024</th><th>2025</th><th>2026</th><th>2027</th><th>2028</th></tr>
<tr><td>New Vehicle – Combination Truck</td><td>$ 595</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Interurban Trail South Trunk Sewer Repl.</td><td colspan="2">3,767</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>219th St. SW Sewer Repl.</td><td></td><td colspan="2">2,253</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>220th St. SW Sewer Repl.</td><td></td><td colspan="2">1,429</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Wildemere Lift Station Upgrades</td><td></td><td colspan="2">1,141</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>70th Ave. W. Sewer Repl.</td><td></td><td></td><td colspan="2">2,426</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>36th Ave. / 37th Ave. W. Sewer Repl.</td><td></td><td></td><td colspan="2">775</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>38th Ave. / 37th Ave. W. Sewer Repl.</td><td></td><td></td><td colspan="2">665</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>42nd Pl. Sewer Repl.</td><td></td><td></td><td colspan="2">1,263</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>222nd St. SW at 44th Ave. W Sewer Repl.</td><td></td><td></td><td colspan="2">1,057</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>39th Ave. W. Sewer Repl.</td><td></td><td></td><td colspan="2">1,257</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Interurban Trail North Trunk Sewer Repl.</td><td></td><td></td><td></td><td colspan="2">3,351</td><td></td><td></td><td></td><td></td></tr>
<tr><td>South Lyon Creek Trunk Line Repl.</td><td></td><td></td><td></td><td></td><td colspan="2">3,541</td><td></td><td></td><td></td></tr>
<tr><td>North Lyon Creek Trunk Line Repl.</td><td></td><td></td><td></td><td></td><td colspan="2">3,774</td><td></td><td></td><td></td></tr>
<tr><td>Hall Lake Sewer Repl.</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">1,694</td><td></td><td></td></tr>
<tr><td>212th St. SW Sewer Repl.</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">1,270</td><td></td><td></td></tr>
<tr><td>220th St. SW Sewer Repl.</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">798</td><td></td><td></td></tr>
<tr><td>223rd St. SW Sewer Repl.</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">2,613</td><td></td><td></td></tr>
<tr><td>242nd St. SW Sewer Repl.</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">1,364</td><td></td><td></td></tr>
<tr><td>Edmonds Wastewater Treatment Plant</td><td colspan="9">8,073</td></tr>
<tr><td>Aging Infrastructure Repl. Program</td><td></td><td colspan="8">13,666</td></tr>
</table>

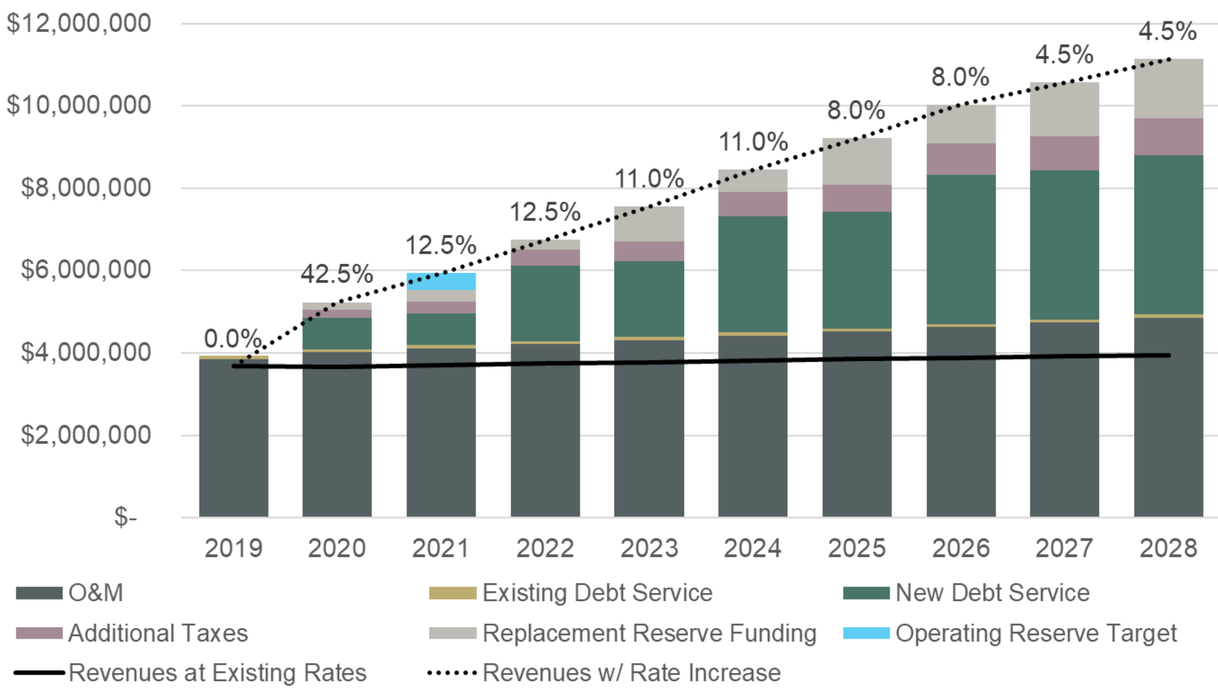
III.E. EVALUATION OF REVENUE SUFFICIENCY

The sewer utility is not projected to have sufficient revenue to meet its ongoing operating needs and policies in 2019; the utility will need to draw down reserves in order to cover this deficit. In addition to existing obligations, replacement reserve funding and new debt service obligations are projected to increase throughout the forecast period. As seen in **Exhibit 4** these factors together result in a need for increased revenues. The following provides a summary of the various elements of the graphic.

- Solid black line: Revenue at existing rates.
  - » Annual revenues cannot cover existing operating expenses and debt service.
- Dotted black line: Revenue with rate increases.
  - » Annual revenue increases of 42.5% in 2020; 12.5% in 2021 and 2022; 11.0% in 2023 and 2024; 8.0% in 2025 and 2026; and 4.5% in 2027 and 2028.
- Dark blue bar: Cash operating expenses.
  - » The City plans to add two maintenance workers in 2020, which increases annual operating expenses by $147,000 per year. Thereafter, expenses increase by 2.4% annually throughout the forecast. In 2019 operating expenses are 98% of ongoing needs, but by the end of the forecast, operating expenses are only 44% of the annual revenue requirement.
- Gold bar: Existing debt service.
  - » The sewer utility is responsible for approximately $76,000 per year in existing debt service.

- Green bar: New debt service.
  - » The new revenue bonds projected in 2020 ($9.1 million), 2022 ($12.6 million), 2024 ($11.6 million), 2026 ($9.3 million), and 2028 ($3.1 million) increase the utility's annual debt service payments by $3.9 million per year by 2028. By the end of the forecast, debt service accounts for approximately one-third of the annual revenue requirement.
- Purple bar: Additional taxes.
  - » As rate revenue increases, annual state and City tax payments increase accordingly.
- Grey bar: Replacement reserve funding.
  - » In 2019, there is no money available to fund the replacement reserve funding policy. During the forecast, the funded portion of the policy increases, growing towards funding the full target, which is approximately $1.5 million in 2028.
  - » Additional rate revenue is set aside for replacement reserve funding in years where there is no new debt service (e.g., 2023, 2025, 2027), resulting in an alternating pattern of higher investments.
- Bright blue bar: Operating reserve target.
  - » In 2021, a portion of rate revenues is assumed to be set aside to allow the utility to achieve an operating reserve equal to 25% of annual operating expenses (a one-time addition of nearly $400,000.)

Exhibit 4: Revenue Requirement Forecast



Based on the forecasted operating, capital, debt service, and reserve needs, FCS GROUP recommends the increases and resulting rate schedule shown in **Exhibit 5**. In November of 2019, the City Council adopted rate increases for 2020-24.

Exhibit 5: Proposed Rate Schedule

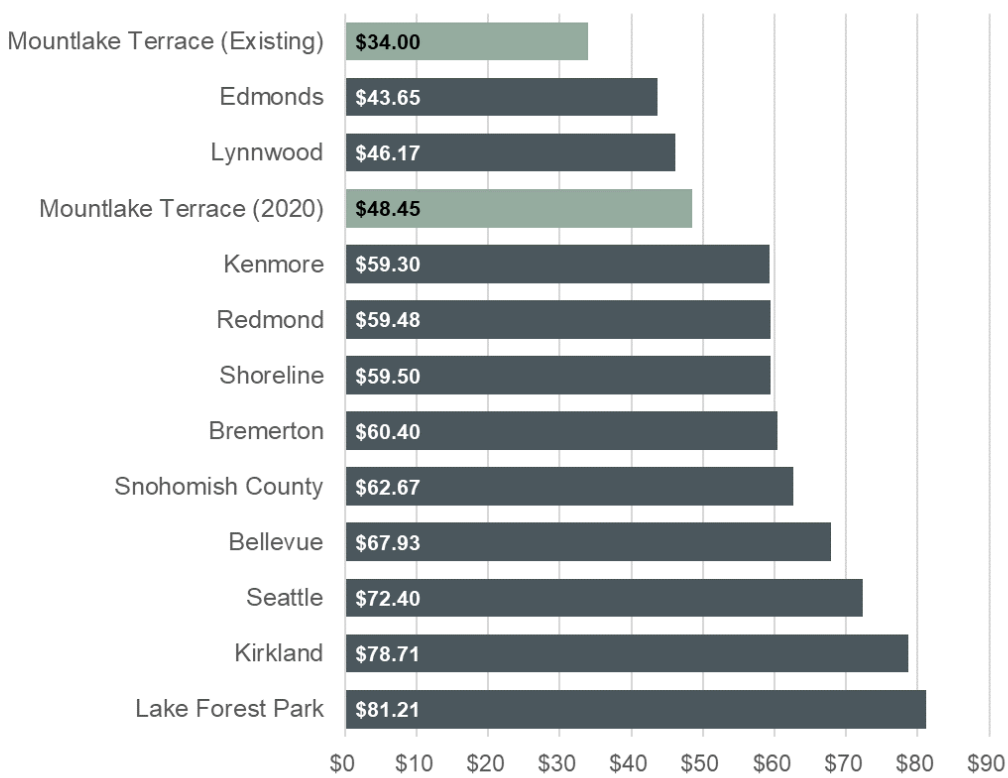
Sewer Service Charge Schedule	Existing 2019	Adopted 2020	Adopted 2021	Adopted 2022	Adopted 2023	Adopted 2024	Forecast 2025	Forecast 2026	Forecast 2027	Forecast 2028
% Increase		*42.5%*	*12.5%*	*12.5%*	*11.0%*	*11.0%*	*8.0%*	*8.0%*	*4.5%*	*4.5%*
Base Charge (All Metered Customers)										
Bi-monthly base rate	$40.00	$57.00	$64.13	$72.14	$80.08	$88.88	$96.00	$103.67	$108.34	$113.22
Volume Charge										
Residential	$2.80	$3.99	$4.49	$5.05	$5.61	$6.22	$6.72	$7.26	$7.58	$7.93
Multifamily	$2.88	$4.10	$4.62	$5.19	$5.77	$6.40	$6.91	$7.46	$7.80	$8.15
Commercial	$3.14	$4.47	$5.03	$5.66	$6.29	$6.98	$7.54	$8.14	$8.50	$8.89
Mixed Use	$2.88	$4.10	$4.62	$5.19	$5.77	$6.40	$6.91	$7.46	$7.80	$8.15
Base Charge (Non-Metered Customers)										
Bi-monthly base rate	$85.70	$122.12	$137.39	$154.56	$171.56	$190.43	$205.67	$222.12	$232.12	$242.56

III.F. RATE SURVEY

As a resource to the City and its customers, a rate survey of neighboring utilities was performed. **Exhibit 6** shows the 2019 monthly single-family residential sewer bills of eleven jurisdictions, as well as Mountlake Terrace's 2019 existing and 2020 adopted rate. The rate survey assumes 500 cubic feet of volume (5 CCF) per month.

Currently, the City has the lowest residential sewer rates in the surveyed area. With the adopted increase, the City's 2020 rate of $48.45 will be the third-lowest when compared to the other jurisdictions' 2019 rates.

Exhibit 6: Single Family Residential Monthly Sewer Bill Comparison



Section IV. SUMMARY

Rate increases are needed to operate, maintain and expand the existing sewer utility. FCS GROUP recommended an initial 42.5% increase in 2020, followed by increases ranging from 12.5% down to 4.5% over the forecast period. The primary driver for these increases is the utility's capital program and the debt service payments and replacement reserve funding needed to cover those needs.

The City Council adopted 5-years of rates (2020-2024) on November 4, 2019, as shown below. The complete schedule of adopted rates can be found in Title 13 of Mountlake Terrace Municipal Code.

Exhibit 7: Adopted Sewer Service Charges

Bi-Monthly Residential Sanitary Sewer Rates					
	2020	2021	2022	2023	2024
Base charge/bi-monthly	$57.00	$64.13	$72.14	$80.08	$88.88
Usage charge/CCF	$3.99	$4.49	$5.05	$5.61	$6.22

Bi-Monthly Multifamily Sanitary Sewer Rates					
	2020	2021	2022	2023	2024
Base charge/bi-monthly	$57.00	$64.13	$72.14	$80.08	$88.88
Usage charge/CCF	$4.10	$4.62	$5.19	$5.77	$6.40

Bi-Monthly Commercial Sanitary Sewer Rates					
	2020	2021	2022	2023	2024
Base charge/bi-monthly	$57.00	$64.13	$72.14	$80.08	$88.88
Usage charge/CCF	$4.47	$5.03	$5.66	$6.29	$6.98

Bi-Monthly Mixed-Use Sanitary Sewer Rates					
	2020	2021	2022	2023	2024
Base charge/bi-monthly	$57.00	$64.13	$72.14	$80.08	$88.88
Usage charge/CCF	$4.10	$4.62	$5.19	$5.77	$6.40

Bi-Monthly Service to Nonmetered Properties					
	2020	2021	2022	2023	2024
Base charge/bi-monthly	$122.12	$137.39	$154.56	$171.56	$190.43

It is recommended that the City revisit the study findings during the forecast period to check that the assumptions used are still appropriate and that no significant changes have occurred that would alter the results of the study. The City should use the study findings as a living document, routinely comparing the study outcomes to actual revenues and expenses. Any significant or unexpected changes will require adjustments to the rate strategy proposed in this report.

APPENDIX A: RATE MODEL SUMMARY

Summary of Sewer Fund	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Annual Rate Increase	0.00%	42.50%	12.50%	12.50%	11.00%	11.00%	8.00%	8.00%	4.50%	4.50%
Single Family Monthly Fee	$ 34.00	$ 48.45	$ 54.51	$ 61.32	$ 68.06	$ 75.55	$ 81.60	$ 88.12	$ 92.09	$ 96.23
Debt Service Coverage	6.46	2.00	2.64	1.48	1.82	1.43	1.64	1.45	1.55	1.55
Replacement Reserve Funding Achievement	0%	10%	47%	30%	98%	53%	99%	72%	91%	93%
Beginning Fund Balance Summary	$2,924,459									
Less: Reserved for Debt	$ (76,105)									
Leftover for Operating / Capital	$2,848,354									
Less: Amount needed for Operating	$ (750,650)									
Leftover for Capital	$2,097,704									

Operating Activity	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Beginning Fund Balance	$ 750,650	$ 496,270	$ 621,812	$ 1,030,167	$ 1,053,421	$ 1,078,890	$ 1,105,084	$ 1,131,284	$ 1,158,189	$ 1,185,357
Revenues										
Existing Rate Revenues	$3,670,142	$3,670,142	$ 3,701,338	$ 3,732,800	$ 3,764,528	$ 3,796,527	$ 3,828,797	$ 3,861,342	$ 3,894,164	$ 3,927,264
Fund Earnings + Non-Rate Revenues	4,134	2,862	7,341	9,383	14,833	14,960	20,001	20,132	24,203	24,339
Rate Revenues from Rate Increases	-	1,559,810	2,232,370	2,999,363	3,771,690	4,639,780	5,359,859	6,146,758	6,653,199	7,188,416
Total Revenues	$3,674,276	$5,232,814	$ 5,941,049	$ 6,741,545	$ 7,551,051	$ 8,451,266	$ 9,208,657	$10,028,232	$10,571,565	$11,140,019
Expenditures										
Operating Costs	$3,852,685	$4,016,027	$ 4,120,670	$ 4,213,684	$ 4,315,561	$ 4,420,335	$ 4,525,138	$ 4,632,755	$ 4,741,429	$ 4,852,923
Additional Taxes from Rate Increases	-	196,189	280,782	377,252	474,393	583,580	674,149	773,124	836,822	904,141
Existing Debt Service	75,971	75,804	76,404	76,071	75,800	76,300	75,733	75,933	76,033	76,033
New Debt Service	-	770,350	770,350	1,836,988	1,836,988	2,818,972	2,818,972	3,606,252	3,606,252	3,868,679
Rate Funded Capital	-	48,902	121,147	213,958	336,435	494,766	657,624	885,822	1,134,608	1,360,979
Total Expenses	$3,928,656	$5,107,273	$ 5,369,353	$ 6,717,953	$ 7,039,178	$ 8,393,952	$ 8,751,616	$ 9,973,886	$10,395,146	$11,062,755
Revenues Less Expenditures	$ (254,380)	$ 125,542	$ 571,697	$ 23,592	$ 511,873	$ 57,314	$ 457,041	$ 54,346	$ 176,419	$ 77,264
Less: Transfer to Capital Fund	-	-	(163,341)	(339)	(486,404)	(31,121)	(430,840)	(27,442)	(149,251)	(49,390)
Ending Fund Balance	$ 496,270	$ 621,812	$ 1,030,167	$ 1,053,421	$ 1,078,890	$ 1,105,084	$ 1,131,284	$ 1,158,189	$ 1,185,357	$ 1,213,231
Minimum Target (% of Annual O&M)	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*
Actual Achievement	*12.9%*	*15.5%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*

Capital Activity	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Beginning Fund Balance	$2,097,704	$1,671,777	$ 5,287,599	$ 522,175	$ 7,243,427	$ 981,918	$ 8,091,493	$ 1,056,207	$ 3,944,098	$ 862,761
Revenues										
Replacement Reserve Funding	$ -	$ 48,902	$ 121,147	$ 213,958	$ 336,435	$ 494,766	$ 657,624	$ 885,822	$ 1,134,608	$ 1,360,979
Capital Facilities Charges	291,585	294,063	296,563	299,084	301,626	304,190	306,775	309,383	312,013	314,665
Transfers from Operating Fund	-	-	163,341	339	486,404	31,121	430,840	27,442	149,251	49,390
Revenue Bonds: Net Proceeds	-	9,100,000	-	12,600,000	-	11,600,000	-	9,300,000	-	3,100,000
Interest Earnings	10,489	8,359	26,438	2,611	36,217	4,910	40,457	5,281	19,720	4,314
Total Revenues	$ 302,073	$9,451,325	$ 607,489	$13,115,991	$ 1,160,682	$12,434,986	$ 1,435,697	$10,527,928	$ 1,615,592	$ 4,829,348
Capital Project Expenditures										
Interurban Trail South Trunk Sewer Replacement	$ -	$ 914,222	$ 2,852,374	$ -	$ -	$ -	$ -	$ -	$ -	$ -
219th St. SW Sewer Replacement	-	-	546,965	1,706,531	-	-	-	-	-	-
220th St. SW Sewer Replacement	-	-	346,739	1,081,827	-	-	-	-	-	-
70th Ave. W. Sewer Replacement	-	-	-	588,731	1,836,842	-	-	-	-	-
36th Ave. / 37th Ave. W. Sewer Replacement	-	-	-	188,055	586,731	-	-	-	-	-
38th Ave. / 37th Ave. W. Sewer Replacement	-	-	-	161,440	503,694	-	-	-	-	-
42nd Pl. Sewer Replacement	-	-	-	306,503	956,289	-	-	-	-	-
222nd St. SW at 44th Ave. W Sewer Replacement	-	-	-	256,491	800,253	-	-	-	-	-
39th Ave. W. Sewer Replacement	-	-	-	305,041	951,727	-	-	-	-	-
Interurban Trail North Trunk Sewer Replacement	-	-	-	-	813,332	2,537,597	-	-	-	-
South Lyon Creek Trunk Line Replacement	-	-	-	-	-	859,468	2,681,540	-	-	-
North Lyon Creek Trunk Line Replacement	-	-	-	-	-	916,091	2,858,204	-	-	-
Wildemere Lift Station Upgrades	-	-	276,998	864,233	-	-	-	-	-	-
Aging Infrastructure Replacement Program	-	540,800	562,432	584,929	608,326	632,660	657,966	1,368,569	4,269,935	4,440,733
Hall Lake Sewer Replacement	-	-	-	-	-	-	411,229	1,283,033	-	-
212th St. SW Sewer Replacement	-	-	-	-	-	-	308,257	961,762	-	-
220th St. SW Sewer Replacement	-	-	-	-	-	-	193,771	604,565	-	-
223rd St. SW Sewer Replacement	-	-	-	-	-	-	634,279	1,978,951	-	-
242nd St. SW Sewer Replacement	-	-	-	-	-	-	330,957	1,032,585	-	-
Edmonds WWTP	728,000	3,785,600	787,405	350,958	364,996	379,596	394,780	410,571	426,994	444,073
New Vehicle	-	594,880	-	-	-	-	-	-	-	-
Total Capital Project Expenditures	$ 728,000	$5,835,502	$ 5,372,913	$ 6,394,739	$ 7,422,191	$ 5,325,411	$ 8,470,982	$ 7,640,037	$ 4,696,929	$ 4,884,806
Revenues Less Expenditures	$ (425,927)	$3,615,822	$(4,765,424)	$ 6,721,252	$(6,261,509)	$ 7,109,575	$(7,035,285)	$ 2,887,891	$ (3,081,337)	$ (55,458)
Ending Fund Balance	$1,671,777	$5,287,599	$ 522,175	$ 7,243,427	$ 981,918	$ 8,091,493	$ 1,056,207	$ 3,944,098	$ 862,761	$ 807,303
Minimum Goal (max of $250k or 1% assets)	*250,000*	*250,000*	*302,810*	*366,758*	*440,980*	*494,234*	*578,944*	*655,344*	*702,313*	*751,161*

Ending Operating & Capital Fund Balance	$2,168,047	$5,909,411	$ 1,552,343	$ 8,296,848	$ 2,060,808	$ 9,196,576	$ 2,187,492	$ 5,102,287	$ 2,048,118	$ 2,020,533