FCS GROUP
Solutions-Oriented Consulting

| Memorandum

To: Don Popoff, RH2 **Date:** June 24, 2020

From: Andy Baker, Project Manager

RE Lake Chelan Sewer District – Sewer Utility Rate Study

FCS Group, Inc. was engaged as a subconsultant to RH2 Engineering, Inc. by Lake Chelan Sewer District (the "District") to conduct a Sewer Utility Rate Study. The scope of work for this study includes an assessment of the District's ongoing rate requirements, as well as scenarios around options for meeting these ongoing rate revenue requirements. This memorandum summarizes the analysis, projections, and recommendations developed in the course of this Study.

BACKGROUND

LAKE CHELAN SEWER DISTRICT

Lake Chelan Sewer District is a special purpose district authorized under the Revised Code of Washington, Title 57. It serves approximately 300 connections in Chelan County, partially within the urban growth boundary of the City of Chelan. The District provides sewer collection service and conveys wastewater to the City of Chelan for treatment through a combination of gravity and force mains. The District contracts with the City of Chelan to provide operations, maintenance, and administrative activities. The District pays a treatment charge to the City based on volume of wastewater and pays for a proportionate share of City capital projects from which it benefits, or which the City conducts on its behalf.

Charges for Services have historically made up 87 percent of the District's operating revenue. The District charges a uniform rate structure to its ratepayers, based on a monthly charge of $45.00 per Equivalent Residential Unit (ERU). The District's customer base, as of year-end 2018 billing data, is shown in Table 1.

Table 1. LCSD Customer Base

Customer Type	Number of Accounts	Number of ERUs
Residential	264	263.3
Multifamily	22	49.1
Commercial	9	15.6
Total	**295**	**328**

Based on 2018 billing data. Residential Customers with greater than 1 ERU assumed to be Multifamily.

The District has historically adjusted rates on an infrequent basis. Prior to this Study, the District previously adjusted rates in July 2014, from $40.00 per ERU to the current $45.00 per ERU. Monthly rates were previously adjusted to $40.00 per ERU in 1997. The rate history for the District is presented in Table 2.

Table 2. LCSD Rate History

	1997 - July 2014	July 2014 - Current
Monthly Rate per ERU	$ 40.00	$ 45.00

In addition to the monthly sewer service utility rate, District customers pay an additional assessment to the County as repayment for a Department of Ecology loan. Annual debt service on this loan is $139,000 per year, and this obligation will be retired in 2022. This assessment and debt obligation are separate from the operating revenues and expenditures of the District, and not shown in the rate projections and budgets in this study. There is approximately $200,000 held in a debt service fund which will be remitted to the District once the debt obligation is retired in 2022, and will be available for the general purposes of the District.

The District's annual capital expenditures and Intergovernmental debt has averaged approximately $92,500 per year for the 2015-2020 historical period. However, this level of capital spending has not kept pace with the system reinvestment needs of the District, and there are significant projected capital projects needed in coming years. The projected capital improvement needs and funding sources are discussed in the Financial Projection Scenarios section of this memorandum.

Financial Projection Scenarios

Financial Projection models were developed to evaluate the alternative approaches to addressing the revenue requirements of the District.

STATUS QUO FINANCIAL CONDITION

Assumptions and Historical Revenue Requirements

The Status Quo Financial Projections are based on the District's 2020 operating budget, the District's Capital Improvement Plan developed by RH2, and the financial projections developed in the 2018 City of Chelan rate study. Cost Escalation assumptions are summarized on Table 3.

Table 3. Projection Assumptions

Cost Component	Assumption	Comments
General Cost Inflation	2.00%	Consistent with City of Chelan Rate Study
Construction Cost Inflation	4.00%	Based on RH2 CIP Projection
Labor Cost Inflation	2.00%	Consistent with City of Chelan Rate Study
Benefit Cost Inflation	6.00%	Consistent with City of Chelan Rate Study
Investment Interest	1.00%	Based on 2015-2018 Performance
State Excise	3.852%	
Treatment Share	31.745%	Based on 2018

The District's historical and budgeted revenue requirements are summarized in Table 4.

Table 4. LCSD Historical and Budget Revenue Requirements

	2015	2016	2017	2018	Budget 2019	Budget 2020
Operating Revenues						
Charges for Services	$ 163,987	$ 167,354	$ 180,106	$ 182,223	$ 180,300	$ 180,250
Miscellaneous Revenues	17,786	27,813	36,513	47,028	16,000	18,000
Subtotal: Operating Revenues	**$ 181,774**	**$ 195,167**	**$ 216,619**	**$ 229,250**	**$ 196,300**	**$ 198,250**
Operating Expenses						
Salaries & Wages	$ 3,657	$ 4,052	$ 3,929	$ 4,077	$ 4,600	$ 4,600
Supplies	6,985	5,967	2,930	1,567	6,500	13,000
Other Services	98,447	105,171	77,307	80,914	133,000	174,939
Subtotal: Operating Expenses	**$ 109,089**	**$ 115,190**	**$ 84,165**	**$ 86,558**	**$ 144,100**	**$ 192,539**
Net Operating Cash Flow	$ 72,685	$ 79,977	$ 132,454	$ 142,693	$ 52,200	$ 5,711
Intergovernmental (Debt Payments)	$ 60,411	$ 60,121	$ 59,853	$ 59,586	$ 16,620	$ 16,600 (1)
Capital Projects	0	49,784	54,845	8,823	75,000	93,261
Net Cash Flow	**$ 12,274**	**$ (29,927)**	**$ 17,755**	**$ 74,284**	**$ (39,420)**	**$ (104,150)**

1: 2020 Budget for Debt Payment does not include LCSD share of City LS5 Bond Repayment, estimated at $14,400.

PROJECTED FINANCIAL CONDITIONS AND SCENARIOS

Fiscal Policies

The basic framework for evaluating utility revenue needs consists of a set of financial policies. For purposes of this Study, FCS GROUP evaluated the existing practices of the District and made projections based on those practices.

It is the existing policy of the District to maintain a single reserve fund. It has historically maintained a cash balance between $300,000 and $400,000. Based on discussion with the District, they intend to maintain a similar level of cash-on-hand, with an objective that any extraordinary uses of these cash reserves be replenished within two years.

Reserves

While industry standards provide guidance for operating reserves and capital reserves, because the District operates with a single combined fund, we have evaluated the District's financial performance relative to Total Cash on Hand. In evaluating the reserve levels of a combined fund, it is essential to consider that the fund balance serves multiple purposes commonly considered separately for Operating Reserves and Capital Reserves.

For Sewer utilities, general industry practice recommends an operating reserve level between 30 days and 60 days of operating expenses, with the intent being to provide a liquidity cushion, protecting the utility from the risk of short-term variations in revenue collection or expense.

Capital Reserves are intended to maintain funds on hand to cover unplanned rehabilitation or replacement of assets which wear out before the expected useful life, to levelize fluctuations in cash funding of capital projects, and to set aside funds for major capital improvements in the future. They are not intended to guard against catastrophic system failure or extreme acts of nature.

Recommendation: Maintain a minimum reserve of between $300,000 and $400,000 based on anticipated emergency maintenance needs. This threshold should be revisited periodically to ensure it will meet the needs for which it is intended.

Debt Service Coverage

Debt service coverage is typically a requirement associated with revenue bonds and some State loans, and it is an important benchmark to measure the riskiness of the utility's capital funding plans. The District does not issue bonds, and, as discussed above, relies on the City of Chelan for operating assessments for large capital project funding. Based on discussion with the City of Chelan, the District is not required to maintain a debt service coverage covenant associated with its operating assessments.

Recommendation: Maintain a minimum Debt Service Coverage ratio of 1.00.

Rate-Funded System Reinvestment

The concept of system reinvestment funding entails funding long-term infrastructure replacement needs through a regular and predictable rate provision. A system reinvestment funding program can be structured to take into account the defined funding source (rates), accumulation of funds when funding exceeds near-term needs, and augmentation of funds (e.g. through debt) when replacement needs exceed available cash resources.

Determining an appropriate funding level for ongoing rate-funded system reinvestment is a challenge. Many municipal utilities rely on estimates based on depreciation expense or replacement cost estimates as the basis for establishing targets for Rate-Funded System Reinvestment, or a comprehensive Asset Management Plan. Based on the information available, the District has an annual device replacement program with an identified minimum funding level of $13,500 per year.

Recommendation: Fund the Annual Device Replacement Program as a minimum Rate-Funded System Reinvestment target. This is approximately $13,500 per year in current dollars. This target should be revisited periodically in order to assess its sufficiency to meet ongoing need.

Capital Improvement Needs

The District's Capital Improvement Plan is summarized in Table 5. It is grouped in two categories:

- LCSD Projects: these projects are for LCSD-owned assets.
- City of Chelan Projects: these represent the allocated share of the cost of capital projects constructed by the City of Chelan that the District is responsible for under the terms of their service contract.

Table 5. LCSD Capital Improvement Plan

Description	2020	2021	2022	2023	2024	2025-2029	2030-2039
LCSD Projects	$ 13,520	$ 14,040	$ 14,560	$ 15,080	$ 15,340	$ 2,165,800	$ 815,400
City Collection System	213,200	885,060	22,400	281,357	148,492	140,000	360,000
City WWTP	66,827	20,493	21,252	85,811	-	-	157,311
City Planning	8,008	-	-	-	-	-	-
Total CIP	**$ 301,555**	**$ 919,593**	**$ 58,212**	**$ 382,248**	**$ 163,832**	**$ 2,305,800**	**$ 1,332,711**

Due to the scale of the District and its relationship with the City of Chelan, the City has historically used its bonding capacity to finance the construction of large District projects. The District then pays an Operating Assessment to the City for its proportional share of debt service. The District has one outstanding Operating Assessment for Phase II Construction costs, in the amount of $16,500 per year, through 2032.

Based on discussion with the District and City, it is assumed that the following major projects will be funded through a City debt issuance and associated Operating Assessment:

- City Lift Station No. 5 Line Improvement. District share of cost is a total of $1,055,860 in 2020 and 2021.
- Upgrade sewer from MH E-21 to MH E-1, MH C-25 to WWTP. District share of cost is $308,809 in 2023 and 2024.
- District Lift Station No. 1 Forcemain Replacement. District cost is $1,472,800 in 2025.
- District Lift Station No. 1 & No. 2 Improvements. District cost is $602,000 in 2025-2029.
- District Lift Station No. 3 & No. 4 Improvements. District cost is $581,400 in 2030-2039.

For the City Lift Station No. 5 Line Improvements, financing assumptions are based on the anticipated bond terms as of April 2020. For later projects, the assumptions are based on the City of Chelan's Water Rate Study. These assumptions are summarized in Table 6.

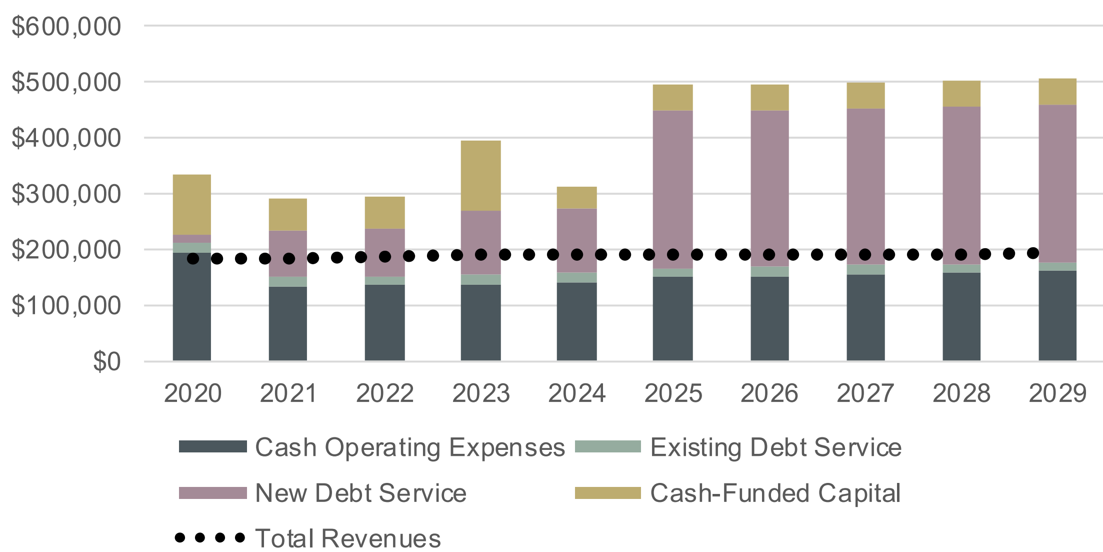
Table 6. City Bonding Assumptions

	2020 Bond	Future Assumptions
Term (years)	15	20
Interest-Only	1 year	0 years
Interest Cost	1.35%	5.00%
Issuance Cost	1.20%	0.00%

Revenue Requirement Projection

The Revenue Requirement projection was developed for the 2020 through 2029 time period. While the District's financial plan extends to 2039, the degree of certainty in timing of projects is significantly lower after 2029. The Revenue Requirement consists of the projected operating and maintenance expenses, rate-funded capital, and debt service. Figure 1 presents a summary of the overall revenue requirements for the study period.

Figure 1. LCSD Revenue Requirement



Summary of the Revenue Requirement:

- Current rate revenue levels are insufficient to meet existing financial obligations in 2020, and remain insufficient throughout the study period.
- The deficiency is a result of the following costs, which were not included in the District's 2020 Budget:
  - New debt service obligations associated with the City Lift Station No. 5 Line Improvement project.

Rate Recommendations

In evaluating the need for rate adjustments to address the District's revenue requirements, two key factors were identified:

- In the immediate term, a rate adjustment is necessary to address minimum fund balance requirements and to raise operating revenues to the level needed to pay for the operating assessment for the City Lift Station 5 (LS5) Project.
- In the longer term, further rate adjustments will be necessary to pay for the operating assessment for the District Lift Station 1 (LS1) Forcemain Project.

There are two general strategies to making major rate adjustments. A Periodized or Variable rate strategy makes fewer, but larger rate adjustments. A Levelized rate strategy makes consistent rate adjustments, relying on more variable reserve balances to make up differences in rate revenue needs in any one year. Either approach can meet utility needs given sufficient reserves, and should be selected based on the policy preferences, risk tolerance, and rate tolerance of the individual utility.

Based on direction from the District's Board, a Revised Rate Scenario was developed which balances the rate increases between these two bookend approaches.

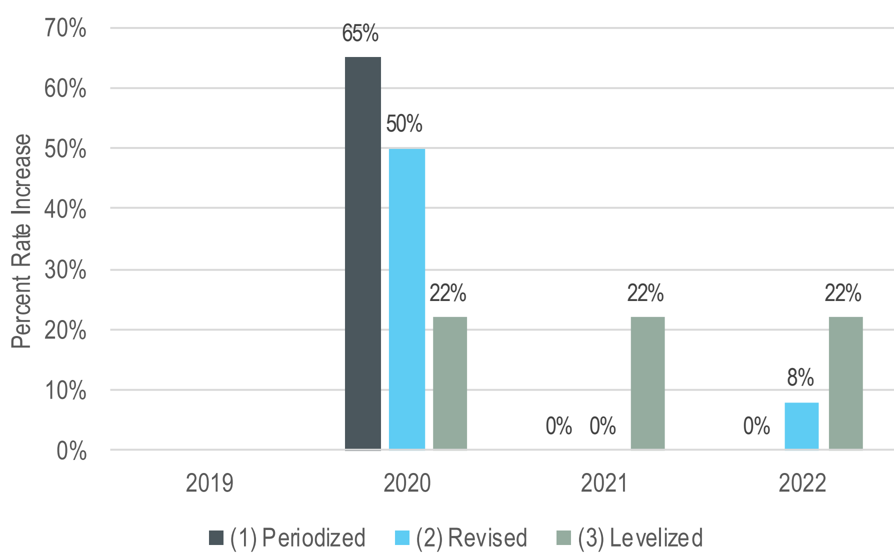
Short-Term Rate Alternatives (2020 – 2022)

In addressing short-term needs, the District has less flexibility, because of the significant pressure that current-year capital projects place on its existing reserves. A Periodized rate strategy calls for a single rate adjustment of 65 percent, effective August 1, 2020, to address both the City LS5 Project operating assessment and to rebuild reserves to the target level of $300,000 - $400,000. A Levelized rate strategy would require at least three years of 22 percent rate increases, but would result in lower reserve levels, creating a risk for the District should unanticipated emergency maintenance projects arise.

Under the Board-directed Revised Rate Scenario, a 50 percent rate adjustment, effective August 1, 2020, will address the immediate cash-flow deficiency of the District, allowing the subsequent 8 percent per year rate adjustments to begin January 1, 2022, rather than additional increases in 2021.

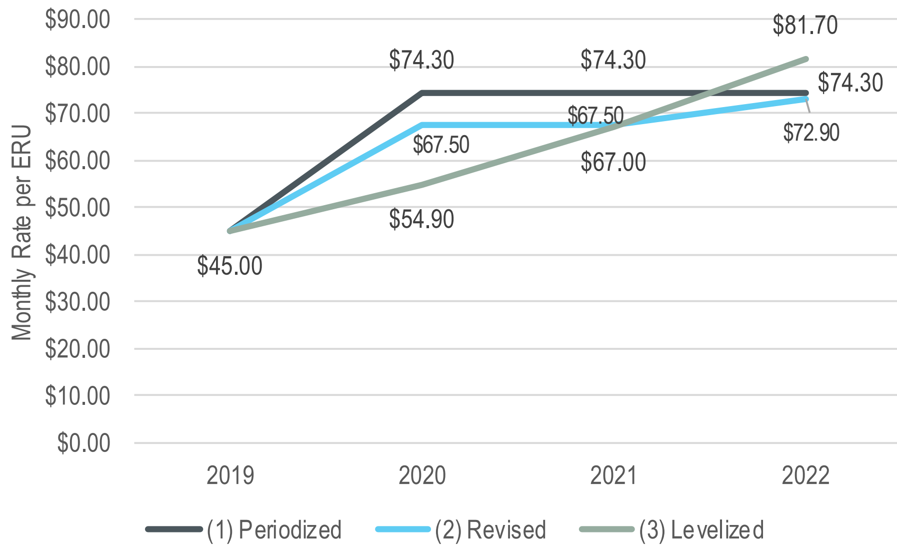
While mid-year rate increases can be challenging, the extent of deficiencies in the revenue requirement projection requires their consideration. Based on discussion with the District, rate alternatives were developed with an assumed effective date of August 1, 2020. Subsequent rate increases are assumed to be effective on January 1 of each year. The short-term rate alternatives and resulting reserve levels are presented in Figures 2, 3, and 4.

Figure 2. Short-Term Rate Increase Alternatives



A single front-loaded increase raises rate revenues to the level they need to be to meet the District's short-term revenue requirements immediately. The levelized approach will temper this impact, but the overall level of rates necessary is higher due to losing the compounding revenue in 2020 and 2021. The Revised scenario achieves a lower outcome in 2022 by relying more heavily on use of reserves in 2020 and 2021. This outcome is shown in Figure 3.

Figure 3. Short-Term Monthly Rate Alternatives



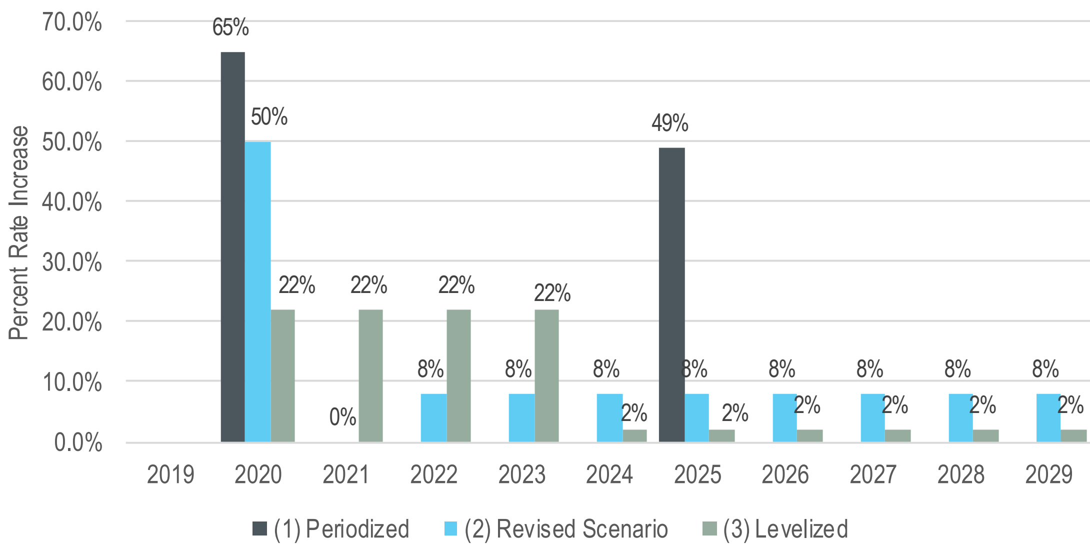
Under each of these scenarios the operating reserves will be maintained at the full target of between $300,000 and $400,000. Reserve levels are lower in all short-term years under the levelized alternative, but remain within the target.

Long-Term Rate Alternatives (2022 – 2029)

In considering the longer term revenue requirements, the major variable is the timing of the District LS1 Forcemain Project. Based on the age and condition of the existing forcemain, replacement is recommended by RH2 within the current planning period, with a likely range of 2025 to 2029, but an exact year for replacement has not yet been identified. For financial modeling purposes, we have assumed that the project will be conducted in 2025. As with the short-term needs, the District can either raise rates a single time, in whichever year the District LS1 Forcemain Project is ultimately required, or it can begin raising rates following a levelized strategy, targeting a 2025 construction date. A Periodized rate strategy calls for a single rate adjustment of 49 percent. There are two possible Levelized strategies, depending on how the Short Term rate adjustment is addressed. These three alternatives and resulting reserve levels are presented in Figures 4, 5, and 6, and Table 7.

Under the Board-directed 'Revised' alternative, the short-term rate needs would be addressed through the 50 percent increase in August 1, 2020, allowing the subsequent series of 8 percent increases to wait until January 1, 2022, rather than beginning five months after the major front-loaded increase.

Figure 4. Long-Term Rate Increase Alternatives



As with the short-term alternatives, both levelized alternatives result in a higher long term monthly rate, due to the compounding effect of revenue.

Figure 5. Long-Term Monthly Rate Alternatives

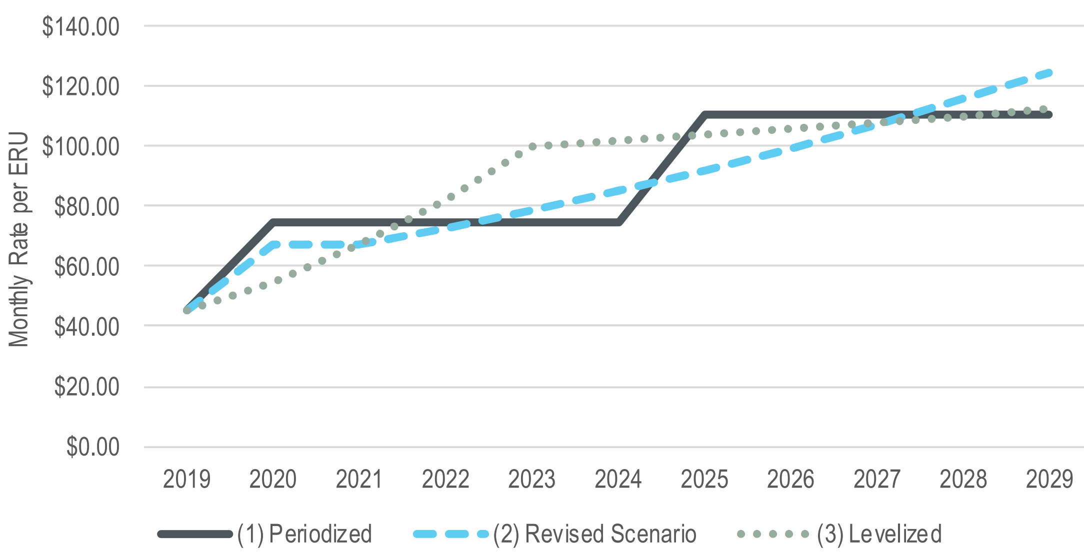


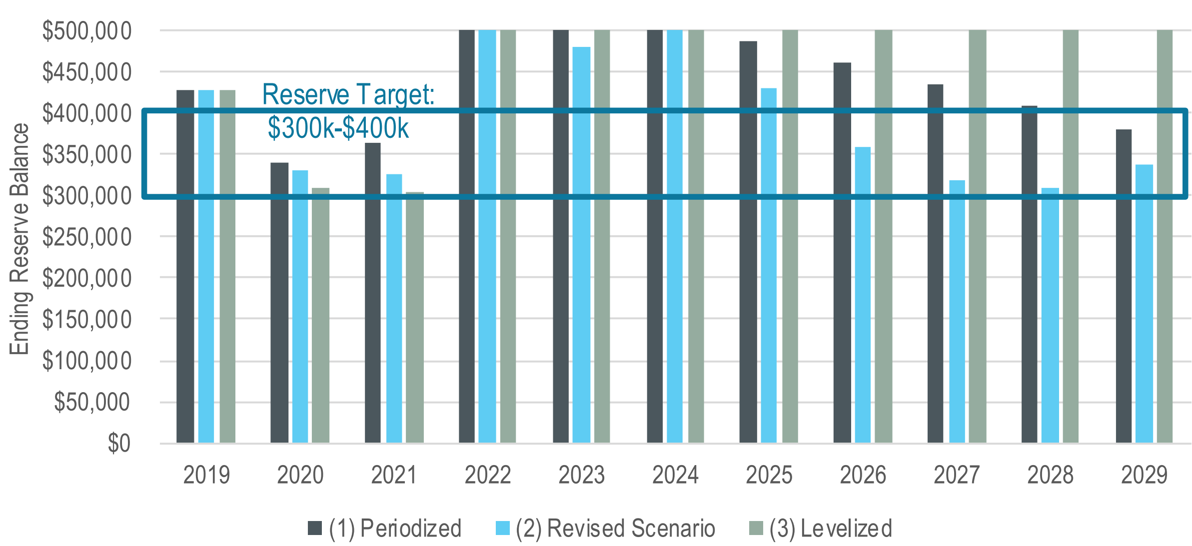
Table 7. Long-Term Monthly Rate Alternatives

	2020	2021	2022	2023	2024
(1) Periodized	$74.30	$74.30	$74.30	$74.30	$74.30
(2) Revised Scenario	$67.50	$67.50	$72.90	$78.70	$85.00
(3) Levelized	$54.90	$67.00	$81.70	$99.70	$101.70

	2025	2026	2027	2028	2029
(1) Periodized	$110.70	$110.70	$110.70	$110.70	$110.70
(2) Revised Scenario	$91.80	$99.10	$107.00	$115.60	$124.80
(3) Levelized	$103.70	$105.80	$107.90	$110.10	$112.30

The long term reserve levels meet or exceed the reserve target under all three scenarios. The levelized approach spenpds more years exceeding the overall reserve target due to the need to build up reserves to maintain a levelized rate adjustment. Of the three options, the Revised Scenario minimizes the number of years exceeding the reserve target.

Figure 6. Long-Term Reserve Levels



FINDINGS AND CONCLUSIONS

The findings of the financial analysis indicate there is an immediate short-term need for the rate adjustments by the District to address its revenue requirement deficiency. Long term rate are driven by the District's capital needs, most significantly its Lift Station 1 Forcemain project. The timing of this project is critical to the long term rate scenarios.

Given these findings, the District should proceed with addressing its capital needs under the existing status quo. The rate alternatives include short term and long term options:

- Periodized: a 65 percent increase, effective August 1, 2020, followed by a 49 percent increase, effective January 1, 2025.
- Revised: a 50 percent increase, effective August 1, 2020, followed by 8 percent increases annually, beginning January 1, 2022, through 2029.

- Levelized: Three 22 percent increases, effective August 1, 2020, January 1, 2021, and January 1, 2022. Followed by 2 percent increases annually, beginning January 1, 2023, through 2029.

It is important to note that these Rate Scenarios represent the best available information as of June 2020. Our recommendation is that the District adopt the proposed rate increases, but that in each budget year the rate adjustments for 2022 and beyond be evaluated after consideration of the District's operating and capital needs at that time, and reflecting findings from the considerations for future study described below.

A full description of each alternative is included in the Projected Financial Conditions and Scenarios section.

CONSIDERATIONS FOR FUTURE STUDY

There are a number of areas of consideration for future study by the District, pertaining both to its overall financial management and the specifics of its rate strategy.

- Identifying the exact year in which the District LS1 Forcemain project is needed will allow better rate planning around any levelized rate strategy.
- Developing an asset management approach and comprehensive condition assessments of existing assets will better inform the level of reserves necessary to manage the risk of emergency projects, as well as guiding a long term plan for system reinvestment.
- The District should consider separating its Operating and Capital reserves into separate funds to better manage reserves relative to specific capital spending initiatives.
- The District has a scope of work with its consultant team to evaluate two additional areas relevant to the District's financial plan:
  - Evaluating the determination of Equivalent Residential Units for existing and future ratepayers to ensure that it is consistent with the impact on the District's capacity, and
  - Evaluating the District's General Facilities Charges to ensure that the proportional cost of growth is appropriately reflected in the District's fees.