

2022 ANNUAL BUDGET

LAKE WHATCOM WATER & SEWER DISTRICT



LAKE WHATCOM WATER & SEWER DISTRICT
1220 LAKEWAY DRIVE
BELLINGHAM, WASHINGTON 98229

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APPROVED December 8, 2021



Laura Abele, President, Board of Commissioners



Justin Clary, General Manager

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2022 BUDGET

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1 GENERAL MANAGER'S MESSAGE

The 2022 Budget represents the proposed fiscal plans for the Lake Whatcom Water & Sewer District for the 2022 calendar year (please refer to Appendix A for a comprehensive presentation of the 2022 Budget). This budget is the culmination of a collaborative effort between the Board of Commissioners and staff, and aligns with the District's mission to provide the best possible water and sewer services to District customers in a cost efficient manner, and in a way that contributes to protecting Lake Whatcom water quality. This budget was developed around touchstones of the District's financial policies, which embody the principles that guide District budgeting and long-term financial management, reinforcing the key values of fiscal prudence, pay-as-you-go financing to the extent practicable, and strong stewardship through asset management.

The District's unwavering adherence to its conservative fiscal policies has allowed it to enter 2022 with stable revenue projections while continuing to preserve its fully funded operations and contingency reserves, as well as create a surplus reserve in each utility earmarked for specific future large capital projects. As a special purpose district authorized under state statute, the District's primary functions are the operation of water and sewer utilities, which create relatively forecastable revenues by being funded primarily by rates associated with water sales and sewer services. With 2021 being the final year of the District's most-recently adopted multi-year rate structure, the District completed a comprehensive review of its operational and capital expenditure projections over the five-year planning horizon, and adopted a new multi-year rate structure that smooths necessary increases over the five-year period while ensuring the long-term fiscal health of the organization. Though new home starts in 2021 (36) were well above those witnessed in 2020 (25), development-related revenue projections have been budgeted at 10 new connections as a conservative approach and to limit District budgetary reliance on these onetime revenues.

During the past year, the District Board and staff developed the District's first six-year strategic business plan, which incorporates the outcome of the 2020 service assessment and prioritization efforts completed through the USEPA-defined Effective Utility Management process, and defines department-specific initiatives to be completed during the planning horizon. Through the strategic planning process, each department developed a department-specific mission; goals to pursue over the six-year planning horizon that align with the District's and departmental missions; schedule, and budgetary and staffing impacts necessary to attain each goal; and performance measures to monitor goal attainment. Integrated into the 2022 Budget are costs necessary to accomplishment some of these goals (records management system overhaul to increase operational efficiencies and mitigate liabilities, and funding an additional maintenance worker position to increase preventative maintenance resources).

The budget includes approximately \$9 million in expenditures, which is comprised of allocations of approximately \$3.5 million and \$5.5 million for the water utility and sewer utility, respectively, while maintaining a restricted bond reserve of \$772,000. The water utility budget includes \$2.56 million dedicated to operations, a capital reinvestment budget of approximately \$720,000, and a debt service budget of approximately \$226,000, as well as a contingency reserve of \$460,000 and an operating

reserve of \$590,000. In addition and new to the District's budget, the 2022 Budget also reserves \$136,000 in surplus water utility revenues to mitigate financing impacts associated with future capital improvements at the Sudden Valley Water Treatment Plant. The sewer utility budget includes \$3.02 million dedicated to operations, a capital reinvestment budget of approximately \$1.86 million, and a debt service budget of approximately \$637,000, as well as a contingency reserve of \$815,000 and an operating reserve of \$470,000. Like the Water Fund, the Sewer Fund also allocates \$277,000 in surplus sewer utility revenues to begin saving for the District's share of the City of Bellingham's Resource Recovery Project at the Post Point Wastewater Treatment Plant that is anticipated in 2026.

The 2022 Budget reflects an 11% increase over the 2021 Budget. Much of the increase may be attributed to significant capital reinvestment program carryover for projects that were not completed in 2021, which when combined with 2022 system reinvestment allocations, results in approximately \$2.58 million projected in capital expenditures between the two utilities in 2022. In addition, the creation of the surplus fund reserves for specific future capital projects adds an additional \$413,000 that was not allocated in the 2021 Budget. Also contributing to the year-over-year increase are operational increases, including salary cost-of-living-adjustments and step increases, and health insurance increases for District staff, as well as the addition of the maintenance worker position consistent with the strategic business plan. Another notable increase is for City of Bellingham utility services (water purchased for the Eagleridge water system and treatment of all District-collected wastewater).

The budget has been carefully crafted to emphasize the Board's service priorities while deploying resources in a manner that assures a firm foundation that maintains a positive cash balance at yearend. As a result, the 2022 Budget funds reserves at levels defined by District financial policies, while preserving adequate operating capital and investing in critical infrastructure improvements that are aimed at prolonging the life of our assets and protecting the environment. The 2022 capital reinvestment program reflects a pay-as-you-go approach funded through a combination of one-time and ongoing resources consistent with the District's asset management philosophy and the recently completed utility rate study. The fact that the 2022 investments can be made without reliance on debt can be attributed to the ongoing commitment to disciplined adherence to fiscal policies and sound asset management.

Forecasting resources, preparing the budget, monitoring its implementation, and assuring accountability and transparency, all while completing day-to-day work functions, takes an exceptional group of professionals. I want to thank District staff, all of whom had a hand in development of the 2022 Budget. I also want to thank the Board of Commissioners, whose leadership and policy direction has placed the District in a position that enables many of the progressive investments found in this budget. Lastly, I thank the District's customers that make up the Lake Whatcom community, without whom we would not have a purpose.

Sincerely,



Justin L. Clary
General Manager

2 SUMMARY OF FUNDS

The Lake Whatcom Water & Sewer District (District) is a special purpose local government authorized under [Title 57 Revised Code of Washington](#) (Water-Sewer Districts). Originally formed in 1968 as Whatcom County Water District No. 10, the District's primary function is to provide water and sewer service to customers in an 18-square mile area encompassing much of the Lake Whatcom watershed, including Geneva, Sudden Valley and the North Shore of Lake Whatcom. The District is governed by a five member Board of Commissioners (Board) who set the policies and rates of the District, and who adopt an annual budget. The annual budget defines the operational and capital improvement programs for that year, as well as maintenance of operating and contingency reserves to respond to unanticipated events, should they occur. The following summarizes each of the District's funds.

2.1 Water Utility Fund (Fund 401)

This fund serves as the primary operating fund of the District's water utility. The majority of revenue is derived from rates charged to water customers. Other revenue sources are grants, interest income, late payment fees, recording fees, permit fees, and miscellaneous charges and fees. All fees and charges are set by the Board. Funds collected are used to pay for operations and maintenance, and capital improvement program-related (system reinvestment) expenditures of the water utility in accordance with the Board-approved annual budget.

Managed within the water utility fund are operating reserve, contingency reserve, and debt service funds:

- Operating Reserve - The operating reserve serves as a liquidity cushion providing protection from risk of short-term variation in the timing of revenue collection relative to payment of expenses and is maintained consistent with District financial policies at the cost to operate the utility for 90 days.
- Surplus Reserve – The surplus reserve was established as a result of the District's formal review of rates, along with operational and capital programs that took place in 2021. This reserve anticipates the costs associated with the Sudden Valley Water Treatment Plant improvements. The reserve is intended to grow in the coming years to offset those costs and lower the amount of debt to be incurred as a result of those necessary improvements that will take place in 2027.
- Contingency Reserve - The contingency reserve ensures that unanticipated projects related to water system expenditures will be funded, subsequent to Board approval, and is established through the District's financial policies at one percent of the water utility infrastructure replacement cost.

- Debt Service - This fund provides redemption of long-term loans that financed past water utility projects. Principal and interest on those loans are paid entirely from water utility revenues. Debt service payments for principal and interest are paid annually.

2.2 Sewer Utility Fund (Fund 402)

This fund serves as the primary operating fund of the District's sewer utility. The majority of revenue is derived from rates charged to sewer customers. Other revenue sources are interest income, recording fees, permit fees, payments associated with an existing utility local improvement district (ULID), and miscellaneous charges and fees. All fees and charges are set by the Board. Funds collected are used to pay for operations, maintenance, and capital improvement program-related (system reinvestment) expenditures of the sewer utility in accordance with the Board-approved annual budget.

Managed within the sewer utility fund are operating reserve, contingency reserve, and debt service funds:

- Operating Reserve - The operating reserve serves as a liquidity cushion providing protection from risk of short-term variation in the timing of revenue collection relative to payment of expenses and is maintained consistent with District financial policies at the cost to operate the utility for 60 days.
- Surplus Reserve – The surplus reserve was established as a result of the District's formal review of rates, along with operational and capital programs that took place in 2021. This reserve anticipates the costs associated with the District's share of the City of Bellingham's Post Point wastewater treatment plant project. The reserve is intended to grow in the coming years to offset those costs and lower the amount of debt to be incurred as a result of that project which is scheduled to take place in 2026.
- Contingency Reserve - The contingency reserve ensures that unanticipated projects related to sewer system expenses will be funded, subsequent to Board approval, and is established through the District's financial policies at one percent of the sewer utility infrastructure replacement cost.
- Debt Service - The debt service allocation provides redemption of outstanding debt incurred associated with a bond that was issued to finance past sewer utility projects. Bond interest is paid semi-annually and the principal is paid annually from sewer utility revenues.

2.3 Bond Reserve Fund (Fund 460)

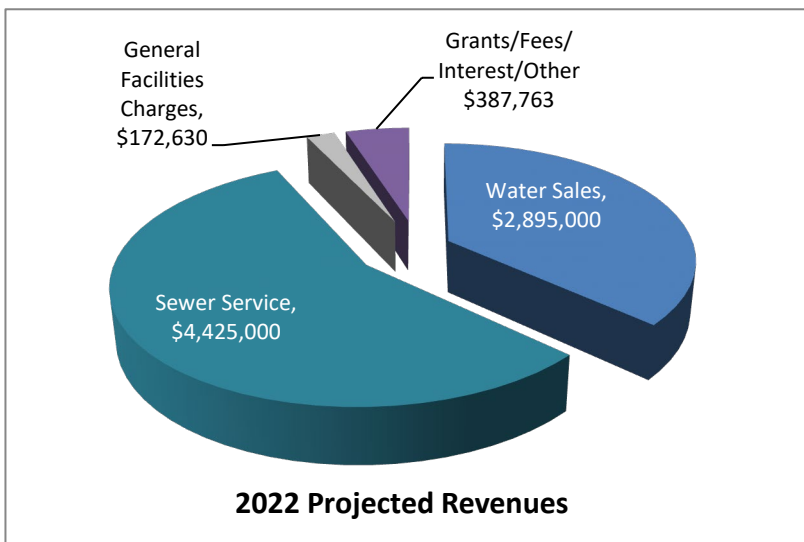
The Bond Reserve Fund was established by the covenants of the 2016 bond sale and is restricted by definition. A reserve limitation is required to be held in this fund until the outstanding 2016 bond payment obligations are paid in full (currently scheduled for 2035).

3 2022 REVENUE PROJECTIONS

District functions are funded primarily through revenues received through water sales and sewer service fees, with the relatively small remainder of revenues coming from other fees and charges, as well as grants, permits and other miscellaneous revenues.

Since the District's last formal review of rates, along with operational and capital programs, expired in 2021, the District hired a utility financing consultant firm to perform a review. In the spring of 2021, the District engaged the services of FCS Group to review the District's operational and capital programs relative to revenue projections. The outcome of the study provided a multi-year approach of incremental increases to water and sewer rates through 2026 to ensure sufficient funding for operations, outstanding debt service, proposed future debt service, and system reinvestment through capital improvement projects and scheduled equipment replacement. Per the Board-approved multi-year rate schedule, the 2022 budget revenues have been based upon water and sewer rate increases of 4.5% and 3.75% percent, respectively, over 2021 rates. This will result in rate revenue projections of approximately \$2.9 million in the water utility fund and \$4.4 million in the sewer utility fund.

The other relatively significant revenue stream is fees the District receives for the connection of new development to its water and sewer systems. These *general facility charges* have been developed based upon the new customer's proportionate share of the cost of constructing the system to which they are connecting, as well as the proportionate share for future system expansion to accommodate that connection's capacity impact. Development within the District continues to



trend higher each year. In 2021, new home connections totaled 35, which were 40 percent higher than new homes in 2020 and 75 percent higher than new homes in 2019. Although current indications are that 2022 will witness similar levels of new development, development-related revenues have been based upon a more conservative number of 10 new homes. This results in revenue projections of \$84,000 and \$88,600 to the water utility and sewer utility, respectively.

The increase in Other revenues, totaling approximately \$388,000, are higher than that in years past due to anticipated federal grant funding in the water utility fund. This grant is associated with a potential FEMA Hazard Mitigation grant in the amount of \$239,000. This grant is being pursued in

2022 for the Phase 1 (design, easements, permitting) of the Division 7 Reservoir capital project. The remaining revenues are comprised of latecomer and other miscellaneous fees, investment interest, and revenues associated with ULID 18, that have been based upon 2021 revenues with the exception of late fees returning to the pre- COVID 19 pandemic levels.

Therefore, based upon adopted rate increases and conservative projections of other revenues, the 2022 Budget reflects total revenue from external sources of approximately \$7,880,000 (\$3,326,000 water utility and \$4,554,000 sewer utility), which is an approximate seven percent increase over revenues projected in the 2021 Budget, but is within one percent of actual revenues projected through 2021 year-end.

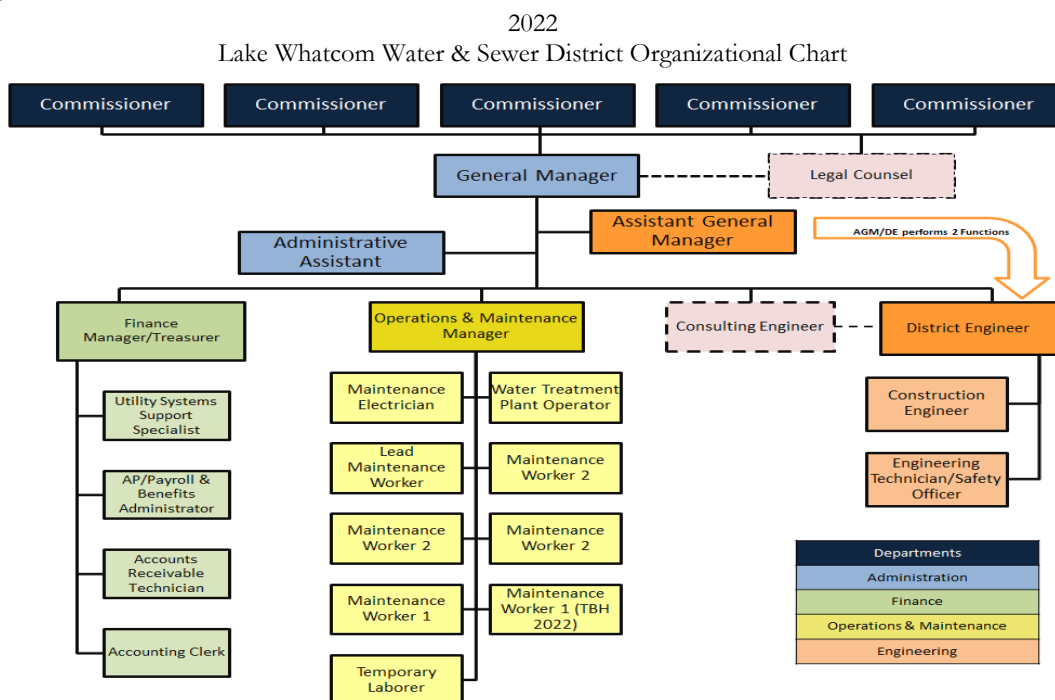
4 2022 EXPENDITURES

4.1 Water Utility Fund (Fund 401)

The Water Utility Fund is the primary fund through which the District conducts water utility-related business. It should be noted that many administrative expenses are shared with the Sewer Utility Fund equally. The following sections provide summaries of primary components of the fund expenses.

4.1.1 Operating Expenses

Personnel. Being a service-oriented organization, staff salary and associated benefits make up a large portion of the Water Utility Fund budget. Salary- and benefit-related expenses are shared with the Sewer Utility Fund, with exception to the Water Treatment Plant Operator position, which is wholly funded by the Water Utility Fund. For 2022, the District will add a 0.5 full-time equivalent (FTE) above 2021 staffing, which will fund another Maintenance Worker I employee to assist the Operations Department. This results in a total of 18.5 FTE positions in 2022. Also of note, the current Maintenance/Operations Manager will retire at the end of 2022; the budget therefore reflects 0.17 FTE at the mid-range of the current employee's salary to account for some overlap to accommodate transfer of duties consistent with the District's staffing succession plan. Beyond the slight staffing revisions, personnel-related cost increases from the 2021 Budget are primarily associated with union contract-required cost-of-living adjustments to salaries (four percent) and increases to healthcare and related benefits (approximately five percent). The 2022 Organizational Chart is:



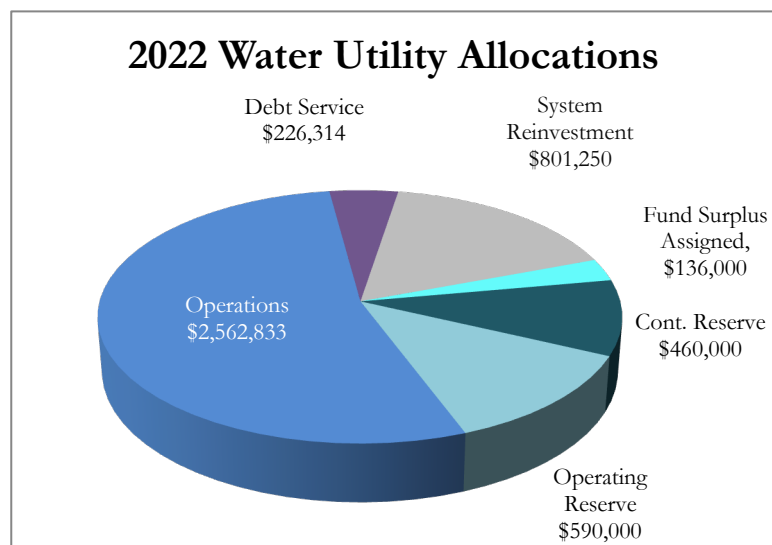
Professional Services. The District relies on a number of professional- and vendor-related services to efficiently and effectively carry out the business of the District. Such providers include contracting with the District's legal counsel and on-call consulting engineer, support services associated with asset management, infrastructure control, administrative systems, and general services (e.g., custodial, landscape maintenance, security, etc.). Many of these services are shared evenly between the water and sewer utilities. The combined professional services for 2022 are projected at \$438,000, which is an increase from the 2021 Budget (\$345,200), and is primarily attributed to services related to a general facilities fees study, implementation of a records management system, and an increase in the District's asset management software for additional system components.

City of Bellingham Fees. The District does not have a drinking water source that is connected to the Eagleridge residential neighborhood located on the Lake Whatcom north shore. Therefore, the District purchases water from the City of Bellingham to serve Eagleridge. The total projected cost for water fees from the City of Bellingham for 2022 is budgeted at \$52,000, which reflects an increase due to anticipated rate increases from the City of Bellingham.

Water Quality Partnerships. With Lake Whatcom as the primary source of drinking water within the District, protection of its water quality is crucial. In 2022, the District will continue its partnership with Whatcom County and the City of Bellingham for water quality monitoring and invasive species inspection programs (\$81,300).

Utilities. Electricity to treat and distribute water to District customers, and to pump sewage to the City of Bellingham makes up a significant portion of the District's operating budget. Combined water and sewer utility electricity costs, together with other utilities, are budgeted at \$231,000 for 2022 which are slightly above those projected through 2021 yearend.

Fund Carryover. Due to competing workload obligations and the impacts of the COVID-19 pandemic, approximately \$273,000 in water utility operating monies was not used under system reinvestment because the associated capital projects were not completed. As a result, these funds will be carried over to 2022 when the associated projects will be completed. As part of the rate study conducted in 2021, the District will begin assigning portions of the excess, unassigned fund balance to build up reserves over the next five years to offset the costs of future capital projects and associated debt service for those projects. In 2022 the amount of fund balance assigned for future capital projects is \$136,000 per the guidance of the rate study.



4.1.2 Operating Reserve

In accordance with District financial policies, an operating reserve is maintained equivalent to the cost of operating the water utility for 90 days (\$590,000).

4.1.3 Contingency Reserve

A contingency reserve is maintained in accordance with the District's financial policies at one percent of the water utility infrastructure replacement cost (\$460,000). As this is contingency fund, no expenditures are budgeted for 2022.

4.1.4 System Reinvestment

The 2022 *Capital System Reinvestment Plan*, included as Appendix B, provides a comprehensive description of the projects that will be completed using system reinvestment funds. Following are projects specific to the water utility:

Category	Project	Cost ¹
Capital Outlay Projects—General		
Water/Sewer	SCADA Telemetry-Managed Ethernet Switches (water portion; 2021 carryover)	\$2,500
Water/Sewer	Administrative Server Hardware (water portion; 2021 carryover)	\$12,500
Water/Sewer	Centimeter Grade GPS (water portion; 2021 carryover)	\$5,000
Water/Sewer	Miscellaneous General Outlay (water portion; 2021 carryover)	\$13,200
Water/Sewer	Replace Tool Truck	\$42,500
Water/Sewer	Miscellaneous General Outlay (water portion)	\$62,750
Subtotal		\$138,450
Capital Outlay Projects—Water Utility		
Water	Reservoir & WTP Site Security	\$50,000
Water	Miscellaneous Water Outlay	\$74,000
Subtotal		\$124,000
Capital Improvement Projects—Water Utility		
Water	Fire Flow Improvements (2021 carryover)	\$2,700
Water	Little Strawberry Bridge Water Main Predesign & Estimate (2021 carryover)	\$20,000
Water	Sudden Valley WTP (SVWTP) 20-year Facility Plan (2021 carryover)	\$48,000
Water	Convert Eagleridge Booster to Metering Station (2021 carryover)	\$3,500
Water	Austin-Fremont PRV Rebuild (2021 carryover)	\$10,000
Water	SVWTP Misc. Component Replacement (2021 carryover)	\$25,500
Water	Miscellaneous Projects (2021 carryover)	\$22,100
Water	Division 30 Booster PLC and UPS Improvements (2021 carryover)	\$60,000
Water	Division 7 Reservoir Predesign, Easements and Permitting (2021 carryover)	\$48,000
Water	South Geneva Booster Standby Generator & Auto Transfer Switch	\$60,000
Water	Division 7 Reservoir Phase 1 (Grant contingent)	\$239,000
Subtotal		\$538,800
TOTAL		\$801,250

¹ Costs presented in table are rounded, please refer to Appendices A and B for specific projected costs.

4.1.5 Debt Service

The District is obligated to annually set aside sufficient funds for debt service repayment associated with prior District capital improvements, which are summarized in the *Revenue Bonds and Loan Funds Summary* (Appendix C). Water utility-related 2022 expenditures to make principal and interest payments on District low interest loans will be associated with:

- Geneva AC Pipe Mains Replacement Project (\$145,125)
- Division 22 Water Reservoir Construction Project (\$81,189)

Please refer to Appendix C for the 2022 Revenue Bond and Loans Summary

4.2 Sewer Utility Fund (Fund 402)

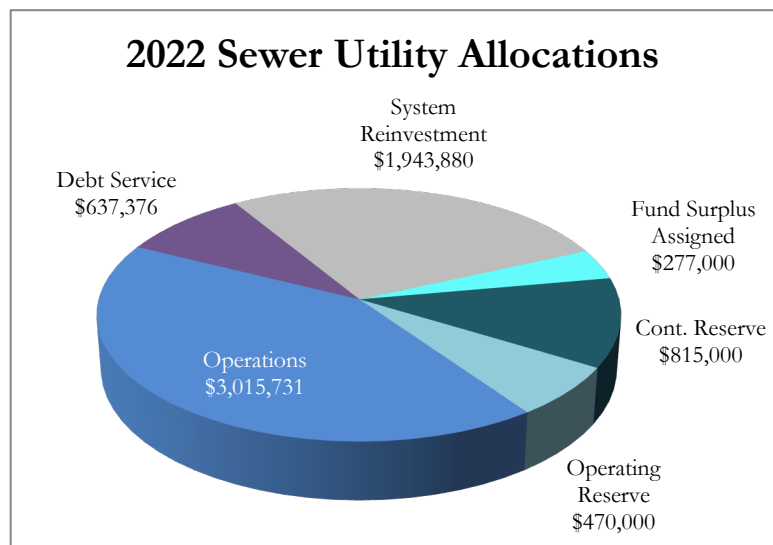
The Sewer Utility Fund is the primary fund through which the District conducts sewer utility-related business. It should be noted that many administrative expenses are shared with the Water Utility Fund. The following sections provide summaries of primary components of the fund expenses.

4.2.1 Operating Expenses

Personnel. As sewer utility-related expenses associated with personnel are largely consistent with those of the water utility, please refer to the personnel discussion in Section 4.1.1.

Professional Services. As sewer utility-related expenses associated with professional services are largely consistent with those of the water utility, please refer to the professional services discussion in Section 4.1.1.

City of Bellingham Fees. To protect the quality of Lake Whatcom, all sewage collected by the District is conveyed to the City of Bellingham's sanitary sewer system and treated at the City's Post Point wastewater treatment plant. As a result, the District pays the City for treatment of all sewage collected by the District. The total projected cost for sewer fees from the City of Bellingham for 2022 is budgeted at \$816,000, which is slightly above prior years' costs to account for city rate increases and additional flow added from new construction being brought on to the system.



Utilities. Please refer to the utilities discussion in Section 4.1.1.

Fund Carryover. Due to competing workload obligations and the impacts of the COVID-19 pandemic, \$1,138,000 in sewer utility operating monies was not used under system reinvestment because the associated capital projects were not completed. As a result, these funds will be carried over to 2022 when the associated projects will be completed. Similar to the water utility fund, as part of the rate study conducted in 2021, the District will begin assigning portions of the excess, unassigned fund balance to build up reserves over the next five years to offset the costs of future capital projects and associated debt service for those projects. In 2022, the amount of fund balance assigned for future capital projects is \$277,000 per the guidance of the rate study.

4.2.2 Operating Reserve

In accordance with District financial policies, an operating reserve is maintained equivalent to the cost of operating the sewer utility for 60 days (\$470,000).

4.2.3 Contingency Reserve

A contingency reserve is maintained in accordance with the District's financial policies at one percent of the sewer utility infrastructure replacement cost (\$815,000). As this is contingency fund, no expenditures are budgeted for 2022.

4.2.4 System Reinvestment

The *2022 Capital System Reinvestment Plan*, included as Appendix B, provides a comprehensive description of the projects that will be completed using system reinvestment funds. Following are projects specific to the sewer utility:

Category	Project	Cost ¹
Capital Outlay Projects—General		
Water/Sewer	SCADA Telemetry-Managed Ethernet Switches (sewer portion; 2021 carryover)	\$2,500
Water/Sewer	Administrative Server Hardware (sewer portion; 2021 carryover)	\$12,500
Water/Sewer	Centimeter Grade GPS (sewer portion; 2021 carryover)	\$5,000
Water/Sewer	Miscellaneous General Outlay (sewer portion; 2021 carryover)	\$16,700
Water/Sewer	Replace Tool Truck (sewer portion)	\$42,500
Water/Sewer	Miscellaneous General Outlay (sewer portion)	\$97,250
Sewer	Replace Camera Equipment	\$150,000
Subtotal		\$326,450
Capital Improvement Projects—Sewer Utility		
Sewer	Dellesta, Edgewater & Euclid Sewer Lift Stations Improvements (2021 carryover)	\$857,000
Sewer	Rocky Ridge Sewer Lift Station Improvement Predesign & Permitting (2021 carryover)	\$190,000
Sewer	Flat Car Sewer Lift Station Reverse Flow to SV Lift Station Predesign & Permitting	\$50,000
Sewer	Sewer System Capacity Analysis	\$7,700
Sewer	Rocky Ridge Pump Station Design & Bidding	\$46,350
Sewer	Lakewood Pump Station Design & Bidding	\$46,350
Sewer	Flat Car Reverse Flow to SVPS Construction	\$103,000
Sewer	Sudden Valley Sewer Pump Station PLC & UPS Improvements	\$77,250
Sewer	LBI CIPP Renewal Project	\$123,600
Sewer	Sewer System Rehab & Replacement Projects	\$113,000
Subtotal		\$1,614,250
TOTAL		\$1,940,700

¹ Costs presented in table are rounded, please refer to Appendices A and B for specific projected costs.

4.2.5 Debt Service

The District is obligated to annually set aside sufficient funds for debt service repayment associated with prior District capital improvements, which are summarized in the *Revenue Bonds and Loan Funds Summary* (Appendix C). Sewer utility-related 2022 expenditures to make principal and interest payments on District bond obligations are solely associated with the 2016 Bond (which consisted of financing the renovation of two sewer lift stations and the District's portion of upgrades to the City of Bellingham's Post Point wastewater treatment plant). The 2022 sewer utility debt service will be approximately \$637,376. Please refer to Appendix C for the 2022 Revenue Bond and Loans Summary.

4.3 Bond Reserve Fund (Fund 460)

No expenditures are anticipated in 2022 from this fund. A fund balance of approximately \$772,000 will be carried over from 2021.

APPENDIX A

2022 BUDGET



LAKE WHATCOM WATER AND SEWER FUND SUMMARIES 2022

	401	402		460
	WATER	SEWER	TOTAL	BOND RESERVE (RESTRICTED)
2022 Projected Beginning Fund Balance	\$1,055,026	\$2,071,972	\$3,126,998	\$772,334
2022 Revenues	\$3,326,007	\$4,554,356	\$7,880,363	-
2022 Expenditures	(\$3,590,397)	(\$5,596,987)	(\$9,187,384)	-
2022 Projected Year End Balance	\$790,636	\$1,029,342	\$1,819,977	\$772,334
2022 Allocated to Operating Reserve	-\$590,000	-\$470,000	-\$1,060,000	
2022 Allocated to Contingency Fund	\$0	\$0	\$0	
2022 Rated Study Surplus Assigned	-\$136,000	-\$277,000	-\$413,000	
2022 Projected Unassigned Year End Fund Balance	\$64,636	\$282,342	\$346,977	\$772,334
	426	425		
	Water	Sewer	Total	
2022 Contingency Reserve Funds	\$460,000	\$815,000	\$1,275,000	-

Lake Whatcom Water and Sewer District
2022 Budget
Water Utility Fund (401)

Fund	Dept.	Account	Title	2019 Actual	2020 Actual	2021 Budget	2021 Projected	2022 Proposed
Intergovernmental Revenue								
401	330	331 40 10 00	Federal Grants (FEMA)	\$ -	\$ -	\$ -	\$ -	\$ 239,000
Charges For Services								
401	340	343 40 10 00	Water Sales Metered	\$ 2,502,734	\$ 2,677,336	\$ 2,770,313	\$ 2,803,843	\$ 2,894,977
401	340	343 40 20 01	DEA Permits - Water	\$ -	\$ (9,311)	\$ -	\$ (9,311)	\$ -
401	340	343 41 10 01	Building Permits - Water	\$ -	\$ 212,678	\$ 96,000	\$ 320,536	\$ 84,030
Fines & Penalties								
401	350	359 81 10 00	Combined Fees	\$ 27,908	\$ 16,064	\$ 17,500	\$ 11,590	\$ 28,000
401	350	359 90 00 00	Late Fees	\$ 55,332	\$ 14,597	\$ 27,500	\$ 6,000	\$ 58,000
Miscellaneous Revenues								
401	360	361 11 00 00	Investment Interest	\$ -	\$ 15,501	\$ 20,000	\$ 48,447	\$ 20,000
401	360	369 10 00 00	Sale Of Surplus	\$ 9,680	\$ 115	\$ 1,000	\$ 4,176	\$ 1,000
401	360	369 10 01 00	Miscellaneous	\$ 21,588	\$ 916	\$ 1,000	\$ 186	\$ 1,000
401	360	369 40 00 00	Project Reimbursement	\$ -	\$ -	\$ -	\$ -	\$ -
401	360	369 80 00 00	Over/Under	\$ (10)	\$ -	\$ -	\$ -	\$ -
Other Financing Sources								
401	390	395 10 00 00	Sale Of Capital Assets	\$ 11,220	\$ -	\$ -	\$ -	\$ -
401	390	395 20 00 00	Deposits	\$ 1,500	\$ -	\$ -	\$ -	\$ -
401	390	395 20 00 01	Insurance Recoveries	\$ -	\$ -	\$ -	\$ 137,564	\$ -
401	390	398 20 00 01	Insurance Recoveries	\$ 11,221	\$ -	\$ -	\$ -	\$ -
Total Water Fund Revenues				\$ 2,641,173	\$ 2,982,212	\$ 2,933,313	\$ 3,323,031	\$ 3,326,007
Water Fund Expenditures								
401	534	534 10 10 00	Water - Gen Admin Payroll	\$ 331,296	\$ 365,351	\$ 355,000	\$ 362,647	\$ 371,770
401	534	534 10 20 00	Water - Gen Admin Personnel Benefits	\$ 141,907	\$ 149,641	\$ 163,000	\$ 153,371	\$ 161,024
401	534	534 10 31 00	Water - Gen Admin Supplies	\$ 15,430	\$ 18,847	\$ 25,000	\$ 26,993	\$ 25,000
401	534	534 10 31 01	Water - Meetings/Team building	\$ 2,493	\$ 1,011	\$ 2,000	\$ 2,221	\$ 2,000
401	534	534 10 40 00	Water - Merchant Services Fees	\$ 20,522	\$ 11,804	\$ 10,000	\$ 10,275	\$ 11,500
401	534	534 10 40 01	Water - Bank Fees	\$ -	\$ 635	\$ 750	\$ 789	\$ 800
401	534	534 10 41 00	Water - Quality Assurance Programs	\$ 59,184	\$ 224,401	\$ 65,000	\$ 58,320	\$ 81,300
401	534	534 10 41 01	Water - Gen Admin Prof Srvc	\$ 158,742	\$ 107,796	\$ 136,350	\$ 162,015	\$ 167,000
401	534	534 10 41 02	Water - Engineering Srvc	\$ -	\$ 19,075	\$ 20,000	\$ 12,980	\$ 20,000
401	534	534 10 41 03	Water - Legal Srvc	\$ -	\$ 15,752	\$ 20,000	\$ 19,847	\$ 22,000
401	534	534 10 41 04	Water - DEA Expenditures	\$ -	\$ 2,200	\$ -	\$ -	\$ -
401	534	534 10 41 20	Water - 20 Year SVWTP Plan	\$ -	\$ 69,199	\$ 64,350	\$ 53,541	\$ -
401	534	534 10 42 00	Water - Admin Communication	\$ 26,706	\$ 29,948	\$ 30,000	\$ 30,252	\$ 31,000
401	534	534 10 45 00	Water - Gen Admin Lease	\$ 5,078	\$ 5,371	\$ 5,000	\$ 5,501	\$ 5,500
401	534	534 10 46 00	Water - Gen Admin Insurance	\$ 71,480	\$ 89,029	\$ 90,000	\$ 101,300	\$ 103,500
401	534	534 10 49 00	Water - Gen Admin Misc.	\$ 40	\$ 134	\$ 500	\$ 150	\$ 200
401	534	534 10 49 01	Water - Memberships/Dues/Permits	\$ 8,601	\$ 15,177	\$ 15,000	\$ 16,716	\$ 17,250
401	534	534 10 49 02	Water - Taxes	\$ 115,871	\$ 114,117	\$ 115,000	\$ 143,086	\$ 147,500
401	534	534 40 43 00	Water - Admin Training &Travel	\$ 17,744	\$ 5,934	\$ 10,000	\$ 3,655	\$ 10,000
401	534	534 40 43 01	Water - Tuition Reimbursement	\$ -	\$ -	\$ 500	\$ -	\$ 500
401	534	534 50 31 00	Water - Maintenance Supplies	\$ 104,079	\$ 117,107	\$ 120,000	\$ 110,593	\$ 135,000
401	534	534 50 31 01	Water - Small Assets	\$ 21,346	\$ 43,351	\$ 40,000	\$ 62,395	\$ 40,000
401	534	534 50 48 00	Water - Repair & Maint	\$ 58,687	\$ 30,983	\$ 177,063	\$ 189,116	\$ 60,000
401	534	534 50 49 00	Water - Insurance Claims	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500
401	534	534 60 41 00	Water - Operations Contracted (Edge Analytical)	\$ 6,619	\$ 10,933	\$ 12,500	\$ 8,081	\$ 15,500
401	534	534 60 47 00	Water - City of Bellingham	\$ 42,224	\$ 24,936	\$ 40,000	\$ 46,574	\$ 52,000
401	534	534 80 10 00	Water - Operations Payroll	\$ 580,184	\$ 607,240	\$ 570,500	\$ 584,046	\$ 629,236
401	534	534 80 20 00	Water - Operations Personnel Benefits	\$ 255,323	\$ 253,255	\$ 245,000	\$ 252,270	\$ 288,653
401	534	534 80 32 00	Water - Operations Fuel	\$ 13,584	\$ 10,682	\$ 10,000	\$ 12,402	\$ 12,500
401	534	534 80 35 00	Water - Safety Supplies	\$ 11,340	\$ 12,551	\$ 10,000	\$ 3,885	\$ 10,000
401	534	534 80 35 01	Water - Safety Boots	\$ 816	\$ 767	\$ 1,250	\$ 917	\$ 1,400
401	534	534 80 35 02	Water - Emergency Preparedness	\$ 5,169	\$ 3,189	\$ 5,000	\$ 3,200	\$ 5,000
401	534	534 80 43 00	Water - Operation Training/Travel/Certifications	\$ -	\$ 560	\$ 10,000	\$ 6,960	\$ 10,000
401	534	534 80 47 00	Water - Ops Utilities	\$ 101,725	\$ 113,979	\$ 115,000	\$ 119,366	\$ 121,200
401	534	534 80 49 00	Water - Operations Laundry	\$ 1,943	\$ 1,579	\$ 2,000	\$ 1,336	\$ 2,000
Total Water Fund Expenditures				\$ 2,178,134	\$ 2,476,534	\$ 2,488,263	\$ 2,564,800	\$ 2,562,833

**Lake Whatcom Water and Sewer District
2022 Budget
Water Utility Fund (401)**

Fund	Dept.	Account	Title	2019 Actual	2020 Actual	2021 Budget	2021 Projected	2022 Proposed
Debt Service								
401	591	591 34 77 01	Geneva AC Mains Principal	\$ -	\$ 119,938	\$ 119,937	\$ 119,937	\$ 119,938
401	591	591 34 77 02	Div. 22 Reservoir Principal	\$ -	\$ 65,475	\$ 65,475	\$ 65,475	\$ 65,475
401	591	592 34 83 01	Geneva AC Mains Interest	\$ -	\$ 28,785	\$ 26,986	\$ 26,986	\$ 25,187
401	591	592 34 83 02	Div. 22 Reservoir Interest	\$ -	\$ 17,678	\$ 16,696	\$ 16,696	\$ 15,714
Total Water Fund Debt Service					\$ 231,875	\$ 229,094	\$ 229,094	\$ 226,314

System Reinvestments

Capital Expenditures								
401	594	594 34 60 01	Capital Outlay - Budget Only	\$ -	\$ -	\$ 606,650		\$ 528,250
401	594	594 34 62 01	Capital Projects - Water Structures	\$ -	\$ 145,513	\$ -	\$ 304,417	
401	594	594 34 63 01	Capital Projects - Water System	\$ -	\$ 60,869	\$ -	\$ 171,349	
401	594	594 34 64 01	Capital Outlay - Water Equipment	\$ -	\$ 13,991	\$ -	\$ 40,410	
401	594	594 34 65 01	Capital Outlay - Small Water Projects	\$ -	\$ -	\$ -	\$ -	
			Capital Outlay 2021 Carryover Projects	\$ -	\$ -	\$ -	\$ -	\$ 273,000
Total Water Fund Capital Expenditures					\$ 220,373	\$ 606,650	\$ 516,176	\$ 801,250

Other Financing Sources								
401	597	597 10 00 20	Transfers Out To Fund 420	\$ 830,235	\$ -	\$ -	\$ -	\$ -
401	597	597 10 00 25	Transfers Out To Fund 425	\$ 359,408	\$ -	\$ -	\$ -	\$ -
401	597	597 10 00 26	Transfers Out To Fund 426	\$ 20,000	\$ -	\$ -	\$ -	\$ -
401	597	597 10 00 40	Transfer Out To Fund 440	\$ -	\$ -	\$ -	\$ -	\$ -
401	597	597 10 00 50	Transfers Out To Fund 450	\$ 660,988	\$ -	\$ -	\$ -	\$ -
401	597	597 10 00 70	Transfers Out To Fund 450	\$ 219,694	\$ -	\$ -	\$ -	\$ -
Total Water Fund Other Financing Sources				\$ 2,090,325	\$ -	\$ -	\$ -	\$ -

Total Water Fund Expenditures								\$ 3,590,397
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Fund Gain/Loss						\$ (390,694)	\$ 12,962	\$ (264,390)
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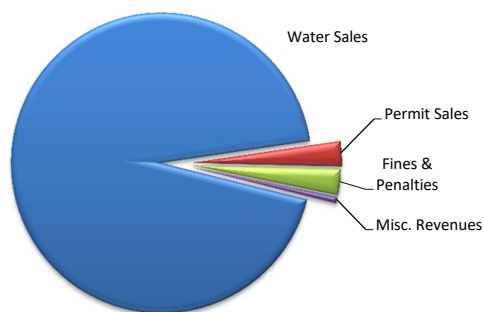
Fund Balance Summary

2021 Beginning Fund Balance	\$ 1,042,064
2021 Projected Gain/Loss	\$ 12,962
2021 Projected Fund Balance	\$ 1,055,026
2022 Projected Gain/Loss	\$ (264,390)
2022 Projected Fund Balance	\$ 790,636

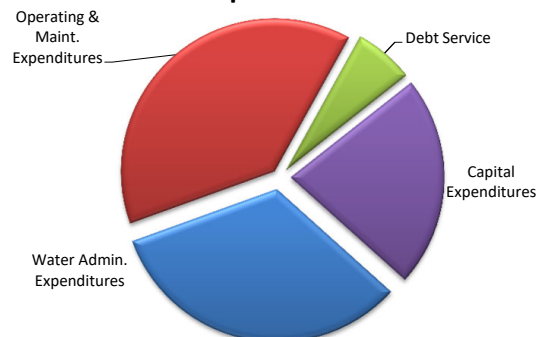
Water Contingency Fund Balance Summary

2021 Beginning Fund Balance	\$ 460,000
2021 Projected Gain/Loss	\$ -
2021 Projected Fund Balance	\$ 460,000
2022 Projected Gain/Loss	\$ -
2022 Projected Fund Balance	\$ 460,000

2022 Budgeted Water Fund Revenues



2022 Budgeted Water Fund Expenditures



Lake Whatcom Water and Sewer District
2022 Budget
Sewer Utility Fund (402)

Fund	Dept.	Account	Title	2019 Actual	2020 Actual	2021 Budget	2021 Projected	2022 Proposed
Charges For Services								
402	340	343 40 20 02	DEA Permits - Sewer	\$ -	\$ -	\$ -	\$ -	
402	340	343 50 11 00	Sewer Service Residential	\$ 4,068,571	\$ 4,174,271	\$ 4,256,228	\$ 4,265,364	\$ 4,425,315
402	340	343 50 19 00	Sewer Service Other	\$ 4,550	\$ 4,714	\$ 4,500	\$ 4,745	\$ 4,500
402	340	343 50 80 00	Latecomers Fee ULID #18	\$ -	\$ -	\$ -	\$ 250	\$ -
402	340	343 51 10 02	Building Permits - Sewer	\$ 350,323	\$ 253,484	\$ 142,500	\$ 295,181	\$ 88,600
Miscellaneous Revenues								
402	360	361 11 00 02	Investment Interest	\$ 70,763	\$ 13,749	\$ 20,000	\$ 48,447	\$ 20,000
402	360	361 40 00 02	ULID 18 Interest/Penalties	\$ 4,822	\$ 7,264	\$ 2,500	\$ 2,387	\$ 1,800
402	360	368 10 00 02	ULID 18 Principal Payments	\$ 17,407	\$ 16,272	\$ 8,000	\$ 9,840	\$ 8,000
402	360	369 10 00 02	Sale Of Surplus	\$ -	\$ 96	\$ 1,000	\$ 1,009	\$ 1,000
402	360	369 10 01 02	Miscellaneous	\$ -	\$ 436	\$ 1,000	\$ 1,125	\$ 1,000
402	360	369 40 00 02	Project Reimbursement	\$ -	\$ 8,282	\$ 4,141	\$ 4,141	\$ 4,141
Other Financing Sources								
402	390	395 10 00 02	Sale Of Capital Assets	\$ -	\$ -	\$ -	\$ -	\$ -
402	397	397 10 00 02	Transfers In	\$ -	\$ -	\$ -	\$ -	\$ -
Total Sewer Fund Revenues				\$ 4,516,435	\$ 4,478,567	\$ 4,439,869	\$ 4,632,489	\$ 4,554,356
Sewer Fund Expenditures								
402	535	535 10 10 00	Sewer - Admin Payroll	\$ 331,295	\$ 365,350	\$ 355,000	\$ 355,957	\$ 371,770
402	535	535 10 20 00	Sewer - Gen Admin Personnel Benefits	\$ 142,020	\$ 149,637	\$ 155,000	\$ 150,489	\$ 161,024
402	535	535 10 31 00	Sewer - Gen Admin Supplies	\$ 16,069	\$ 22,360	\$ 25,000	\$ 16,262	\$ 16,800
402	535	535 10 31 01	Sewer - Meetings/Team Building	\$ 2,833	\$ 1,461	\$ 2,000	\$ 2,327	\$ 2,000
402	535	535 10 40 00	Sewer - Merchant Services Fees	\$ -	\$ 11,111	\$ 10,000	\$ 11,037	\$ 11,500
402	535	535 10 40 01	Sewer - Bank Fees	\$ 20,546	\$ 525	\$ 750	\$ 789	\$ 750
402	535	535 10 41 01	Sewer - Gen Admin Prof Svc	\$ 130,953	\$ 95,914	\$ 128,850	\$ 147,274	\$ 187,500
402	535	535 10 41 02	Sewer - Engineering Svc	\$ -	\$ 14,892	\$ 20,000	\$ 14,495	\$ 20,000
402	535	535 10 41 03	Sewer - Legal Svc	\$ -	\$ 19,643	\$ 20,000	\$ 21,197	\$ 22,000
402	535	535 10 41 04	Sewer - DEA Expenditures	\$ -	\$ -	\$ -	\$ -	\$ -
402	535	535 10 41 25	Sewer Comp Plan	\$ -	\$ 23,076	\$ -	\$ -	\$ -
402	535	535 10 42 00	Sewer - Admin Communication	\$ 26,705	\$ 29,985	\$ 30,000	\$ 30,251	\$ 31,000
402	535	535 10 45 00	Sewer - Gen Admin Lease	\$ 5,078	\$ 5,370	\$ 5,000	\$ 5,501	\$ 5,500
402	535	535 10 46 00	Sewer - Gen Admin Insurance	\$ 71,480	\$ 89,029	\$ 90,000	\$ 101,300	\$ 103,500
402	535	535 10 49 00	Sewer - Gen Admin Misc.	\$ 417	\$ 129	\$ 500	\$ 75	\$ 200
402	535	535 10 49 01	Sewer - Memberships/Dues/Permits	\$ 6,045	\$ 9,037	\$ 10,000	\$ 9,202	\$ 10,000
402	535	535 10 49 02	Sewer - Taxes	\$ 109,349	\$ 114,928	\$ 115,000	\$ 118,375	\$ 122,000
402	535	535 40 43 00	Sewer - Gen Admin Training & Travel	\$ 13,602	\$ 4,286	\$ 10,000	\$ 3,289	\$ 10,000
402	535	535 40 43 01	Sewer - Tuition Reimbursement	\$ -	\$ -	\$ 500	\$ -	\$ 500
402	535	535 50 31 00	Sewer - Maintenance Supplies	\$ 40,332	\$ 33,281	\$ 50,000	\$ 25,437	\$ 45,000
402	535	535 50 31 01	Sewer - Small Assets	\$ 16,505	\$ 25,618	\$ 30,000	\$ 37,124	\$ 30,000
402	535	535 50 48 00	Sewer - Repair & Maint	\$ 57,617	\$ 68,915	\$ 95,000	\$ 111,513	\$ 125,000
402	535	535 50 49 00	Sewer - Insurance Claims	\$ 5,000	\$ 1,480	\$ 2,500	\$ 5,440	\$ 2,500
402	535	535 60 41 00	Sewer - Operations Contracted	\$ -	\$ 24,654	\$ 25,000	\$ 25,000	\$ -
402	535	535 60 47 00	Sewer - City of Bellingham	\$ 614,936	\$ 705,188	\$ 750,000	\$ 748,900	\$ 816,000
402	535	535 80 10 00	Sewer - Operations Payroll	\$ 472,156	\$ 488,337	\$ 476,500	\$ 470,462	\$ 530,481
402	535	535 80 20 00	Sewer - Operations Personnel Benefits	\$ 206,813	\$ 202,057	\$ 232,000	\$ 197,411	\$ 237,606
402	535	535 80 32 00	Sewer - Operations Fuel	\$ 11,898	\$ 12,066	\$ 13,000	\$ 15,512	\$ 14,200
402	535	535 80 35 00	Sewer - Safety Supplies	\$ 9,552	\$ 12,623	\$ 10,000	\$ 4,675	\$ 10,000
402	535	535 80 35 01	Sewer - Safety Boots	\$ 964	\$ 767	\$ 1,250	\$ 917	\$ 1,400
402	535	535 80 35 02	Sewer - Emergency Preparedness	\$ 374	\$ 2,878	\$ 5,000	\$ -	\$ 5,000
402	535	535 80 43 00	Sewer - Operations Training/Travel/Certification	\$ -	\$ 940	\$ 10,000	\$ 1,640	\$ 10,000
402	535	535 80 47 00	Sewer - Ops Utilities	\$ 92,329	\$ 101,943	\$ 105,000	\$ 109,571	\$ 110,000
402	535	535 80 49 00	Sewer - Operations Laundry	\$ 2,144	\$ 2,377	\$ 2,000	\$ 2,035	\$ 2,500
Total Sewer Fund Expenditures				\$ 2,407,012	\$ 2,639,861	\$ 2,784,850	\$ 2,743,457	\$ 3,015,731
Debt Service								
402	591	591 35 77 02	Bond 2016 Principal	\$ -	\$ 425,000	\$ 435,000	\$ 435,000	\$ 445,000
402	591	591 35 83 02	Bond 2016 Interest	\$ -	\$ -	\$ 205,425	\$ 205,425	\$ 192,376
402	591	592 35 83 02	Bond 2016 Interest	\$ -	\$ 218,175	\$ -	\$ -	\$ -
Total Sewer Fund Debt Service				\$ -	\$ 643,175	\$ 640,425	\$ 640,425	\$ 637,376
Capital Expenditures								
402	594	594 35 60 02	Capital Outlay - Budget Only	\$ -	\$ -	\$ 1,623,000		\$ 805,880
402	594	594 35 62 02	Capital Projects - Sewer Structures	\$ -	\$ 384,377	\$ -	\$ 547,000	
402	594	594 35 63 02	Capital Projects - Sewer System	\$ -	\$ 113,529	\$ -	\$ 84,695	

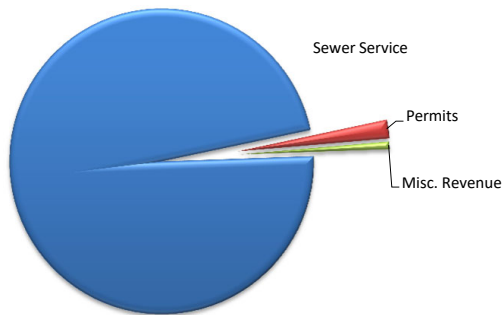
**Lake Whatcom Water and Sewer District
2022 Budget
Sewer Utility Fund (402)**

Fund	Dept.	Account	Title	2019 Actual	2020 Actual	2021 Budget	2021 Projected	2022 Proposed
402	594	594 35 64 02	Capital Outlay - Sewer Equipment	\$ -	\$ 536,945	\$ -	\$ 41,083	
402	594	594 35 65 02	Capital Outlay - Small Sewer Projects	\$ -	\$ -	\$ -	\$ -	
402	594	594 35 65 02	Capital Outlay - 2021 Carry Over Projects	\$ -	\$ -	\$ -	\$ -	\$ 1,138,000
Total Sewer Fund Capital Expenditures				\$ -	\$ 1,034,851	\$ 1,623,000	\$ 672,778	\$ 1,943,880
Other Financing Sources								
402	597	597 10 00 25	Transfer Out To Sewer Contingency	\$ -	\$ 9,000	\$ 19,000	\$ 18,912	
Total Other Financing Sources				\$ -	\$ 9,000	\$ 19,000	\$ 18,912	\$ -
Total Sewer Fund Expenditures								\$ 5,596,987
Fund Gain/Loss						\$ (627,406)	\$ 556,917	\$ (1,042,631)

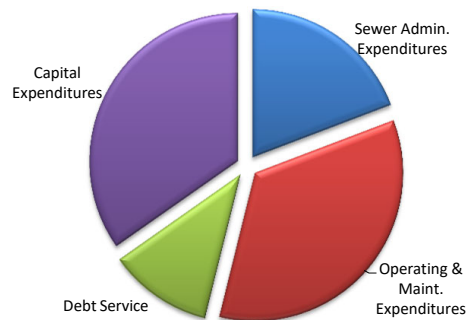
Fund Balance Summary	
2021 Beginning Fund Balance	\$ 1,515,055
2021 Projected Gain/Loss	\$ 556,917
2021 Projected Ending Fund Balance	\$ 2,071,972
2022 Projected Gain/Loss	\$ (1,042,631)
2022 Projected Ending Fund Balance	\$ 1,029,342

Sewer Contingency Fund Balance Summary	
2021 Beginning Fund Balance	\$ 796,088
2021 Projected Gain/Loss	\$ 18,912
2021 Projected Ending Fund Balance	\$ 815,000
2022 Projected Gain/Loss	\$ -
2022 Projected Ending Fund Balance	\$ 815,000

**2022 Budgeted Sewer Fund
Revenues**



**2022 Budgeted Sewer Fund
Expenditures**



Lake Whatcom Water and Sewer District
2022 Budget
Sewer Contingency Fund (425)

Fund	Dept.	Account	Title	2019 Actual	2020 Actual	2021 Budget	2021 Projected	2022 Proposed
Other Financing Sources								
425	397	397 10 00 25	Transfer In From Sewer Fund	\$ 359,408	\$ 9,000	\$ 19,000	\$ 18,912	\$ -
Total Fund Revenue				\$ 359,408	\$ 9,000	\$ 19,000	\$ 18,912	\$ -
Capital Expenditures								
425	594	594 38 63 25	North Shore Sampling	\$ 122	\$ -	\$ -	\$ -	\$ -
Other Financing Sources								
425	597	597 10 20 00	Transfers Out To Fund 420	\$ 344,408	\$ -	\$ -	\$ -	\$ -
Total Fund Expenditures				\$ 344,530	\$ -	\$ -	\$ -	\$ -
Fund Gain/Loss				\$ 14,879	\$ 9,000	\$ 19,000	\$ 18,912	\$ -

Sewer Contingency Fund Balance Summary

2021 Beginning Fund Balance	\$ 796,088
2021 Projected Gain/Loss	\$ 18,912
2021 Projected Ending Fund Balance	\$ 815,000
2022 Projected Gain/Loss	\$ -
2022 Projected Ending Fund Balance	\$ 815,000

Lake Whatcom Water and Sewer District
2022 Budget
Water Contingency Fund (426)

Fund	Dept.	Account	Title	2019 Actual	2020 Actual	2021 Budget	2021 Projected	2022 Proposed
Other Financing Sources								
426	397	397 10 00 26	Transfers In From Fund 401	\$ 20,000	\$ -	\$ -	\$ -	\$ -
Total Fund Revenue				\$ 20,000	\$ -	\$ -	\$ -	\$ -

Total Fund Expenditures				\$ -	\$ -	\$ -	\$ -	\$ -
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Water Contingency Fund Balance Summary		
2021 Beginning Fund Balance	\$ 460,000	
2021 Projected Gain/Loss	\$ -	
2021 Projected Fund Balance	\$ 460,000	
2022 Projected Gain/Loss	\$ -	
2022 Projected Fund Balance	\$ 460,000	

Lake Whatcom Water and Sewer District
2022 Budget
Bond Reserve Fund (460)

Fund	Program	Dept.	Sub Dept.	Account	Title	2019 Actual	2020 Actual	2021 Budget	2021 Projected	2022 Proposed
Total Fund Revenue						\$ -	\$ -	\$ -	\$ -	\$ -

Total Fund Expenditures						\$ -	\$ -	\$ -	\$ -	\$ -
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Bond Reserve Fund Balance Summary		
2021 Beginning Fund Balance		\$ 772,334
2021 Projected Gain/Loss		\$ -
2021 Projected Fund Balance		\$ 772,334
2022 Projected Gain/Loss		\$ -
2022 Projected Fund Balance		\$ 772,334

APPENDIX B

2022 SYSTEM REINVESTMENT PLAN

System Reinvestment Plan - Introduction

The System Reinvestment Plan (sometimes also referred to as a Capital Improvement Plan) is separated into two plans, one for water and the other for sewer. The plans show scheduled projects over a six year period from 2022 through 2027. Planned expenditures are grouped into subcategories.

For the Water System Reinvestment Plan subcategories include:

- **Capital Outlay – General.** Includes water and sewer related equipment and small/minor projects. Costs are split 50% / 50% between water and sewer utilities. Refer to the Capital Outlay Items Worksheet following the system reinvestment plans which itemizes equipment and small/minor projects grouped together under the CIP Project #0218 Misc 2022 General Capital Outlay.
- **Capital Outlay – Water.** Includes 100% water related equipment and small/minor projects. Refer to the Capital Outlay Items Worksheet following the system reinvestment plans which itemizes equipment and small/minor projects grouped together under the CIP Project #0219 Misc 2022 Water Capital Outlay.
- **Capital Projects – Water.** Includes significant projects in terms of cost, planning, permitting, project management, and design efforts. For detailed information about a project's purpose, scope, budget estimate, and assumptions refer to the Project Narratives at the end of this section. Project Narratives are provided for all new projects funded in 2022 and are keyed to the line items in the System Reinvestment Plan by the CIP Project # (i.e. 0225).
- **Contingent on Receiving Grant Funding.** Includes projects identified in the Sudden Valley Water Treatment Plant 20-year Facility Plan. These are projects that the Board of Commissions would like to do, but only if they are funded by grants.
- **Haz Mit Grant Funds (87.5% Grant) – Amounts do NOT include 12.5% local match.** Includes the Division 7 Reservoir project which is anticipated to be funded through grants. As of November 30, 2021 the District has not received an official award from state or federal agencies.

For the Sewer System Reinvestment Plan subcategories included:

- **Capital Outlay – General.** Includes water and sewer related equipment and small/minor projects. Costs are split 50% / 50% between water and sewer utilities. Refer to the Capital Outlay Items Worksheet following the system reinvestment plans which itemizes equipment and small/minor projects grouped together under the CIP Project #0218 Misc 2022 General Capital Outlay.
- **Capital Outlay – Sewer.** Includes 100% sewer related equipment and small/minor projects. Refer to the Capital Outlay Items Worksheet following the system reinvestment plans which itemizes equipment and small/minor projects grouped together under the CIP Project #0223 Misc 2022 Sewer Capital Outlay.
- **Capital Projects – Sewer.** Includes significant projects in terms of cost, planning, permitting, project management, and design efforts. For detailed information about a project's purpose, scope, budget estimate, and assumptions refer to the Project Narratives at the end of this section. Project Narratives are provided for all new projects funded in 2022 and are keyed to the line items in the System Reinvestment Plan by the CIP Project # (i.e. 0222).
- **New Sewer Debt – Bond, PWTF, Etc.** Includes the District's share of the upcoming City of Bellingham Post Point Wastewater Treatment Plant Biosolids Handling.

The worksheet titled **2022 BUDGET – Active Projects Estimates** summarizes current active projects that are anticipated to continue into 2022 and updates projected budget amounts to achieve completion.

Lake Whatcom Water and Sewer District
Water System Reinvestment Plan 2022 thru 2027

Program Area / CIP Project # / CIP Project Name		Total	2022	2023	2024	2025	2026	2027
Capital Outlay - General (Costs are halved, split 50/50 between Water/Sewer)								
0218	Misc 2022 General Capital Outlay	62,750	62,750					
A0005	Accounting & Administration Server - Replace/Update Hardware, Network Security, & OS	15,000				15,000		
V0001	Replace Tool Truck (7 tool trucks in fleet)	127,500	42,500		42,500		42,500	
	Subtotal	205,250	105,250		42,500	15,000	42,500	
Capital Outlay - Water								
0135	Automatic Valve Exerciser (need to get quote)	29,851				29,851		
0214	SVWTP Raw Water Intake - Emergency Pumps (water only portable pump)	51,500				51,500		
0219	Misc 2022 Water Capital Outlay	74,000	74,000					
0225	Reservoir and WTP Site Security Assessment and Plan	50,000	50,000					
W0005	Reservoirs - Inspection & Maintenance	33,765		33,765				
	Subtotal	239,117	124,000	33,765		81,351		
Capital Projects - Water								
0110	Security - Intrusion Alarms at Reservoirs, Cameras as SVWTP AHWTP	150,000			150,000			
0145b	Div 7 Reservoir - Phase 2 Construction - HMG 12.5% Local Match	251,000		251,000				
0200	Division 30 Reservoir Safety Railing Around Perimeter	30,900					30,900	
0215	1237 Lakeview St - Replace 2" PVC with 2" HDPE	51,500			51,500			
0224	South Geneva Booster Standby Generator and Auto Transfer Switch	60,000	60,000					
1001	SVWTP - Core - Alum System Improvements	80,000		80,000				
W0002a	Water System Rehab and Replacement Projects	150,000				150,000		
W0002b	Water System Rehab and Replacement Projects	180,000					180,000	
W0002c	Water System Rehab and Replacement Projects	250,000						250,000
	Subtotal	1,203,400	60,000	331,000	201,500	150,000	210,900	250,000
Contingent on Receiving Grant Funding								
1009	SVWTP - Core Security - Site Security Improvements (Grant Contingent)	149,000						149,000
1010	SVWTP - Core Seismic - WTP Main Bldg Seismic Retrofits (Grant Contingent)	149,000						149,000
1011	SVWTP - Core Seismic - Finished Water Pump Bldg Seismic Retrofits (Grant Contingent)	357,000						357,000
1012	SVWTP - Medium Config - Chlorine Gas Modifications (Grant Contingent)	304,000						304,000
1013	SVWTP - Medium Config - Rehabilitate & Repurpose Existing CCB (Grant Contingent)	1,230,000						1,230,000
	Subtotal	2,189,000						2,189,000
Haz Mit Grant Funds (87.5% Grant) - Amounts do NOT include 12.5% local match								
0145a	Div 7 Reservoir - Phase 1 Design, Esmts, Permitting - Hazard Mitigation Grant	239,000	239,000					
0145c	Div 7 Reservoir - Phase 2 Construction - Hazard Mitigation Grant	1,757,000		1,757,000				
	Subtotal	1,996,000	239,000	1,757,000				

Program Area / CIP Project # / CIP Project Name		Total	2022	2023	2024	2025	2026	2027
New Water Debt - Bond, PWTF, Etc								
1002a	SVWTP - Core - New 0.3MG Welded Steel CCB - Design, Permitting	200,000					200,000	
1002b	SVWTP - Core - New 0.3MG Welded Steel CCB - Design, Permitting (continued)	250,000						250,000
Subtotal		450,000					200,000	250,000
* Note: Cost Estimates in 2022 Dollars		Grand Total	6,282,767	528,250	2,121,765	244,000	246,351	453,400
								2,689,000

Lake Whatcom Water and Sewer District
Sewer System Reinvestment Plan 2022 thru 2027

Program Area / CIP Project # / CIP Project Name		Total	2022	2023	2024	2025	2026	2027
Capital Outlay - General (Costs are halved, split 50/50 between Water/Sewer)								
0218	Misc 2022 General Capital Outlay	62,750	62,750					
A0005	Accounting & Administration Server - Replace/Update Hardware, Network Security, & OS	15,000				15,000		
V0001	Replace Tool Truck (7 tool trucks in fleet)	127,500	42,500		42,500		42,500	
	Subtotal	205,250	105,250		42,500	15,000	42,500	
Capital Outlay - Sewer								
0223	Misc 2022 Sewer Capital Outlay	34,500	34,500					
A0010	Update Sewer Comprehensive Plan (Current Plan approved 7/21/2020)	87,550					87,550	
E0003	Replace Sewer Camera Vehicle	87,355						87,355
E0004	Replace Camera Equipment	150,000	150,000					
	Subtotal	359,405	184,500				87,550	87,355
Capital Projects - Sewer								
0032a	Agate Bay Sewer Pump Station - Predesign and Shorelines Permitting	103,000			103,000			
0032b	Agate Bay Sewer Pump Station - Design and Bidding	128,750				128,750		
0032c	Agate Bay Sewer Pump Station - Construction	540,750					540,750	
0055b	Rocky Ridge Pump Station - Design and Bidding	46,350	46,350					
0055c	Rocky Ridge Pump Station - Construction	460,000		460,000				
0056b	Lakewood Pump Station - Design and Bidding	46,350	46,350					
0056c	Lakewood Pump Station - Construction	460,000		460,000				
0124b	Flat Car Reverse Flow to SVPS Piping and Valves - Construction	103,000	103,000					
0157	Install Ball Check Valves at Cable, Ranch House, Flat Car, Beaver	119,405			119,405			
0161	Stationary Generator Closed Loop Cooling Retrofit - North Point, SV, Flat Car, Beaver	238,810					238,810	
0171	Sudden Valley Sewer Pump Station - Recondition Electrical Controls	179,108				179,108		
0172	Flat Car Sewer Pump Station - Recondition Electrical Controls	179,108				179,108		
0173	Beaver Sewer Pump Station- Recondition Electrical Controls	179,108				179,108		
0221	Sudden Valley Sewer Pump Station PLC and UPS Improvements	77,250	77,250					
0222a	LWBI CIPP Renewal Project (Priority 1 - 2022)	123,600	123,600					
0222b	LWBI CIPP Renewal Project (Priority 1 - 2023)	159,650		159,650				
0222c	LWBI CIPP Renewal Project (Priority 1 - 2024)	139,050			139,050			
0222d	LWBI CIPP Renewal Project (Priority 2 - 2025)	412,000				412,000		
S0001a	Sewer System Rehab and Replacement Projects	113,000	113,000					
S0001b	Sewer System Rehab and Replacement Projects	165,000			165,000			
S0001c	Sewer System Rehab and Replacement Projects	700,000						700,000
	Subtotal	4,673,289	509,550	1,079,650	526,455	1,078,074	779,560	700,000
New Sewer Debt - Bond, PWTF, Etc								
0193	COB Post Point WWTP Biosolids Handling (LWWSO Cost Share 4.8%) - Completion 2026	10,000,000					10,000,000	

Program Area / CIP Project # / CIP Project Name	Total	2022	2023	2024	2025	2026	2027
Subtotal	10,000,000					10,000,000	
* Note: Cost Estimates in 2022 Dollars							
Grand Total	15,237,944	799,300	1,079,650	568,955	1,093,074	10,909,610	787,355

Details for Misc 2022 Capital Outlay Items

Report Last Revised 11/30/2021

The items below provide a breakdown of small and minor equipment and projects that are included in the lines labeled "0218 Misc 2022 General Capital Outlay, 0219 Misc 2022 Water Capital Outlay, and 0223 Misc 2022 Sewer Capital Outlay in the Water and Sewer System Reinvestment Plans.

Budget Amount	Description
CIP #0223 Misc 2022 Sewer Capital Outlay	
\$3,000	Afternoon Beach Sewer Pump Station. Replace motor electrical lead between VFD and Junction Box on Pump #1
\$5,000	Annual Mitigation Area Landscape Maintenance - \$5,000 / year. Landscape maintenance in mitigation areas at Geneva Sewer Pump Station and old Country Club Sewer Pump Station. Maintenance is required by Whatcom County for 5 years after project completion. Replace distressed plants and remove invasive species from mitigation areas. Work performed by landscape contractor.
\$15,000	UPS and battery backup wiring modifications at several pump stations (scope detail in progress)
\$8,000	Tomb PS control panel modifications (scope detail in progress)
\$3,500	Replace Ranch House Berm AquaDam. The replacement AquaDam will replace the original AquaDam purchased in 2007 that has been damaged by rodents. The estimate to replace the AquaDam and to procure a storage container to prevent accidental damage.
\$34,500	Total
CIP #0219 Misc 2022 Water Capital Outlay	
\$20,000	Fire Hydrant Replacement. Annual budget to replace several of the most degraded Iowa and M&H hydrants that are 40+ years old. As of 2021 there are 62 Iowa hydrants and 56 M&H hydrants that will eventually need replacement. There are a total of 526 hydrants in the District's distribution systems.
\$14,000	Replace Pinto Creek PRV. Work will be performed by District crews.
\$15,000	Lead Service Line Inventory - \$15,000 / year for 3 years (2022, 2023, 2024). Funding to research and review available District records to complete lead service line inventory that will meet EPA and Washington State Department of Health future requirements.
\$25,000	Exterior coating assessment, cost estimates, and specifications for old Div 22 Reservoir roof and Div 30 Reservoir.
\$74,000	Total
CIP #0218 Misc 2022 General Capital Outlay (costs will be split 50/50 between water/sewer)	
\$14,000	Stand-alone Temporary Control Panel. Prewired control/telemetry panel with PLC, Panel view, relays, etc. that can be used in an emergency or used for temporary pump station control.
\$20,000	Spare PLC Components
\$20,000	1,000 Gallon Diesel Fuel Tank at Shop. This adds a 2nd 1,000 gallon fuel tank which would increase the onsite fuel capacity at the shop to 2,000 gallons.
\$3,500	3-Phase Electrical Power Data Logger
\$10,000	Shop perimeter fence repairs and enlarge rear gate to soils staging area.
\$50,000	Increase repair parts inventory
\$8,000	VHF Radios at Beaver and Flat Car. Investigate remote radio over IP consoles at Beaver and Flat Car vs radio/antenna at each site. Install preferred solution. The sites have poor reception to the main radio at the shop and SVWTP.
\$125,500	Total
\$62,750	50% of Total (funding split 50/50 between water and sewer departments)

2022 BUDGET - Active Projects Estimates

Report Last Revised 11/30/2021

Project Number	Project Title / Tasks	Spent to Date as of 11/30/2021	Projected Budget To Completion	Projected Spending Thru 2021	Additional Payments in 2021	Amt. Remaining to include in 2022 Budget	New Capital \$ from 2022 Sys Reinvest
C 1802	Dellesta, Edgewater & Euclid Sewer Pump Stations	\$1,094,583	\$1,816,583	\$1,094,583	\$0	\$722,000	\$135,000
C 1802.1	Euclid	\$112,379	\$834,379	\$112,379	\$0	\$722,000	\$135,000
C 1802.2	Dellesta & Edgewater	\$982,204	\$982,204	\$982,204	\$0	\$0	\$0
C 2112	Rocky Ridge & Lakewood Predesign and Shoreline Permitting	\$221	\$180,000	\$30,000	\$29,779	\$150,000	\$40,000
C 2113	Flat Car Reverse Flow to SVPS - Design & Permitting		\$50,000	\$0	\$0	\$50,000	
A 2119	Sewer Capacity Analysis	\$2,344	\$10,000	\$2,344	\$0	\$7,656	
	Subtotal Sewer	\$1,097,148	\$2,056,583	\$1,126,927	\$29,779	\$929,656	\$175,000
C 1908	Fire Flow Improvements - Hydraulic Model Calibration	\$12,381	\$15,000	\$12,381	\$0	\$2,619	
C 1909	Little Strawberry Bridge Water Main Predesign & Estimate	\$0	\$20,000	\$0	\$0	\$20,000	
C 1913	SVWTP 20-Year Facility Plan	\$108,630	\$159,710	\$112,000	\$3,370	\$47,710	
C 2011	Convert Eagleridge Booster to Metering Station	\$26,515	\$30,000	\$26,515	\$0	\$3,485	
C 2012	Austin-Fremont PRV Rebuild	\$0	\$10,000	\$0	\$0	\$10,000	
C 2016	SVWTP Misc Component Replacement (CCB Fiberglass Ladder, Spare 300 Amp Breakers, Div 22 Finish Meter, Raw Meter, CCB Pressure Transmitter, Intake Anchorage Warning Signs)	\$14,559	\$40,000	\$14,559	\$0	\$25,441	
C 2106	SVWTP to SVPS Telemetry Comm Study, Testing	\$1,882	\$10,000	\$2,500	\$618	\$7,500	
C 2107	Camp Firwood Dead End Water Main Auto Flusher		\$5,000	\$0	\$0	\$5,000	
C 2109	Geneva Res Insertavalve for Emergency Isolation		\$10,000	\$0	\$0	\$10,000	
C 2110	Division 30 Booster PLC and UPS Improvements		\$60,000	\$0	\$0	\$60,000	
C 2111	Div 7 Reservoir Predesign, Esmts & Permitting	\$15,403	\$63,000	\$15,403	\$0	\$47,597	
	Subtotal Water	\$179,370	\$422,710	\$183,358	\$3,988	\$239,352	\$0
C 2006	SCADA Telemetry - Managed Ethernet Switches	\$15,045	\$20,000	\$15,045	\$0	\$4,955	
C 2007	Administrative Server Hardware	\$0	\$25,000	\$0	\$0	\$25,000	
C 2103	Centimeter Grade GPS with Real Time Corrections & Training		\$20,000	\$10,000	\$10,000	\$10,000	
C 2104	Exterior Receptacles for Block Heaters and Battery Chargers		\$16,290	\$0	\$0	\$16,290	
A 2115	Water Use Efficiency Goals Update	\$8,951	\$14,900	\$14,900	\$5,949	\$0	
A 2116	Commissioner District Boundary Census Update		\$10,000	\$0	\$0	\$10,000	
	Subtotal General	\$23,996	\$106,190	\$39,945	\$15,949	\$66,245	\$0
	Grand Total	\$1,300,514	\$2,585,483	\$1,350,230	\$49,716	\$1,235,253	\$175,000

NOTATION LEGEND

- A _____ Administrative Project
- C _____ Capital Project
- M _____ Maintenance Project
- Sewer Project (Green Font)
- Water Project (Blue Font)
- Sewer and Water Project (Black Font)

CAPITAL PROJECT NARRATIVE

Project Name:	Rocky Ridge Sewer Pump Station Replacement
CIP #:	0055

Asset Register:	LWWSD → Sewer → Pump Stations → Rocky Ridge				
Failure Mode:	Capacity	Level of Service	Mortality	Efficiency	
Business Risk Exposure:	30	= 10 x 3 x 1 (PoF x CoF x Redundancy)			
Remaining Life:	0 years	Consumed Life:	40+ years	Effective Life:	40 years

PURPOSE and DESCRIPTION OF THE PROJECT

Project includes retrofitting existing Smith & Loveless wet well mounted pump station with new single speed pumps, controls, telemetry, pressure transducers for monitoring the wet well level, backup high and low floats and a pole mounted work light manually switched at control panel. Land access is limited to foot traffic and the project will need to address a construction easement or access to the site via Lake Whatcom. The retrofit is part of a District wide pump station plan to replace all 30+ year old equipment.

The existing pump station was installed in the 1970's and is located adjacent to Lake Whatcom. Two existing 10 HP pumps each have a design point of 100 GPM at 70-feet TDH. The wet well diameter is four feet and the power service is currently 3-phase / 230V. Check valves are inaccessible for maintenance and cleaning. If a check valve ever jams it would be a major project to access the check valves for service.

The O&M Manual for this pump station is missing.

Budget Estimate *(Based on Edgewater and Dellesta. Assumes doing two stations at same time – Lakewood & Rocky Ridge)*

Phase A – In progress 2021	
Predesign, Shoreline Permit:	\$90,000
Phase B – Scheduled for 2022	
Design, Bidding:	\$46,350
Phase C – Scheduled for 2023	
Services During Construction:	\$35,000
Construction (includes sale tax)	\$325,000
PSE Service	\$25,000
SCADA Integration	\$3,000
Site Access Difficulty Contingency	\$25,000
Subtotal	\$413,000
Inflation (11.4%)	\$47,000
Total Phase C	\$460,000

Cost estimate in 2022 dollars.

CAPITAL PROJECT NARRATIVE

Historical Cost Data from Previous Project (2020 project dollars)

Dellesta & Edgewater	Cost	Divide by 2 (cost each station)
Predesign & Permitting	\$ 141,000	\$ 70,500
Design & Services During Bidding	\$ 84,000	\$ 42,000
Services During Construction	\$ 71,000	\$ 35,500
Construction	\$ 647,000	\$ 323,500
PSE Service Upgrades	\$ 50,000	\$ 25,000
SCADA Integration	\$ 5,000	\$ 2,500
Subtotal Construction Phase	\$ 773,000.00	\$ 386,500
Total	\$ 998,000.00	\$ 499,000

For further information about this project contact Bill Hunter.

Revision History

- Created 8/1/2006.
- Revised 8/2/2006 by MMM: Revised project scope, added budget.
- Revised 8/3/2006 by BH: Added to purpose.
- Revised 8/28/2006 by MMM: Revised PS description.
- Revised 12/6/2007 by BH: Adjusted budget to reflect recent Plum/Strawberry Canyon project costs.
- Revised 8/6/2009 by BH: Adjusted budget to reflect recent Tomb PS project.
- Revised 10/4/2011 by BH: Updated budget numbers to be a bit more conservative.
- Revised 12/5/2016 by BH: Updated budget numbers base on recent pump station projects.
- Revised 10/24/17 by KH. Updated narrative and updated budget numbers based on recent pump station projects.
- Revised 11/30/2020 by BH. Updated budget numbers based on Edgewater and Dellesta Sewer Pump Station Improvements.
- Updated 11/30/2021 by BH. Updated phase status and budget estimates.

CAPITAL PROJECT NARRATIVE

Project Name:	Lakewood Sewer Pump Station Retrofit
CIP #:	0056

Asset Register:	LWWSD → Sewer → Pump Stations → Lakewood				
Failure Mode:	Capacity	Level of Service	Mortality	Efficiency	
Business Risk Exposure:	30	= 10 x 3 x 1 (PoF x CoF x Redundancy)			
Remaining Life:	0 years	Consumed Life:	46 years	Effective Life:	40 years

PURPOSE and DESCRIPTION OF THE PROJECT

Project includes retrofitting existing Smith & Loveless wet well mounted pump station with new single speed pumps, controls, telemetry, pressure transducers for monitoring the wet well level, backup high and low floats and a pole mounted work light manually switched at control panel. Maintenance access is sometimes an issue with the adjacent homeowner and the project will need to provide a new permanent access road and easement either through WWU or the adjacent homeowner's property. The retrofit is part of a District wide pump station plan to replace all 30+ year old equipment.

The existing pump station was installed in the 1974 and is located adjacent to Lake Whatcom. The service area for this pump station is very small (about 5 residences and the WWU Lakewood facility). Wastewater from this station is re-pumped by Airport Pump Station. The station has two existing 15 HP pumps; each have a design point of 100 GPM at 85-feet TDH. The wet well diameter is x-feet and the power service is currently 3-phase / 230V. Check valves are inaccessible for maintenance and cleaning. If a check valve ever jams it would be a major project to access the check valves for service. The O&M Manual for this pump station is missing.

Budget Estimate (Based on Edgewater and Dellesta. Assumes doing two stations at same time – Lakewood & Rocky Ridge)

Phase A – In progress 2021

Predesign, Shoreline Permit: \$90,000

Phase B – Scheduled for 2022

Design, Bidding: \$46,350

Phase C – Scheduled for 2023

Services During Construction:	\$35,000
Construction (includes sale tax)	\$325,000
PSE Service	\$25,000
SCADA Integration	\$3,000
<u>Site Access Difficulty Contingency</u>	<u>\$25,000</u>
Subtotal	\$413,000
<u>Inflation (11.4%)</u>	<u>\$47,000</u>
Total Phase C	\$460,000

Cost estimate in 2022 dollars.

CAPITAL PROJECT NARRATIVE

Historical Cost Data from Previous Project (2020 project dollars)

Dellesta & Edgewater	Cost	Divide by 2 (cost each station)
Predesign & Permitting	\$ 141,000	\$ 70,500
Design & Services During Bidding	\$ 84,000	\$ 42,000
Services During Construction	\$ 71,000	\$ 35,500
Construction	\$ 647,000	\$ 323,500
PSE Service Upgrades	\$ 50,000	\$ 25,000
SCADA Integration	\$ 5,000	\$ 2,500
Subtotal Construction Phase	\$ 773,000.00	\$ 386,500
Total	\$ 998,000.00	\$ 499,000

For further information about this project contact Bill Hunter.

Revision History

- Created 8/2/2006.
- Revised 8/2/2006 by MMM: Revised project scope, added budget.
- Revised 8/3/2006 by BH: Added to purpose.
- Revised 12/6/2007 by BH: Adjusted budget up slightly.
- Revised 8/6/2009 by BH: Adjusted budget to reflect recent Tomb PS project.
- Revised 10/4/2011 by BH: Updated budget numbers to be a bit more conservative.
- Revised 12/5/2016 by BH: Updated budget numbers base on recent pump station projects.
- Revised 10/24/17 by KH. Updated narrative and updated budget numbers based on recent pump station projects.
- Revised 11/30/2020 by BH. Updated budget numbers based on Edgewater and Dellesta Sewer Pump Station Improvements.
- Updated 11/30/2021 by BH. Updated phase status and budget estimates.

CAPITAL PROJECT NARRATIVE

Project Name:	Flat Car Reverse Flow to SVPS
CIP #:	0124

Asset Register:	LWWSD → Sewer → Pump Stations → Lakewood				
Failure Mode:	Capacity	<u>Level of Service</u>	Mortality	Efficiency	
Business Risk Exposure:	42	= 6 x 7 x 1 (PoF x CoF x Redundancy)			
Remaining Life:	N/A	Consumed Life:	N/A	Effective Life:	N/A

PURPOSE and DESCRIPTION OF THE PROJECT

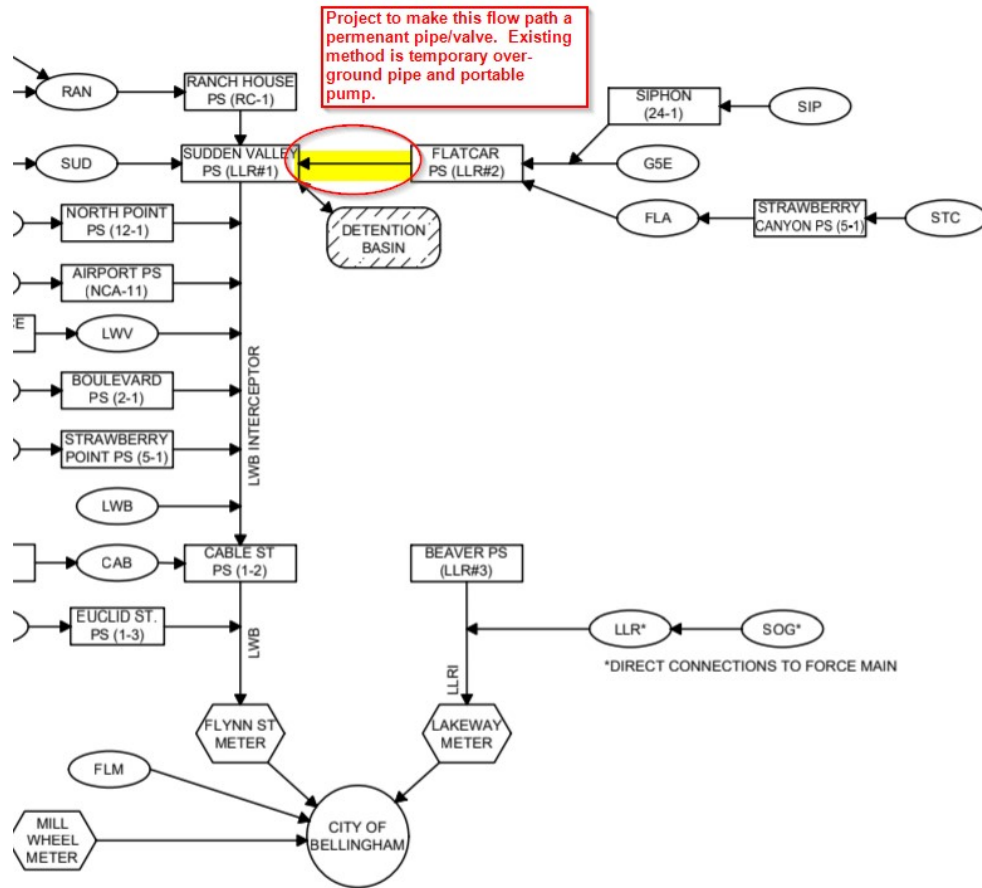
This project adds a permanent or semi-permanent means to change the direction of flow output from the Flat Car Sewer Pump Station. The purpose is to be able to quickly select which direction the Flat Car Sewer Pump Station discharge is directed; either to Beaver (normal operations), or reverse flow back to Sudden Valley Sewer Pump Station (special operations or emergencies).

The standard District operating mode sends the flow from the Sudden Valley Pump Station (via Flat Car PS) to the Lake Louise Road Interceptor (LLRI) – the former “High Energy” scenario – because of the lack of sufficient capacity in the LWBI. The schematic for this standard operating mode is shown in Exhibit E-1 in the 2020 Sewer Comprehensive Plan.

The District maintains the capability to send flows from the Sudden Valley Pump Station and the Flat Car Pump Station to the LWBI. This operating mode is used only during dry weather and mainly to facilitate maintenance on the LLRI and its associated facilities (Flat Car and Beaver Pump Stations) or in emergencies. This reverse mode was used during the reconstruction of the Whatcom Falls sewer manhole and the HDPE fitting failure at Beaver. The schematic for this reverse operating mode is shown in Exhibit E-2 2020 Sewer Comprehensive Plan.

CAPITAL PROJECT NARRATIVE

Exhibit E-2 Schematic from 2020 Sewer Comprehensive Plan Reverse Flow Scenario Diagram



As part of the design process, several different alternatives will need to be explored and evaluated to select a preferred solution.

The ideal solution would include permanent piping and valves to direct flow from the existing wet well pumps. However, the downstream gravity pipe system will need to be analyzed for capacity as existing wet well pumps may have more flow capability than the receiving pipes. A restrictor orifice may be needed, along with verification that operating points on the existing pump curves do not cause damaging cavitation or motor overload conditions.

Another option is permanent piping and valves, but utilizes a portable engine driven pump or perhaps a new permanent pump separate from the existing large wet well pumps.

It may be possible to hang a new pipe on the old flat car bridge owned by Sudden Valley Community Association, but this has not yet been investigated. Another alternate is to support a new pipe on a single new beam that crosses the creek.

Permitting conditions and mitigation requirements due to the proximity to Beaver Creek have not yet been evaluated.

CAPITAL PROJECT NARRATIVE

The following budget estimate is very preliminary and assumes that a cost effective solution is readily available and that minimal permitting and site mitigation is required.

Budget Estimate

Phase A (2021 in Progress) - Design and Permitting	\$50,000
<u>Phase B (2022) - Construction</u>	<u>\$103,000</u>
Total	\$153,000

Cost estimate in 2022 dollars.

For further information about this project contact Bill Hunter.

Revision History

- Created 11/30/2020. BH.
- Updated 11/30/2021. BH.

CAPITAL PROJECT NARRATIVE

Project Name:	Sudden Valley Sewer Pump Station PLC and UPS Improvements
CIP #:	0221

Asset Register:	LWWSD → Sewer → Pump Stations → Sudden Valley Sewer Pump Station				
Failure Mode:	Capacity	Level of Service	Mortality	Efficiency	
Business Risk Exposure:	27	= 9 x 3 x 1 (PoF x CoF x Redundancy)			
Remaining Life:	0 years	Consumed Life:	20 years	Effective Life:	20 years

PURPOSE and DESCRIPTION OF THE PROJECT

In June of 2017, the Allen Bradley PLC-5 Control System was discontinued by Rockwell Automation and is no longer available or supported. Since Rockwell is no longer supplying replacement parts for these systems, many users are looking for used or surplus parts for replacement parts that can be hard to find, expensive, and have no guaranty. Rockwell is encouraging customers to migrate from the PLC-5 Control System to the ControlLogix PLC platform, for which, hardware component and support is readily available.

The District has several sites that use these older style PLC's:

- COMPLETED IN 2021 - Beaver Sewer Pump Station and Flat Car Sewer Pump Station (Project #M1917)
- BUDGETED IN 2021 AND TO BE COMPLETED IN 2022 - Division 30 Booster Station
- BUDGETED IN 2022 AND TO BE COMPLETED IN 2022 - Sudden Valley Sewer Pump Station

This project includes the replacement of discontinued PLC's as well as make uninterruptable power supply (UPS) improvements for better facility reliability at the **Sudden Valley Sewer Pump Station**.

Budget Estimate

Sudden Valley Sewer Pump Station estimate for design, bidding, construction, programming, and SCADA integration and commissioning is \$77,250.

Note that the Division 30 Booster Station (already budgeted in 2021 and considered an active project) and Sudden Valley Sewer Pump Station are planned to be combined into a single project to take advantage of economies of scale for project management, design, single construction contract, and programming.

Cost in 2022 dollars.

CAPITAL PROJECT NARRATIVE

For further information about this project contact Bill Hunter.

Revision History

- Created 11/6/2018 by BH.
- Updated 11/23/2020 by BH. Updated cost estimates using current Beaver and Flat Car PLC and UPS project costs.
- Updated 11/30/2021 by BH.

CAPITAL PROJECT NARRATIVE

Project Name:	LWBI CIPP Renewal Project
CIP #:	0222

Asset Register:	LWWSD → Sewer → Collection System				
Failure Mode:	<u>Capacity</u>	Level of Service	Mortality	Efficiency	
Business Risk Exposure:	36	= 6 x 6 x 1 (PoF x CoF x Redundancy)			
Remaining Life:	50 years	Consumed Life:	50 years	Effective Life:	100 years

PURPOSE and DESCRIPTION OF THE PROJECT

Perform cure-in-place-pipe (CIPP) pipe rehabilitation on multiple gravity sewer pipe segments along Lake Whatcom Boulevard. The proposed project will begin at manhole GT- 27 (near 2670 Lake Whatcom Boulevard) and will continue downstream to manhole GT-25. Eventual, full CIPP rehabilitation of twenty pipe segments of the Lake Whatcom Boulevard Interceptor (LWBI) will eliminate the District's dependence on the Sudden Valley sewer detention basin to prevent sewer overflows at full build-out ERUs.

The LWBI has been in operation nearly 50 years. Recent television inspection identifying pipe wall corrosion and significant struvite buildup, along with a small sewer overflow at manhole GT- 29 in February 2020, prompted an updated hydraulic analysis of the LWBI. This hydraulic analysis modelled the overflow event and with model calibration estimated the current pipe conditions and system capacity. The hydraulic modelling confirmed that existing pipe wall conditions are reducing the system capacity. Iterative modeling using projected pipe conditions following CIPP renewal, shows that upon relining twenty segments, the LWBI interceptor will have sufficient system capacity without dependence on the detention basin.

The segments have been prioritized in the hydraulic analysis as Priority 1 and Priority 2 repairs.

Priority 1 repairs are pipe segment repairs that will eliminate the dependence on the detention basin to prevent sewer overflows for current ERUs.

Priority 2 repairs are pipe repairs that will eliminate dependence on the detention basin to prevent sewer overflows for build-out ERUs.

CAPITAL PROJECT NARRATIVE

Below is the pipe relining plan.

Priority	Planned Construction Year	Upstream MH	Downstream MH	Segment	Diameter (inch)	Length (feet)	LWBI CIPP Budget Estimate 2022 Dollars (\$)
Priority 1	2021	GT-29STP	GT-28	29-28 (480 LF)	10	480	COMPLETED 2021 CONTRACT AMOUNT \$ 149,923.00
		GT-28	GT-27A	28-27A (213 LF)	10	213	
		GT-27A	GT-27	27A-27 (170 LF)	10	170	
		GT-24	GT-23	24-23 (438 LF)	14	438	
						1301	
	2022	GT-27	GT-26	27-26 (313 LF)	10	313	\$ 123,600.00
		GT-26	GT-25	26-25 (385 LF)	10	385	
						698	
	2023	GT-25	GT-24	25-24 (402 LF)	14	402	\$ 159,650.00
		GT-23	GT-22	23-22 (269 LF)	14	269	
		GT-22	GT-21	22-21 (404 LF)	14	404	
						1075	
	2024	GT-21	GT-20	21-20 (472 LF)	14	472	\$ 139,050.00
		GT-20	GT-19	20-19 (373 LF)	14	373	
						845	
Priority 2	2025	GT-19	GT-8	19-18 (384 LF)	14	384	\$ 412,000.00
		GT-18	GT-17	18-17 (196 LF)	14	196	
		GT-17	GT-16	17-16 (292 LF)	14	292	
		GT-16	GT-15	16-15 (321 LF)	14	321	
		GT-15	GT-14	15-14 (268 LF)	14	268	
		GT-14	GT-13	14-13 (306 LF)	14	306	
		GT-13	GT-12	13-12 (410 LF)	14	410	
		GT-12	GT-11	12-11 (374 LF)	14	374	
		GT-11	7	11-SPCAB (299 LF)	14	299	
						2850	

When all of the above pipe segments are rehabilitated with CIPP, the LWBI will have sufficient capacity for full system build-out without reliance on the Sudden Valley Detention Basin.

Budget Estimate: \$123,600.00 for segments scheduled for renewal in 2022.

Cost estimate in 2022 dollars.

For further information about this project contact Bill Hunter.

Revision History

- Created 11/30/21 by KH & BH.

CAPITAL PROJECT NARRATIVE

Project Name:	South Geneva Booster Standby Generator and Automatic Transfer Switch
CIP #:	0224

Asset Register:	LWWSD → Water → Booster Pumps				
Failure Mode:	Capacity	<u>Level of Service</u>	Mortality	Efficiency	
Business Risk Exposure:	9	= 3 x 3 x 1 (PoF x CoF x Redundancy)			
Remaining Life:	N/A	Consumed Life:	0 years	Effective Life:	30 years

PURPOSE and DESCRIPTION OF THE PROJECT

The 2011 South Geneva project (D0527) was constructed under a Developer's Extension Agreement with the purpose to provide water and sewer services for properties along Lost Creek Lane. Services to this development include; water service supplied via a booster pump station along Lake Louise Road and sewer services via a pressure sewer system with individual grinder pumps connecting to a common sewer force main that connects to the Lake Louise Road Interceptor. The development currently has 4 active residential water connections and 1 active District permit for future connection. The system has the capacity to provide a total of 14 water connections using the current booster pump station configuration.

The original booster pump station construction provided a generator receptacle that requires use of a District portable generator if a power outage occurs. However, we have experienced that when the South Geneva Booster Pump Station loses power this water system quickly loses pressure. During an outage the District operations and maintenance staff is faced with the challenge to quickly tow a generator to the booster pump station to keep the water system pressurized for continuation of these customer's water supply/service and to prevent possible backflow, cross contamination issues. Several recent power outage events highlighting this challenge has prompted staff to prioritize installing a permanent, standby generator at this booster pump station site.

Staff recommends procuring a permanent diesel powered standby generator and automatic transfer switch to be placed upon a new concrete slab with protective bollards.

\$33,385	Diesel powered stationary generator and automatic transfer switch
\$ 3,500	Engineering services for structural slab and generator sizing
\$ 5,000	Sitework including concrete slab and bollard installation
<u>\$ 5,000</u>	Electrician support
 \$46,885	 Subtotal
<u>\$ 9,377</u>	20% contingency (supply chain, permitting, site work, etc issues)
 \$56,262	 Total estimate (round to \$60k for budget)

CAPITAL PROJECT NARRATIVE

The project estimate assumes sitework and generator installation by District crews with some support, as-needed, by an electrical subcontractor. Generator procurement will be through Source Well or Washington State contract. Cost estimate in 2022 dollars.

For further information about this project contact Bill Hunter.

Revision History

- Created 10/27/2021 KH.
- Revised 10/28/2021 BH. Increased contingency.

CAPITAL PROJECT NARRATIVE

Project Name:	Reservoir and WTP Site Security Assessment and Plan
CIP #:	0225

Asset Register:	LWWSD → Water System				
Failure Mode:	Capacity	<u>Level of Service</u>	Mortality	Efficiency	
Business Risk Exposure:	NA	= _ x _ x _ (PoF x CoF x Redundancy)			
Remaining Life:	NA years	Consumed Life:	NA years	Effective Life:	NA years

PURPOSE and DESCRIPTION OF THE PROJECT

The District recently experienced several vandalism events at a reservoir, water booster pump station, and water treatment plant. This project includes an initial budget to begin a site security assessment and plan.

The intent of a site security assessment and plan is to have an experienced consultant evaluate site security, existing telemetry and network infrastructure, risks, mitigation options, and cost estimates.

Phase 1 – Site Security Assessment and Plan (2022). An initial budget of \$50,000 proposed to begin this effort. It is not known if additional funding will be required and depends on the scope of work.

Phase 2 – Site Security Improvements (future years). Implement recommended improvements using priorities and conceptual budgets developed in Phase 1. Improvements will be scheduled and budgeted in the system reinvestment plan as that information becomes available.

Budget estimate is in 2022 dollars.

For further information about this project contact Bill Hunter.

Revision History

- Created 11/30/2021. BH.

CAPITAL PROJECT NARRATIVE

Project Name:	Replace Sewer Camera, Tractor, & Software
CIP #:	E0004

Asset Register:	LWWSD → General → Vehicles and Equipment → Sewer Camera & Tractor				
Failure Mode:	Capacity	<u>Level of Service</u>	<u>Mortality</u>	Efficiency	
Business Risk Exposure:	6	= 6 x 1 x 1 (PoF x CoF x Redundancy)			
Remaining Life:	1	Consumed Life:	9	Effective Life:	10

PURPOSE and DESCRIPTION OF THE PROJECT

Project includes replacement of Sewer Camera, Tractor, Data Collection System and Software. Existing camera, tractor, data collection and software, purchased in 2012 is experiencing more frequent breakdowns and repairs over the last couple years. The camera and software is on a 10 year replacement schedule.

District staff is currently researching available technologies offered by vendors in the industry. Some of the technology is impressive and has the potential to improve overall efficiency of inspecting pipelines and manholes. However, this newer technology is very expensive.

Staff will research camera equipment, evaluate costs, estimate the overall efficiency improvements, and make a recommendation to the board for discussion and consideration.

Example of newer technology camera equipment being researched:

The PANORAMO® 3D optical scanning package is the latest in inspection technologies, and has changed the way that both pipelines and manholes are inspected. This package will allow you to inspect 3 to 5 times the amount of pipe per day as a traditional analog inspection system (also spending less time in busy intersections!) while providing amazing image clarity and astonishing deliverable

<https://rapidview.com/products/panoramo-package/>

Budget Estimate for Camera, Tractor, Data Collection, & Software is \$150,000 (2022 dollars)

For further information about this project call Rich Munson.

Revision History

- Created 8/2/2006.
- Updated 8/2/2006
- Updated 9/6/2006, changed 5 year cycle to 10 year cycle. BH.
- Updated 10/24/2017 by RM: Updated BRE
- Updated 11/3/2021 by RM: Updated cost based on new camera technology

CAPITAL PROJECT NARRATIVE

Project Name:	Sewer System Rehabilitation and Replacement Projects
CIP #:	S0001

Asset Register:	LWWSD → Sewer → Collection System			
Failure Mode:	<u>Capacity</u>	Level of Service	Mortality	<u>Efficiency</u>
Business Risk Exposure:	10	= 10 x 1 x 1 (PoF x CoF x Redundancy)		
Remaining Life:		Consumed Life:		Effective Life:

PURPOSE and DESCRIPTION OF THE PROJECT

Combines several separate District projects into one annual project. The goals of this project include: finding and repairing inflow and infiltration (I&I) sources, rehabilitating degraded pipelines, and increasing capacity where needed to provide for planned growth and future flow rates.

The annual project scope and focus will vary based on the type of high priority items identified during the previous year. Types of work include: sewer main slip lining (spot repairs and full lengths), pressure grouting service tees, pressure grouting manhole leaks/voids, rebuild/seal manholes, smoke testing, and other efforts to reduce I&I, rehabilitate pipelines, and increase capacity where needed.

Engineering (Plans, Specs & Est.):
Bid & Contract Administration:

District Staff
District Staff

Construction: \$113,000 (target for 2022)
 \$165,000 (target for 2024)
 \$700,000 (target for 2027)

2022 budget includes \$113,000 for the following tasks:

Task 1 – Inflow and Infiltration Repairs. Work includes minor sewer system rehab and replacement that target elimination of inflow and infiltration. The District will utilize a unit price contract to make the repairs as they are found. Staff will package the repairs to minimize mobilization costs and complete as many improvements as the budget allows. The type of work includes but is not limited to: manhole / wet well grouting, pipe slip lining and spot repairs, lateral grouting, and other miscellaneous repairs.

Cost estimate in 2022 dollars.

For further information about this project call Bill Hunter.

CAPITAL PROJECT NARRATIVE

Revision History

- 10/26/2011. Combined separate I&I related projects into one annual project budget. Bill Hunter. Footnote: October 2011 Pro-Vac Estimate (Hank) for Smoke Testing: \$0.65/LF and can test approximately 10,000 LF per day.
- 11/18/2013. Minor budget updates. Bill Hunter.
- 12/6/2016. Updated budget for year 2017. BH.
- 11/6/2018. Updated budget for year 2019. BH.
- 11/4/2019. Updated budget for year 2020. BH.
- 12/1/2020. Updated budget and cost estimates for year 2021, edited project description. BH & KH.
- 11/30/2021. Updated budget and cost estimates for year 2022, edited project description. BH.

CAPITAL PROJECT NARRATIVE

Project Name:	Replace Tool Truck
CIP #:	V0001

Asset Register:	LWWSD → General → Vehicles and Equipment → Tool Truck				
Failure Mode:	Capacity	<u>Level of Service</u>	<u>Mortality</u>	Efficiency	
Business Risk Exposure:	N/A	= _ x _ x _ (PoF x CoF x Redundancy)			
Remaining Life:	N/A	Consumed Life:	N/A	Effective Life:	N/A

PURPOSE and DESCRIPTION OF THE PROJECT

Project includes replacing a Tool Truck approximately every 2 years. There are 7 Tool trucks currently in the fleet.

The District has targeted a 12 to 15 year replacement schedule. The trucks are well maintained and should last their targeted service life. The replacement cycle assumes trucks may need to have a few major repairs but the overall cost is less than purchasing trucks on a more frequent schedule.

Existing tool trucks average 12,000 – 15,000 miles per year. After 15-years of service a truck would have 180,000 to 225,000 miles.

Current inventory and mileage as of 11/30/2021

ID	Year	Manufacturer	Model	Description	Mileage
VEH24	1999	Ford	F-350	Utility Truck w/ Service Body	168884
VEH31	2005	Chevy	Silverado 3500	Chevy Silverado	168297
VEH41	2010	Ford	F350	Used by Maintenance Electrician	76148
VEH47	2012	Chevy	Silverado 3500	Utility Truck w/ Service Body	88497
VEH51	2017	Ford	F350	Utility Truck w/ Service Body	34621
VEH52	2018	Ford	F350	Utility Truck w/ Service Body	21948
VEH56	2020	Ford	F350	Includes Utility Box Body and Snow Plow	3702

Budget Estimate: \$85,000 (2022 dollars)

Revision History

- Updated 12/5/2016 by BH. Updated description and budget estimate based on current state bid prices.
- Updated 10/24/2017 by RM. Updated description and vehicle mileages.
- Updated 11/30/2021 by RM. Updated prices from state contract and vehicle mileages

APPENDIX C

2022 REVENUE BOND AND LOANS SUMMARY

APPENDIX C

REVENUE BONDS AND LOANS SUMMARY

The District has obtained publicly funded loans to construct projects. The project title, loan remaining, funding source, agency and interest rates are noted as follows:

Project Title	Balance Remaining 1/1/2022	Funding Source	Agency	End Date	Rate
Geneva AC Mains	\$ 1,679,125	Rates	Drinking Water State Revolving Fund	2035	1.5%
Division 22 Reservoir	\$ 1,047,595	Rates	Drinking Water State Revolving Fund	2037	1.5%
2016 Revenue Bonds Outstanding	\$ 5,170,000	Rates		2035	2.25%
Total Debt Outstanding - 1/1/2021	\$ 7,896,720				