

# 2023-24 BIENNIAL BUDGET

---

LAKE WHATCOM WATER & SEWER DISTRICT



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

*THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.*

# 2023-24 BIENNIAL BUDGET

---



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

APPROVED December 14, 2022

A handwritten signature in cursive script, reading "Laura Abele".

---

Laura Abele, President, Board of Commissioners

A handwritten signature in cursive script, reading "Justin Clary".

---

Justin Clary, General Manager

# CONTENTS

---

1	GENERAL MANAGER'S MESSAGE	1
2	SUMMARY OF FUNDS	3
2.1	WATER UTILITY FUND (FUND 401)	3
2.2	SEWER UTILITY FUND (FUND 402)	3
2.3	BOND RESERVE FUND (FUND 460)	4
3	2022 REVENUE PROJECTIONS	5
4	2022 EXPENDITURES	7
4.1	WATER UTILITY FUND (FUND 401)	7
4.2	SEWER UTILITY FUND (FUND 402)	10
4.3	BOND RESERVE FUND (FUND 460)	12

APPENDIX A  
2023-24 BUDGET

APPENDIX B  
2023-24 SYSTEM REINVESTMENT PLAN

APPENDIX C  
2023-24 REVENUE BOND AND LOANS SUMMARY

# 1 GENERAL MANAGER'S MESSAGE

---

Recognizing the relatively predictable nature of utility revenues and workload efficiencies that may be gained, this 2023-24 Budget represents the Lake Whatcom Water and Sewer District's first biennial budget as it transitions from an annual budgeting process. The 2023-24 Budget comprises the fiscal plans for the District for the 2023 and 2024 calendar years (please refer to Appendix A for a comprehensive presentation of the 2023-24 Budget), which 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 2023 with stable revenue projections while continuing to preserve its fully funded operations and contingency reserves, as well as maintain funds for future capital costs in each utility earmarked for specific anticipated large projects in the coming years. As a special purpose district authorized under state statute, the District's primary functions are the operation of water and sewer utilities, which create forecastable revenues that are primarily funded by rates associated with water sales and sewer services. To provide rate certainty to its customers, the District adopts a multi-year rate structure every five years that smooths necessary increases over that period. With 2023-24 constituting the second and third years of the current rate structure, revenue projections presented in this biennial budget are anticipated to be relatively accurate. It should also be noted that the 2023-24 Budget maintains the prior-adopted rate increases, despite the recent rate of inflation far exceeding the adopted increases. In addition, though 22 new home permits were issued in 2022, development-related revenue projections have been budgeted conservatively at ten new connections in each budget year to limit reliance on these onetime revenues.

The biennial budget includes approximately \$20.9 million in expenditures, which is comprised of allocations of approximately \$9.5 million and \$11.4 million for the water utility and sewer utility, respectively, while maintaining a restricted bond reserve of \$772,000. The water utility budget includes \$5.4 million dedicated to operations, a capital reinvestment budget of approximately \$3.7 million, and a debt service budget of approximately \$444,000. Also supporting conservative fiscal management of the water utility are a contingency reserve of \$460,000, an operating reserve of \$664,000, and \$136,000 for future improvements to the Sudden Valley Water Treatment Plant. The sewer utility budget includes \$6.4 million dedicated to operations, a capital reinvestment budget of approximately \$3.7 million, and a debt service budget of approximately \$1.3 million, as well as a contingency reserve of \$815,000, an operating reserve of \$521,000, and \$277,000 for the District's share of improvements to the solids handling system at City of Bellingham's Post Point Wastewater Treatment Plant (anticipated in 2026).

The 2023-24 Budget reflects a 13.7% increase over the 2022 Budget when averaged over each of the two years. Much of the increase may be attributed to capital reinvestment program carryover for projects that were not completed in 2022 (e.g., Euclid Sewer Lift Station Improvement project, which was delayed due to supply chain issues), as well as significant capital projects planned for the biennium (e.g., Lakewood and Rocky Ridge Sewer Lift Stations Improvements and the Division 7 Water Reservoir Replacement project). Also of note, most expenses associated with the Division 7 Reservoir project will be offset with FEMA grant revenues (estimated at \$2 million in grant funding). Also contributing to the year-over-year increase are operational increases (many of which have been conservatively budgeted at inflationary rates above historical trends and recent projections), as well as District personnel-related expenses (annual cost-of-living adjustments to salaries and health insurance increases). Another notable increase is for City of Bellingham utility services (water purchased for the Eagleridge water system and treatment of all District-collected wastewater).

This budget has been carefully crafted to emphasize the Board's service priorities while deploying resources in a manner that ensures maintenance of a positive cash balance throughout the biennium. As a result, the 2023-24 Budget funds reserves at levels defined by District financial policies, while preserving adequate operating capital and investing in critical infrastructure improvements that will prolong the life of our assets and protect the environment. The 2023-24 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 District's success in securing external grant funding. The fact that the 2023-24 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 2023-24 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 a biennial budget. The biennial budget defines the operational and capital improvement programs for that each year of the budget, 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, general facility charges, 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 expenditures (system reinvestment) of the water utility in accordance with the Board-approved biennial budget.

Managed within the water utility fund are an 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.
- 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, general facility charges, 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 expenditures (system reinvestment) of the sewer utility in accordance with the Board-approved biennial budget.

Managed within the sewer utility fund are an 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.
- 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)

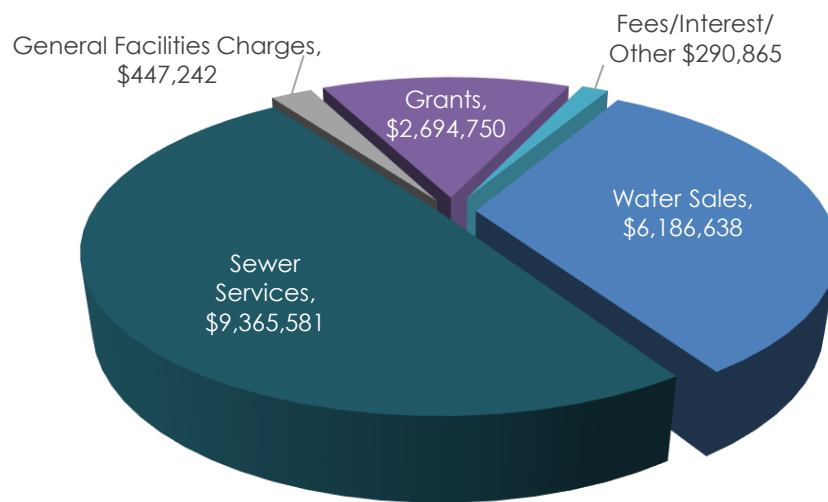
The Bond Reserve Fund was established by the covenants of the 2016 bond sale and is restricted by definition. A reserve limitation is required to be held in this fund until the outstanding 2016 bond payment obligations are paid in full, which is currently scheduled for 2035.



### 3 2023-24 REVENUE PROJECTIONS

District functions are funded primarily through revenues received through water sales and sewer service fees, with a relatively small remainder of revenues coming from other fees and charges, which include the general facility charges, and other miscellaneous revenues. One item of note, as mentioned in the General Manager's Message, is that the District anticipates a significant increase in grant revenue relative to recent budgets (primarily from FEMA Hazard Mitigation Grants). These grant revenues account for approximately \$2.7 million dollars with the majority of that recognized in the water utility fund supporting the Division 7 Reservoir project (see Appendix B, System Reinvestment Plan, for more detail).

As outlined in its 2021 rate study, the District adopted incremental annual 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, 2023-24 budget revenues



**2023-24 Projected Revenues**

are based on water and sewer rate increases of 4.5% and 3.75% percent, respectively, over 2022 for each subsequent year. This results in rate revenue projections of approximately \$6.2 million in the water utility fund and \$9.4 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. In 2022, the District performed an in depth analysis of its general facility charges, with new charges adopted by the Board effective January 1, 2023. In 2022, new home connections totaled 22, which was 35 percent lower than 2021 connections. Although current indications are that 2023 and 2024 will witness similar levels of new development, development-related revenues have been based upon a more conservative number of ten new homes. This results in

revenue projections for the biennium of approximately \$206,000 and \$242,000 to the water utility and sewer utility, respectively.

The majority of the other revenues, totaling approximately \$291,000, reflects projected interest earned from the various investments the District has as well as late fees. The remaining revenues are comprised of other miscellaneous fees, as well as sewer utility revenues associated with ULID No. 18 which will end in 2023.

Therefore, based upon adopted rate increases and conservative projections of other revenues, the 2023-24 Biennial Budget reflects total revenue of approximately \$19 million (\$9,161,770 water utility and \$9,823,306 sewer utility).

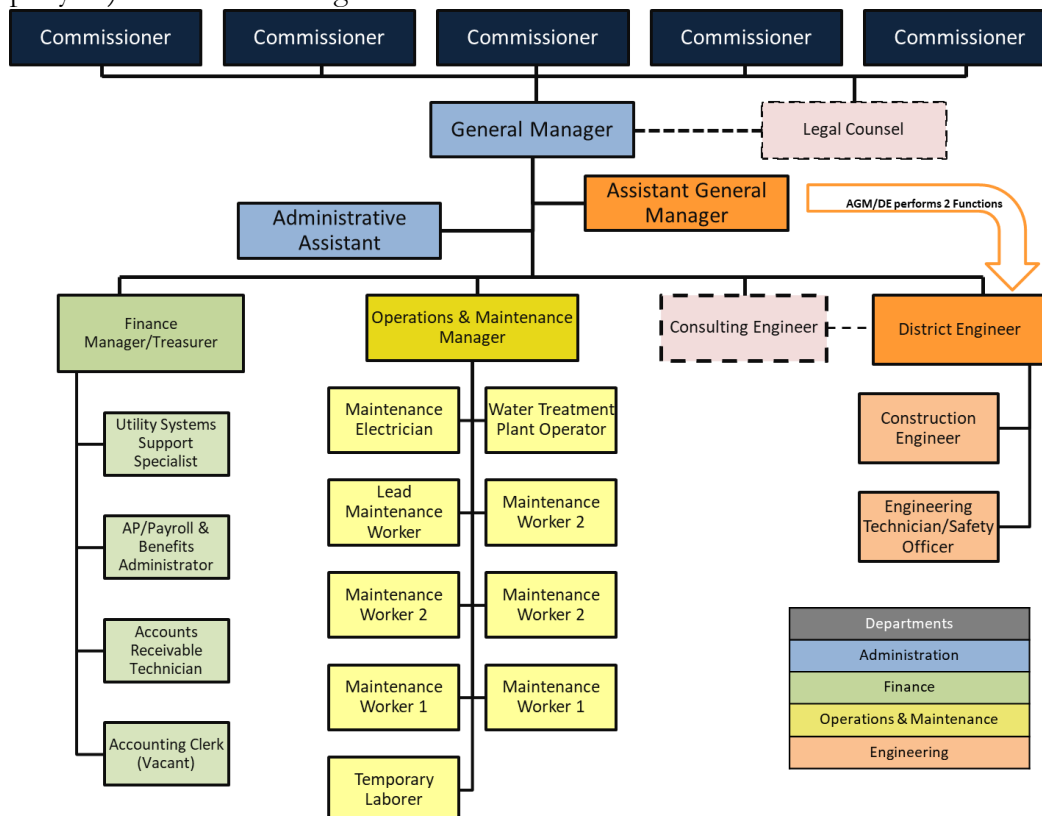
# 4 2023-24 EXPENDITURES

## 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 the 2023-24 Budget, the District has budgeted for 18 full-time equivalent (FTE) positions and one seasonal employee. One FTE within the Finance Department will remain vacant (Accounting Clerk) as result of staffing succession and workload. As a result of this staffing change, the District's 2023 administrative payroll budget was reduced by approximately four percent compared to 2022. Beyond the slight staffing revisions, personnel-related cost increases from the 2023-24 Budget are primarily associated with union contract-required cost-of-living adjustments to salaries (three percent per year) and increases to healthcare and related benefits (approximately five percent per year). The 2023-24 Organization Chart is as follows:



**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 2023-24 are projected at \$400,500. It should be noted that in the 2023-24 Biennial Budget, the District created a new line item to account for the costs associated with Software and IT expenditures that had previously been accounted for in the professional services budget. The combined costs for Software/IT in the 2023-24 budget is approximately \$165,000.

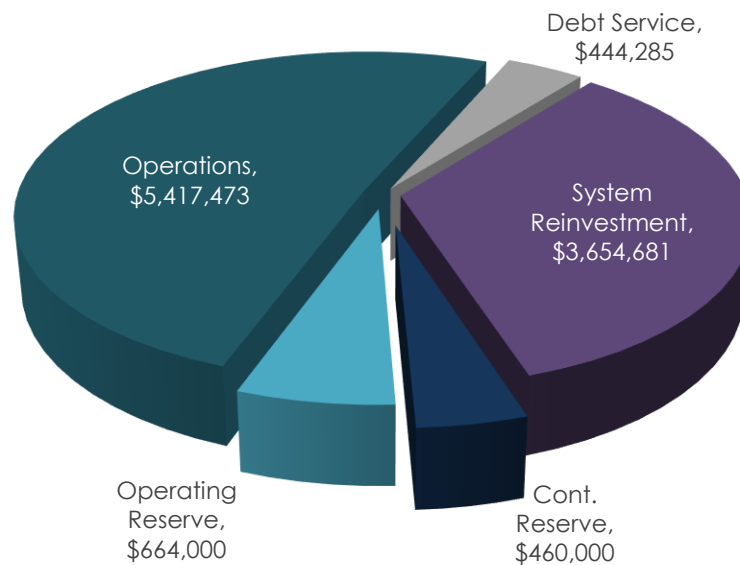
**City of Bellingham Fees.** The District does not have a drinking water source that is connected to the Eagleridge residential neighborhood located on the Lake Whatcom north shore. Therefore, the District purchases water from the City of Bellingham to serve Eagleridge. The total projected cost for water fees from the City of Bellingham for 2023-24 is budgeted at \$120,120, 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 2023 and 2024, the District will continue its partnership with Whatcom County and the City of Bellingham for water quality monitoring and invasive species inspection programs (\$162,310).

**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 \$550,960.

**Fund Carryover.** Due to competing workload obligations, approximately \$385,000 in 2022 water utility operating monies was not expended under system reinvestment because the associated capital projects were not completed. As a result, these funds will be carried over to 2023-24 when the associated projects will be completed.

**2023-24 Water Utility Allocations**



## 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 (\$664,000).

## 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 a contingency fund, no expenditures are budgeted for 2023-24.

## 4.1.4 System Reinvestment

The *2023-24 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 <sup>1</sup>
Capital Outlay Projects—General		
Water/Sewer	SCADA Telemetry-Managed Ethernet Switches (water portion; 2022 carryover)	\$1,850
Water/Sewer	Centimeter Grade GPS (water portion; 2022 carryover)	\$2,900
Water/Sewer	Division 30 Booster, PLC, & UPS (water portion; 2022 carryover)	\$90,000
Water/Sewer	Miscellaneous General Outlay (water portion; 2022 carryover)	\$35,000
Water/Sewer	Replace Tool Truck (Carryover water portion; 2022 carryover)	\$37,500
Water/Sewer	Replace Tool Truck (2024)	\$49,000
Subtotal		\$216,250
Capital Outlay Projects—Water Utility		
Water	Reservoir – Inspection & Maintenance (2024)	\$41,000
Water	Miscellaneous Water Outlay (2023 & 2024)	\$44,000
Subtotal		\$85,000
Capital Improvement Projects—Water Utility		
Water	Little Strawberry Bridge Water Main Slip Line (2022 carryover)	\$20,000
Water	Geneva Reservoir Valve; Scenic Intertie Repair; Austin-Fremont PRV (2022 carryover)	\$21,100
Water	Division 7 Reservoir Replacement Phase 1 (2022 carryover)	\$68,000
Water	Reservoir & Site Security (2022 carryover)	\$50,000
Water	South Geneva Booster (2022 carryover)	\$21,800
Water	Pinto Creek PRV Replacement (2022 carryover)	\$18,000
Water	Lead Service Line Inventory Planning (2022 carryover & additional funding)	\$11,500
Water	Division 30 Reservoir – Tree Removal (2022 carryover)	\$14,100
Water	Alum System Improvements (2023)	\$88,000
Water	Division 7 Reservoir Replacement Phase 2 (2023)	\$2,889,000
Water	Eagleridge High Flow/Low Flow Pumps (2024)	\$116,000
Water	Division 30 Reservoir – Impressed Current Cathodic Protection (2024)	\$36,000
Subtotal		\$3,352,500
TOTAL		\$3,653,750

<sup>1</sup> 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 2023-24 expenditures to make principal and interest payments on District low interest loans will be associated with:

- Geneva AC Pipe Mains Replacement Project (\$284,853)
- Division 22 Water Reservoir Construction Project (\$159,432)

Please refer to Appendix C for the 2023-24 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

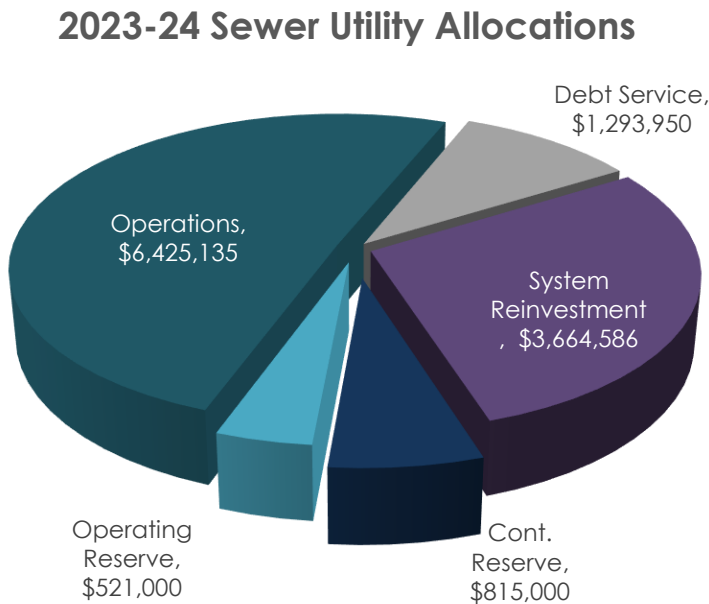
**Personnel.** As sewer utility-related expenses associated with personnel are largely consistent with those of the water utility, please refer to the personnel discussion in Section 4.1.1.

**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 2023-24 is budgeted at \$1,840,100, which is slightly above prior years' costs to account for city rate increases and additional flow added from new construction being brought onto the system.

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

**Fund Carryover.** Due to competing workload obligations, \$1,526,586 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 2023 when the associated projects will be completed.



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 (\$521,000).

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 2023-24.

4.2.4 System Reinvestment

The *2023-24 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 <sup>1</sup>
Capital Outlay Projects—General		
Water/Sewer	SCADA Telemetry-Managed Ethernet Switches (sewer portion; 2022 carryover)	\$1,850
Water/Sewer	Centimeter Grade GPS (sewer portion; 2022 carryover)	\$2,900
Water/Sewer	Division 30 Booster, PLC, & UPS (sewer portion; 2022 carryover)	\$90,000
Water/Sewer	Miscellaneous General Outlay (sewer portion; 2022 carryover)	\$35,000
Water/Sewer	Replace Tool Truck (Carryover sewer portion; 2022 carryover)	\$37,500
Water/Sewer	Replace Tool Truck (2024)	\$49,000
Sewer	Replace Sewer Camera Equipment (2024 additional funding)	\$150,000
Sewer	Miscellaneous General Capital Outlay (sewer only; 2022 carryover)	\$23,000
Subtotal		\$389,250
Capital Improvement Projects—Sewer Utility		
Sewer	Dellesta, Edgewater, & Euclid Sewer Pump Stations (2022 carryover)	\$684,500
Sewer	Rocky Ridge & Lakewood Predesign and Shoreline Permitting (2022 carryover)	\$319,000
Sewer	Flat Car Reverse Flow to SVPS – Design & Permitting (2022 carryover)	\$128,000
Sewer	November 2021 Flood Event – Permanent Protection (2022 carryover)	\$55,000
Sewer	LWBI CIPP Renewal Project – Phase 1 (2023)	\$185,000
Sewer	Sewer Rehab & Replacement Projects (2023)	\$113,000
Sewer	Rocky Ridge Pump Station (2024)	\$880,000
Sewer	Lakewood Pump Station (2024)	\$792,000
Sewer	System Rehab & Replacement Projects (2024)	\$119,000
Subtotal		\$3,275,500
TOTAL		\$3,664,750

<sup>1</sup> 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 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 2023-24 sewer utility debt service will be approximately \$1,294,000. Please refer to Appendix C for the 2023-24 Revenue Bond and Loans Summary.

## 4.3 Bond Reserve Fund (Fund 460)

No expenditures are anticipated in 2023-24 from this fund. A fund balance of approximately \$772,000 will be carried over from 2022.



# APPENDIX A

2023-24 BUDGET



## LAKE WHATCOM WATER AND SEWER FUND SUMMARIES 2023-2024

	401	402		460
	WATER	SEWER	TOTAL	BOND RESERVE (RESTRICTED)
2023 Projected Beginning Fund Balance	\$1,306,219	\$2,889,150	\$4,195,369	\$772,334
2023 - 2024 Revenues	\$9,161,770	\$9,823,306	\$18,985,076	
2023 - 2024 Expenditures	\$ (9,516,439)	\$ (11,383,671)	\$ (20,900,110)	
Net Surplus/(Deficit)	\$ (354,669)	\$ (1,560,365)	\$ (1,915,034)	\$772,334
2024 Projected Ending Fund Balance	\$951,550	\$1,328,785	\$2,280,335	\$772,334
2023 - 2024 Allocated to Operating Reserve	\$664,000	\$521,000	\$1,185,000	
2023 - 2024 Allocated to Contingency Reserve Fund	\$0	\$0	\$0	
2023 - 2024 Rate Study Capital Surplus*	\$136,000	\$277,000	\$413,000	
2023 - 2024 Projected Year End Fund Balance	\$ 151,550	\$530,785	\$682,335	
	426	425		
	Water	Sewer	Total	
2023 Contingency Reserve Funds	\$460,000	\$815,000	\$1,275,000	
2024 Contingency Reserve Funds	\$460,000	\$815,000	\$1,275,000	

\*Aggregate Rate Study Surplus 2022 through 2024

Lake Whatcom Water and Sewer District  
2023 - 2024 Biennial Budget  
Water Utility Fund (401)

Fund	Dept.	Account	Title	2021 Actual	2022 Budget	2022 Projected 10.27.2022	2023 Proposed	2024 Proposed	2023-2024 Combined Proposed
Intergovernmental Revenue									
401	330	331 40 10 00	Federal Grants (FEMA) - (Committed)	\$ -	\$ 239,000	\$ 239,000	\$ 1,996,000	\$ -	\$ 1,996,000
401	330	331 40 10 00	Federal Grants (FEMA) - (Uncommitted)				\$ 568,750	\$ -	\$ 568,750
Charges For Services									
401	340	343 40 10 00	Water Sales Metered	\$ 2,832,355	\$ 2,894,977	\$ 2,837,078	\$ 3,025,251	\$ 3,161,387	\$ 6,186,638
401	340	343 40 20 01	DEA Permits - Water	\$ (7,961)	\$ -	\$ 300	\$ -	\$ -	\$ -
401	340	343 41 10 01	General Facilities Charges - Water	\$ 320,536	\$ 84,030	\$ 191,224	\$ 101,520	\$ 104,058	\$ 205,578
Fines & Penalties									
401	350	359 81 10 00	Combined Fees	\$ 10,802	\$ 28,000	\$ 6,356	\$ 8,500	\$ 8,500	\$ 17,000
401	350	359 90 00 00	Late Fees	\$ 7,141	\$ 58,000	\$ 61,278	\$ 60,000	\$ 60,000	\$ 120,000
Miscellaneous Revenues									
401	360	361 11 00 00	Investment Interest	\$ 48,944	\$ 20,000	\$ 29,875	\$ 31,713	\$ 34,091	\$ 65,804
401	360	369 10 00 00	Sale Of Surplus	\$ 4,176	\$ 1,000	\$ -	\$ -	\$ -	\$ -
401	360	369 10 01 00	Miscellaneous	\$ 726	\$ 1,000	\$ 10,405	\$ 1,000	\$ 1,000	\$ 2,000
401	360	369 40 00 00	Project Reimbursement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
401	360	369 80 00 00	Over/Under	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Financing Sources									
401	390	395 10 00 00	Sale Of Capital Assets	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
401	390	395 20 00 00	Deposits	\$ (1,500)	\$ -	\$ 1,500	\$ -	\$ -	\$ -
401	390	395 20 00 01	Compensation For Loss/Impairment (Formerly Ins. Recovery)	\$ -	\$ -	\$ 13,130	\$ -	\$ -	\$ -
401	390	398 20 00 01	Insurance Recoveries	\$ 137,564	\$ -	\$ -	\$ -	\$ -	\$ -
Total Water Fund Revenues				\$ 3,352,783	\$ 3,326,007	\$ 3,390,146	\$ 5,792,734	\$ 3,369,036	\$ 9,161,770
Water Fund Expenditures									
401	534	534 10 10 00	Water - Gen Admin Payroll	\$ 369,312	\$ 371,770	\$ 343,802	\$ 358,585	\$ 371,432	\$ 730,017
401	534	534 10 20 00	Water - Gen Admin Personnel Benefits	\$ 150,029	\$ 161,024	\$ 142,031	\$ 183,579	\$ 184,645	\$ 368,224
401	534	534 10 31 00	Water - Gen Admin Supplies	\$ 23,446	\$ 25,000	\$ 10,126	\$ 12,000	\$ 12,500	\$ 24,500
401	534	534 10 31 01	Water - Meetings/Team building	\$ 1,638	\$ 2,000	\$ 1,451	\$ 2,000	\$ 2,000	\$ 4,000
401	534	534 10 40 00	Water - Merchant Services Fees	\$ 14,146	\$ 11,500	\$ 12,680	\$ 13,800	\$ 14,200	\$ 28,000
401	534	534 10 40 01	Water - Bank Fees	\$ 872	\$ 800	\$ 1,433	\$ 1,400	\$ 1,400	\$ 2,800
401	534	534 10 41 00	Water - Quality Assurance Programs	\$ 76,158	\$ 81,300	\$ 81,300	\$ 74,500	\$ 87,810	\$ 162,310
401	534	534 10 41 01	Water - Gen Admin Prof Svc	\$ 165,771	\$ 167,000	\$ 150,953	\$ 92,325	\$ 107,925	\$ 200,250
401	534	534 10 41 02	Water - Engineering Svc	\$ 10,931	\$ 20,000	\$ 8,462	\$ 14,000	\$ 14,000	\$ 28,000
401	534	534 10 41 03	Water - Legal Svc	\$ 28,459	\$ 22,000	\$ 32,614	\$ 31,000	\$ 31,000	\$ 62,000
401	534	534 10 41 04	Water - DEA Expenditures	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
401	534	534 10 41 20	Water - 20 Year SVWTP Plan	\$ 41,687	\$ -	\$ -	\$ -	\$ -	\$ -
401	534	534 10 42 00	Water - Admin Communication	\$ 29,745	\$ 31,000	\$ 33,727	\$ 33,000	\$ 33,000	\$ 66,000
401	534	534 10 43 00	Water - Software/IT Subscriptions	\$ -	\$ -	\$ -	\$ 41,150	\$ 41,405	\$ 82,555
401	534	534 10 45 00	Water - Gen Admin Lease	\$ 5,919	\$ 5,500	\$ 5,118	\$ 5,500	\$ 5,500	\$ 11,000
401	534	534 10 46 00	Water - Gen Admin Insurance	\$ 103,477	\$ 103,500	\$ 112,226	\$ 108,700	\$ 114,000	\$ 222,700
401	534	534 10 49 00	Water - Gen Admin Misc.	\$ 25	\$ 200	\$ 38	\$ 200	\$ 200	\$ 400
401	534	534 10 49 01	Water - Memberships/Dues/Permits	\$ 17,130	\$ 17,250	\$ 21,011	\$ 20,000	\$ 20,500	\$ 40,500
401	534	534 10 49 02	Water - Taxes	\$ 149,710	\$ 147,500	\$ 151,183	\$ 157,986	\$ 165,095	\$ 323,081
401	534	534 40 43 00	Water - Admin Training & Travel	\$ 3,195	\$ 10,000	\$ 7,870	\$ 13,000	\$ 13,000	\$ 26,000
401	534	534 40 43 01	Water - Tuition Reimbursement	\$ -	\$ 500	\$ -	\$ 500	\$ 500	\$ 1,000
401	534	534 50 31 00	Water - Maintenance Supplies	\$ 88,477	\$ 135,000	\$ 69,358	\$ 115,000	\$ 120,500	\$ 235,500
401	534	534 50 31 01	Water - Small Assets	\$ 60,669	\$ 40,000	\$ 39,182	\$ 45,000	\$ 47,250	\$ 92,250
401	534	534 50 48 00	Water - Repair & Maint	\$ 227,813	\$ 60,000	\$ 99,667	\$ 115,000	\$ 120,750	\$ 235,750
401	534	534 50 49 00	Water - Insurance Claims	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ 2,500	\$ 5,000
401	534	534 60 41 00	Water - Operations Contracted (Edge Analytical)	\$ 7,932	\$ 15,500	\$ 10,113	\$ 12,000	\$ 12,000	\$ 24,000
401	534	534 60 47 00	Water - City of Bellingham	\$ 47,368	\$ 52,000	\$ 51,931	\$ 57,200	\$ 62,920	\$ 120,120
401	534	534 80 10 00	Water - Operations Payroll	\$ 612,497	\$ 629,236	\$ 650,177	\$ 669,866	\$ 692,736	\$ 1,362,602
401	534	534 80 20 00	Water - Operations Personnel Benefits	\$ 250,872	\$ 288,653	\$ 262,452	\$ 287,136	\$ 288,803	\$ 575,939
401	534	534 80 32 00	Water - Operations Fuel	\$ 12,524	\$ 12,500	\$ 23,837	\$ 25,200	\$ 26,000	\$ 51,200
401	534	534 80 35 00	Water - Safety Supplies	\$ 3,207	\$ 10,000	\$ 10,734	\$ 10,000	\$ 10,000	\$ 20,000
401	534	534 80 35 01	Water - Safety Boots	\$ 793	\$ 1,400	\$ 1,089	\$ 1,400	\$ 1,400	\$ 2,800
401	534	534 80 35 02	Water - Emergency Preparedness	\$ -	\$ 5,000	\$ -	\$ 3,000	\$ 3,000	\$ 6,000
401	534	534 80 43 00	Water - Operation Training/Travel/Certifications	\$ 7,270	\$ 10,000	\$ 3,914	\$ 13,000	\$ 13,000	\$ 26,000
401	534	534 80 47 00	Water - Ops Utilities	\$ 120,036	\$ 121,200	\$ 129,604	\$ 134,140	\$ 138,835	\$ 272,975
401	534	534 80 49 00	Water - Operations Laundry	\$ 1,318	\$ 2,000	\$ 1,245	\$ 2,000	\$ 2,000	\$ 4,000
Total Water Fund Expenditures				\$ 2,632,426	\$ 2,562,833	\$ 2,469,328	\$ 2,655,667	\$ 2,761,806	\$ 5,417,473
Debt Service									
401	591	591 34 77 01	Geneva AC Mains Principal	\$ 119,938	\$ 119,938	\$ 119,938	\$ 119,938	\$ 119,938	\$ 239,876
401	591	591 34 77 02	Div. 22 Reservoir Principal	\$ 65,475	\$ 65,475	\$ 65,475	\$ 65,475	\$ 65,475	\$ 130,950
401	591	592 34 83 01	Geneva AC Mains Interest	\$ 26,986	\$ 25,187	\$ 25,187	\$ 23,388	\$ 21,589	\$ 44,977
401	591	592 34 83 02	Div. 22 Reservoir Interest	\$ 16,696	\$ 15,714	\$ 15,714	\$ 14,732	\$ 13,750	\$ 28,482
Total Water Fund Debt Service				\$ 229,095	\$ 226,314	\$ 226,314	\$ 223,533	\$ 220,752	\$ 444,285

Lake Whatcom Water and Sewer District  
2023 - 2024 Biennial Budget  
Water Utility Fund (401)

Fund	Dept.	Account	Title	2021 Actual	2022 Budget	2022 Projected 10.27.2022	2023 Proposed	2024 Proposed	2023-2024 Combined Proposed
<i>System Reinvestments</i>									
Capital Expenditures									
401	594	594 34 60 01	Capital Outlay - Budget Only		\$ 528,250		\$ 2,983,000	\$ 280,000	\$ 3,263,000
401	594	594 34 62 01	Capital Projects - Water Structures	\$ 286,909		\$ 324,165			\$ -
401	594	594 34 63 01	Capital Projects - Water System	\$ 171,349		\$ 71,133			\$ -
401	594	594 34 64 01	Capital Outlay - Water Equipment	\$ 40,398		\$ 27,759			\$ -
401	594	594 34 65 01	Capital Outlay - Small Water Projects	\$ -					\$ -
			Capital Outlay Carryover Projects/Additional Funding	\$ -	\$ 273,000		\$ 385,181	\$ 6,500	\$ 391,681
<b>Total Water Fund Capital Expenditures</b>				<b>\$ 498,656</b>	<b>\$ 801,250</b>	<b>\$ 423,057</b>	<b>\$ 3,368,181</b>	<b>\$ 286,500</b>	<b>\$ 3,654,681</b>
Other Financing Sources									
401	597	597 10 00 20	Transfers Out To Fund 420	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
401	597	597 10 00 25	Transfers Out To Fund 425	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
401	597	597 10 00 26	Transfers Out To Fund 426	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
401	597	597 10 00 40	Transfers Out To Fund 440	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
401	597	597 10 00 50	Transfers Out To Fund 450	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
401	597	597 10 00 70	Transfers Out To Fund 450	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Water Fund Other Financing Sources</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Water Fund Expenditures</b>				<b>\$ 3,360,177</b>	<b>\$ 3,590,397</b>	<b>\$ 3,118,699</b>	<b>\$ 6,247,381</b>	<b>\$ 3,269,058</b>	<b>\$ 9,516,439</b>
<b>Fund Gain/Loss</b>				<b>\$ (7,394)</b>	<b>\$ (264,390)</b>	<b>\$ 271,447</b>	<b>\$ (454,647)</b>	<b>\$ 99,978</b>	<b>\$ (354,669)</b>

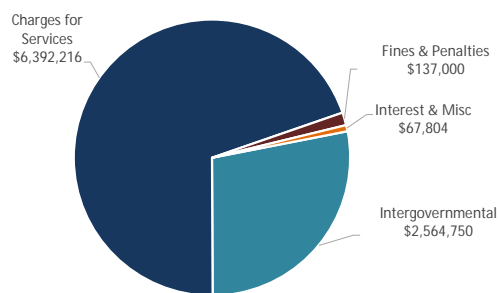
**Fund Balance Summary**

2022 Beginning Fund Balance	\$ 1,034,772
2022 Projected Gain/Loss	\$ 271,447
2022 Projected Ending Fund Balance	\$ 1,306,219
2023 Projected Gain/Loss	\$ (454,647)
2023 Projected Ending Fund Balance	\$ 851,572
2024 Projected Gain/Loss	\$ 99,978
2024 Projected Ending Fund Balance	\$ 951,550

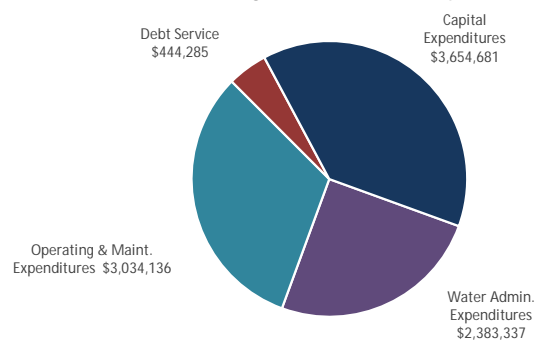
**Water Contingency Reserve Fund Balance Summary**

2022 Beginning Fund Balance	\$ 460,000
2022 Projected Gain/Loss	\$ -
2022 Projected Ending Fund Balance	\$ 460,000
2023 Projected Gain/Loss	\$ -
2023 Projected Ending Fund Balance	\$ 460,000
2024 Projected Gain/Loss	\$ -
2024 Projected Ending Fund Balance	\$ 460,000

2023-2024 Budgeted Water Fund Revenues



2023-2024 Budgeted Water Fund Expenditures



**Lake Whatcom Water and Sewer District**  
**2023-2024 Biennial Budget**  
**Sewer Utility Fund (402)**

Fund	Dept.	Account	Title	2021 Actual	2022 Budget	2022 Projected 10.27.22	2023 Proposed	2024 Proposed	2023-2024 Combined Proposed
<b>Intergovernmental Revenue</b>									
401	330	331 97 10 02	Federal Grants (FEMA)	\$ -	\$ 182,400	\$ 182,400	\$ 130,000	\$ -	\$ 130,000
<b>Charges For Services</b>									
402	340	343 50 11 00	Sewer Service Residential	\$ 4,314,666	\$ 4,425,315	\$ 4,509,339	\$ 4,591,264	\$ 4,763,437	\$ 9,354,701
402	340	343 50 19 00	Sewer Service Other	\$ 4,961	\$ 4,500	\$ 5,723	\$ 5,340	\$ 5,540	\$ 10,880
402	340	343 50 80 00	Latecomers Fee ULID #18	\$ 250	\$ -	\$ 16,198	\$ -	\$ -	\$ -
402	340	343 51 10 02	General Facilities Charges - Sewer	\$ 343,302	\$ 88,600	\$ 204,626	\$ 119,340	\$ 122,324	\$ 241,664
<b>Miscellaneous Revenues</b>									
402	360	361 11 00 02	Investment Interest	\$ 48,944	\$ 20,000	\$ 29,875	\$ 31,713	\$ 34,091	\$ 65,804
402	360	361 40 00 02	ULID 18 Interest/Penalties	\$ 3,355	\$ 1,800	\$ 805	\$ 2,531	\$ -	\$ 2,531
402	360	368 10 00 02	ULID 18 Principal Payments	\$ 11,416	\$ 8,000	\$ 6,277	\$ 5,444	\$ -	\$ 5,444
402	360	369 10 00 02	Sale Of Surplus	\$ 1,010	\$ 1,000	\$ -	\$ 1,000	\$ 1,000	\$ 2,000
402	360	369 40 00 02	Project Reimbursement	\$ 4,641	\$ 4,141	\$ 4,141	\$ 4,141	\$ 4,141	\$ 8,282
402	360	369 91 01 02	Miscellaneous	\$ 1,665	\$ 1,000	\$ 10,405	\$ 1,000	\$ 1,000	\$ 2,000
<b>Other Financing Sources</b>									
402	390	395 10 00 02	Sale Of Capital Assets	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
402	395	395 20 00 02	Compensation for Loss/Impairment of Capital Asset	\$ -	\$ 13,130	\$ 13,130	\$ -	\$ -	\$ -
402	397	397 10 00 02	Transfers In	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Sewer Fund Revenues</b>				<b>\$ 4,734,210</b>	<b>\$ 4,567,486</b>	<b>\$ 4,982,919</b>	<b>\$ 4,891,773</b>	<b>\$ 4,931,533</b>	<b>\$ 9,823,306</b>
<b>Sewer Fund Expenditures</b>									
402	535	535 10 10 00	Sewer - Admin Payroll	\$ 366,872	\$ 371,770	\$ 343,802	\$ 358,585	\$ 371,434	\$ 730,019
402	535	535 10 20 00	Sewer - Gen Admin Personnel Benefits	\$ 150,051	\$ 161,024	\$ 142,028	\$ 162,646	\$ 163,622	\$ 326,268
402	535	535 10 31 00	Sewer - Gen Admin Supplies	\$ 13,344	\$ 16,800	\$ 9,828	\$ 11,000	\$ 11,500	\$ 22,500
402	535	535 10 31 01	Sewer - Meetings/Team Building	\$ 1,952	\$ 2,000	\$ 1,550	\$ 2,000	\$ 2,000	\$ 4,000
402	535	535 10 40 00	Sewer - Merchant Services Fees	\$ 12,764	\$ 11,500	\$ 12,680	\$ 13,800	\$ 14,200	\$ 28,000
402	535	535 10 40 01	Sewer - Bank Fees	\$ 872	\$ 750	\$ 1,433	\$ 1,400	\$ 1,400	\$ 2,800
402	535	535 10 41 01	Sewer - Gen Admin Prof Svc	\$ 123,840	\$ 187,500	\$ 123,167	\$ 92,325	\$ 107,925	\$ 200,250
402	535	535 10 41 02	Sewer - Engineering Svc	\$ 12,068	\$ 20,000	\$ 5,735	\$ 14,000	\$ 14,000	\$ 28,000
402	535	535 10 41 03	Sewer - Legal Svc	\$ 28,459	\$ 22,000	\$ 32,614	\$ 31,000	\$ 31,000	\$ 62,000
402	535	535 10 42 00	Sewer - Admin Communication	\$ 29,744	\$ 31,000	\$ 32,173	\$ 33,000	\$ 33,000	\$ 66,000
402	535	535 10 43 00	Sewer - Software/IT Subscriptions	\$ -	\$ -	\$ -	\$ 41,150	\$ 41,405	\$ 82,555
402	535	535 10 45 00	Sewer - Gen Admin Lease	\$ 5,918	\$ 5,500	\$ 5,118	\$ 5,500	\$ 5,500	\$ 11,000
402	535	535 10 46 00	Sewer - Gen Admin Insurance	\$ 103,478	\$ 103,500	\$ 112,226	\$ 108,700	\$ 114,000	\$ 222,700
402	535	535 10 49 00	Sewer - Gen Admin Misc.	\$ 11	\$ 200	\$ 50	\$ 200	\$ 200	\$ 400
402	535	535 10 49 01	Sewer - Memberships/Dues/Permits	\$ 9,420	\$ 10,000	\$ 14,651	\$ 14,700	\$ 15,300	\$ 30,000
402	535	535 10 49 02	Sewer - Taxes	\$ 100,819	\$ 122,000	\$ 108,136	\$ 115,000	\$ 115,000	\$ 230,000
402	535	535 40 43 00	Sewer - Gen Admin Training & Travel	\$ 2,848	\$ 10,000	\$ 7,448	\$ 13,000	\$ 13,000	\$ 26,000
402	535	535 40 43 01	Sewer - Tuition Reimbursement	\$ -	\$ 500	\$ -	\$ 500	\$ 500	\$ 1,000
402	535	535 50 31 00	Sewer - Maintenance Supplies	\$ 29,556	\$ 45,000	\$ 19,845	\$ 45,000	\$ 45,000	\$ 90,000
402	535	535 50 31 01	Sewer - Small Assets	\$ 40,840	\$ 30,000	\$ 62,018	\$ 40,000	\$ 42,000	\$ 82,000
402	535	535 50 48 00	Sewer - Repair & Maint	\$ 116,649	\$ 125,000	\$ 242,653	\$ 135,000	\$ 140,000	\$ 275,000
402	535	535 50 49 00	Sewer - Insurance Claims	\$ 5,540	\$ 2,500	\$ 5,000	\$ 2,500	\$ 2,500	\$ 5,000
402	535	535 60 41 00	Sewer - Operations Contracted	\$ 22,480	\$ -	\$ -	\$ -	\$ -	\$ -
402	535	535 60 47 00	Sewer - City of Bellingham	\$ 686,197	\$ 816,000	\$ 783,480	\$ 897,600	\$ 942,500	\$ 1,840,100
402	535	535 80 10 00	Sewer - Operations Payroll	\$ 491,336	\$ 530,481	\$ 568,194	\$ 568,194	\$ 588,048	\$ 1,156,242
402	535	535 80 20 00	Sewer - Operations Personnel Benefits	\$ 200,054	\$ 237,606	\$ 254,395	\$ 254,395	\$ 255,921	\$ 510,316
402	535	535 80 32 00	Sewer - Operations Fuel	\$ 15,116	\$ 14,200	\$ 32,490	\$ 25,200	\$ 26,000	\$ 51,200
402	535	535 80 35 00	Sewer - Safety Supplies	\$ 3,200	\$ 10,000	\$ 8,885	\$ 10,000	\$ 10,000	\$ 20,000
402	535	535 80 35 01	Sewer - Safety Boots	\$ 793	\$ 1,400	\$ 1,089	\$ 1,400	\$ 1,400	\$ 2,800
402	535	535 80 35 02	Sewer - Emergency Preparedness	\$ -	\$ 5,000	\$ -	\$ 5,000	\$ 5,000	\$ 10,000
402	535	535 80 43 00	Sewer - Operations Training/Travel/Certification	\$ 4,879	\$ 10,000	\$ 1,837	\$ 13,000	\$ 13,000	\$ 26,000
402	535	535 80 47 00	Sewer - Ops Utilities	\$ 110,361	\$ 110,000	\$ 118,840	\$ 136,602	\$ 141,383	\$ 277,985
402	535	535 80 49 00	Sewer - Operations Laundry	\$ 1,997	\$ 2,500	\$ 1,851	\$ 2,500	\$ 2,500	\$ 5,000
<b>Total Sewer Fund Expenditures</b>				<b>\$ 2,691,458</b>	<b>\$ 3,015,731</b>	<b>\$ 3,053,216</b>	<b>\$ 3,154,897</b>	<b>\$ 3,270,238</b>	<b>\$ 6,425,135</b>
<b>Debt Service</b>									
402	591	591 35 77 02	Bond 2016 Principal	\$ 435,000	\$ 445,000	\$ 445,000	\$ 470,000	\$ 480,000	\$ 950,000
402	591	591 35 83 02	Bond 2016 Interest	\$ 205,425	\$ 192,376	\$ 192,376	\$ 179,025	\$ 164,925	\$ 343,950
<b>Total Sewer Fund Debt Service</b>				<b>\$ 640,425</b>	<b>\$ 637,376</b>	<b>\$ 637,376</b>	<b>\$ 649,025</b>	<b>\$ 644,925</b>	<b>\$ 1,293,950</b>
<b>Capital Expenditures</b>									
402	594	594 35 60 02	Capital Outlay - Budget Only		\$ 805,880		\$ 298,000	\$ 1,840,000	\$ 2,138,000
402	594	594 35 62 02	Capital Projects - Sewer Structures	\$ 517,334		\$ 155,391			\$ -
402	594	594 35 63 02	Capital Projects - Sewer System	\$ 234,179		\$ 290,858			\$ -
402	594	594 35 64 02	Capital Outlay - Sewer Equipment	\$ 41,083		\$ 62,803			\$ -
402	594	594 35 65 02	Capital Outlay - Small Sewer Projects						\$ -
402	594	594 35 65 02	Capital Outlay - Carry Over Projects/Additional Funding		\$ 1,138,000		\$ 1,376,586	\$ 150,000	\$ 1,526,586
<b>Total Sewer Fund Capital Expenditures</b>				<b>\$ 792,596</b>	<b>\$ 1,943,880</b>	<b>\$ 509,052</b>	<b>\$ 1,674,586</b>	<b>\$ 1,990,000</b>	<b>\$ 3,664,586</b>

Lake Whatcom Water and Sewer District  
2023-2024 Biennial Budget  
Sewer Utility Fund (402)

Fund	Dept.	Account	Title	2021 Actual	2022 Budget	2022 Projected 10.27.22	2023 Proposed	2024 Proposed	2023-2024 Combined Proposed
Other Financing Sources									
402	597	597 10 00 25	Transfer Out To Sewer Contingency	\$ 18,912	\$ -				
Total Other Financing Sources				\$ 18,912	\$ -				
Total Sewer Fund Expenditures				\$ 4,143,391	\$ 5,596,987	\$ 4,199,644	\$ 5,478,508	\$ 5,905,163	\$ 11,383,671
Fund Gain/Loss				\$ 590,819	\$ (1,029,501)	\$ 783,275	\$ (586,735)	\$ (973,630)	\$ (1,560,365)

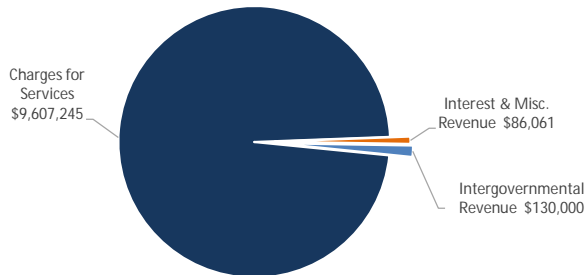
**Fund Balance Summary**

2022 Beginning Fund Balance	\$ 2,105,875
2022 Projected Gain/Loss	\$ 783,275
2022 Projected Ending Fund Balance	\$ 2,889,150
2023 Projected Gain/Loss	\$ (586,735)
2023 Projected Ending Fund Balance	\$ 2,302,415
2024 Projected Gain/Loss	\$ (973,630)
2024 Projected Ending Fund Balance	\$ 1,328,785

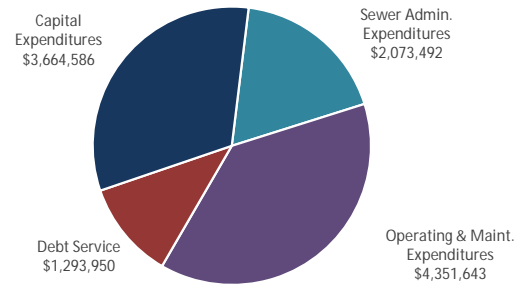
**Sewer Contingency Reserve Fund Balance Summary**

2022 Beginning Fund Balance	\$ 815,000
2022 Projected Gain/Loss	\$ -
2022 Projected Ending Fund Balance	\$ 815,000
2023 Projected Gain/Loss	\$ -
2023 Projected Ending Fund Balance	\$ 815,000
2024 Projected Gain/Loss	\$ -
2024 Projected Ending Fund Balance	\$ 815,000

2023-2024 Budgeted Sewer Fund Revenues



2023-2024 Budgeted Sewer Fund Expenditures



Lake Whatcom Water and Sewer District  
2023 - 2024 Biennial Budget  
Sewer Contingency Reserve Fund (425)

Fund	Dept.	Account	Title	2021 Actual	2022 Budget	2022 Projected 8.1.2022	2023 Proposed	2024 Proposed	2023-2024 Combined Proposed
Other Financing Sources									
425	397	397 10 00 25	Transfer In From Sewer Fund	\$ 18,912	\$ -	\$ -	\$ -	\$ -	\$ -
Total Fund Revenue				\$ 18,912	\$ -	\$ -	\$ -	\$ -	\$ -
Other Financing Sources									
425	597	597 10 20 00	Transfers Out To Fund 420	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Fund Expenditures				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fund Gain/Loss				\$ 18,912	\$ -	\$ -	\$ -	\$ -	\$ -

Sewer Contingency Reserve Fund Balance Summary

2022 Beginning Fund Balance	\$ 815,000
2022 Projected Gain/Loss	\$ -
2022 Projected Ending Fund Balance	\$ 815,000
2023 Projected Gain/Loss	\$ -
2023 Projected Ending Fund Balance	\$ 815,000
2024 Projected Gain/Loss	\$ -
2024 Projected Ending Fund Balance	\$ 815,000

Lake Whatcom Water and Sewer District  
2023 - 2023 Biennial Budget  
Water Contingency Reserve Fund (426)

Fund	Dept.	Account	Title	2021 Actual	2022 Budget	2022 Projected 8.1.2022	2023 Proposed	2024 Proposed	2023-2024 Combined Proposed
Other Financing Sources									
426	397	397 10 00 26	Transfers In From Fund 401	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Fund Revenue				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Fund Expenditures				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Water Contingency Reserve Fund Balance Summary

2022 Beginning Fund Balance	\$ 460,000
2022 Projected Gain/Loss	\$ -
2022 Projected Ending Fund Balance	\$ 460,000
2023 Projected Gain/Loss	\$ -
2023 Projected Ending Fund Balance	\$ 460,000
2024 Projected Gain/Loss	\$ -
2024 Projected Ending Fund Balance	\$ 460,000



Lake Whatcom Water and Sewer District  
2023 - 2024 Biennial Budget  
Bond Reserve Fund (460)

Fund	Program	Dept.	Sub Dept.	Account	Title	2021 Actual	2022 Budget	2022 Projected 8.1.2022	2023 Proposed	2024 Proposed	2023-2024 Combined Proposed
------	---------	-------	-----------	---------	-------	----------------	----------------	-------------------------------	------------------	------------------	-----------------------------------

Total Fund Revenue						\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
--------------------	--	--	--	--	--	------	------	------	------	------	------

Total Fund Expenditures						\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-------------------------	--	--	--	--	--	------	------	------	------	------	------

Bond Reserve Fund Balance Summary

2022 Beginning Fund Balance	\$ 772,334
2022 Projected Gain/Loss	\$ -
2022 Projected Ending Fund Balance	\$ 772,334
2023 Projected Gain/Loss	\$ -
2023 Projected Ending Fund Balance	\$ 772,334
2024 Projected Gain/Loss	\$ -
2024 Projected Ending Fund Balance	\$ 772,334

# APPENDIX B

2023-24 SYSTEM REINVESTMENT PLAN

# System Reinvestment Plan - Introduction

The System Reinvestment Plan (sometimes also referred to as a Capital Improvement Plan) is organized into two plans, one for water and the other for sewer. The plans show scheduled projects over a six-year period from 2023 through 2028, with more detailed information included for projects scheduled in the 2023/2024 budget cycle.

The plan includes the following worksheets and reports:

1. 2023/2024 Continuing Active Project Estimates
2. Sewer System Reinvestment Plan 2023 thru 2028 (CASH FUNDED)
3. Water System Reinvestment Plan 2023 thru 2028 (CASH FUNDED)
4. 2023/2024 Capital Outlay
5. Debt/Grant Funding Plan 2023 thru 2028
6. Project Narratives

Description and purpose of each worksheet and report is summarized below:

1. **2023/2024 Continuing Active Project Estimates.** This worksheet is a list of active projects, most of which are projects that were authorized in previous budget years. Staff, based on workload, emergencies, and priorities, are actively utilizing resources to move projects towards completion, or are planning to start work on these projects as soon as priorities and resources allow. The list contains additional projects added between budget cycles that were deemed necessary or emergency in nature. The purpose of this worksheet is to provide a projected budget to completion for each project considering all new and known information, as well as providing the accounting department amounts spent to date, estimated additional payments in 2022, and estimated expenses in 2023 and 2024.
2. **Sewer System Reinvestment Plan 2023 thru 2028.** This report schedules new projects, or in many cases new project phases. These projects are funded by cash from rate revenues, designated as system reinvestment. Annual system reinvestment budget amount targets have been established in the most recent rate study adopted in early 2022. The target amounts are shown on the second page under the report footer section labeled "Analytical Summary". The Analytical Summary section also includes assumed year-over-year cost escalations applied to cost estimates, along with average spending over various number of years, and a spending chart. The analytical data is used to develop a plan through multiple iterations to best fit district needs, priorities, and funding limitations. The plan is grouped into several categories:
  - **Capital Outlay – General.** Includes water and sewer related equipment and small/minor projects. Costs are split 50% / 50% between water and sewer utilities. The Capital Outlay worksheet following the system reinvestment plans itemizes any equipment and small/minor projects grouped (note for 2023/2024 there are no Capital Outlay – General items).
  - **Capital Outlay – Sewer.** Includes 100% sewer related equipment. Refer to the Capital Outlay worksheet following the system reinvestment plans which itemizes equipment and small/minor projects (not for 2023/2024 there are no Capital Outlay – Sewer items).
  - **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 2023 and 2024

and are keyed to the line items in the System Reinvestment Plan by the CIP Project # (i.e. 0032).

3. **Water System Reinvestment Plan 2023 thru 2028.** This report is identical in form and purpose as the sewer system reinvestment plan above, but in this case for the water utility. See the Sewer System Reinvestment Plan description above for details. The plan is grouped into several categories:
  - **Capital Outlay – General.** Includes water and sewer related equipment and small/minor projects. Costs are split 50% / 50% between water and sewer utilities. The Capital Outlay worksheet following the system reinvestment plans itemizes any equipment and small/minor projects grouped (note for 2023/2024 there are no Capital Outlay – General items).
  - **Capital Outlay – Water.** Includes 100% water related equipment and small/minor projects. Refer to the Capital Outlay worksheet following the system reinvestment plans which itemizes equipment and small/minor projects grouped together under the CIP Projects #0219a Misc 2023 Water Capital Outlay and #0219b Misc 2024 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 2023 and 2024 and are keyed to the line items in the System Reinvestment Plan by the CIP Project # (i.e. 1001).
4. **2023/2024 Capital Outlay.** This worksheet lists small and minor projects, equipment, components, or material purchases. The purpose is to provide a worksheet to list these items, which in some years are numerous, and group them into a single larger “project” that is included in the system reinvestment plan.
5. **Debt/Grant Funding Plan 2023 thru 2028.** This report schedules new debt and grant funding. New debt funding is per recommendations in the most recent rate study adopted by the District in early 2022. The plan is grouped into several categories:
  - **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. They are arbitrarily scheduled for 2028 so that they appear in the 6-year plan.
  - **Haz Mit Grant Funds.** Includes Hazard Mitigation Grant Funds for the Division 7 Reservoir Replacement Project.
  - **New Sewer Debt – Bond, PWTF, Etc.** This is a placeholder for the District’s share of the upcoming City of Bellingham Post Point Wastewater Treatment Plant biosolids handling improvements.
  - **New Water Debt – Bond, PWTF, Etc.** Includes Sudden Valley Water Treatment Plant projects in the 20-year Facilities Plan that were identified by the Board of Commissioners to be funded by debt as part of the adopted 2022 rate study.
6. **Project Narratives.** These are specific project narratives that describe the proposed project, asset needs, cost estimates, and assumptions. The narratives are keyed to the system reinvestment plan projects by the CIP# (the Capital Improvement Plan Project #). Narratives are included for projects in the 2023 and 2024 budget cycle.

# 2023/2024 Continuing Active Project Estimates

Report Last Revised 11/01/2022		Projected Budget	Spent to Date	Additional Payments	Estimated 2023	Estimated 2024
Project Number	Project Title / Tasks	To Completion	as of 10/19/2022	in 2022	Expenses	Expenses
C 1802	Dellesta, Edgewater & Euclid Sewer Pump Stations	1,816,583	1,130,839	1,236	684,508	0
C 2112	Rocky Ridge & Lakewood Predesign and Shoreline Permitting	439,000	108,294	11,706	319,000	0
C 2113	Flat Car Reverse Flow to SVPS - Design & Permitting	153,000	10,575	14,425	128,000	0
M 2120C	Nov 2021 Flood - Permanent Protection - Beaver Creek Exposed Sewer Mains - Begin Design and Permitting (Design scope unknown, construction cost unknown)	40,000	0	0	40,000	0
M 2120E	Nov 2021 Flood - Permanent Protection - 1120 Dondee Ct Exposed Sewer Lateral - Begin Design and Permitting (Design scope unknown, construction cost unknown)	15,000	0	0	15,000	0
C 2202	Replace Sewer Camera Equipment	150,000	0	0	0	150,000
M 2207	UPS and Battery Backup Mods (Various Stations)	15,000	0	0	15,000	0
M 2208	Tomb SPS Control Panel Mods	8,000	0	0	8,000	0
<b>Subtotal Sewer</b>		<b>2,636,583</b>	<b>1,249,708</b>	<b>27,367</b>	<b>1,209,508</b>	<b>150,000</b>
C 1909	Little Strawberry Bridge Water Main Slip Line with HDPE	20,000	0	0	20,000	0
C 1913	SVWTP 20-Year Facility Plan	140,000	128,805	11,195	0	0
C 2012	Austin-Fremont PRV Rebuild	10,000	0	0	10,000	0
C 2109	Geneva Res Valve for Emergency Isolation	10,000	4,860	0	5,140	0
C 2111	Div 7 Reservoir Replacement	243,080	153,503	21,497	68,080	0
C 2111.1	Phase 1- Wilson Design & Permitting	201,080	153,503	21,497	26,080	0
C 2111.2	Phase 1 - Easements (per Appraisal Group of the NW)	42,000	0	0	42,000	0
C 2210	Reservoir and WTP Site Security Assessment and Plan	50,000	0	0	50,000	0
C 2211	South Geneva Booster Standby Generator and ATS	60,000	38,235	0	21,765	0
M 2213	Pinto Creek PRV Replacement and Add Flow Meter	18,000	0	0	18,000	0
C 2214	Lead Service Line Inventory Planning	15,000	0	2,500	6,000	6,500
A 2215	Exterior Coating Assessment/Estimates for D22 roof and D30	13,780	0	13,780	0	0
M 2226	Div 30 Reservoir Removal of Hazard Trees	20,000	5,882	0	14,118	0
M 2230	Scenic Ave Intertie Valve Repair	60,000	0	55,000	5,000	0
<b>Subtotal Water</b>		<b>659,860</b>	<b>331,285</b>	<b>103,972</b>	<b>218,103</b>	<b>6,500</b>
C 2006	SCADA Telemetry - Managed Ethernet Switches	20,000	16,263	0	3,737	0
C 2106	SVWTP to SVPS Telemetry Comm Study, Testing	10,000	4,224	0	5,776	0
C 2203	Div 30 Booster and SVSPS PLC and UPS Improvements	224,643	0	45,000	179,643	0
C 2216	Replace Tool Truck	75,000	0	0	75,000	0
M 2218	Spare PLC Components	20,000	0	0	20,000	0
C 2219	1000 Gal Diesel Fuel Tank at Shop	20,000	0	0	20,000	0
M 2221	Shop Perimeter Fence Repair from Tree Damage	10,000	0	0	10,000	0
A 2228	Agate Area Wells Exhibits and Mapping	5,400	0	5,400	0	0
C 2231	Stand-alone Temporary Control Panel	20,000	0	0	20,000	0
<b>Subtotal General</b>		<b>405,043</b>	<b>20,487</b>	<b>50,400</b>	<b>334,156</b>	<b>0</b>

Grand Total      3,701,486      1,601,480      181,739      1,761,767      156,500

X:\Engineering\Capital Improvement Plan\2023-2024\Worksheets\2023-2024 Budget - Active Projects Estimates - rev2022-10-27

11/1/2022

## Sewer System Reinvestment Plan 2023 thru 2028 (CASH FUNDED)

Program Area / CIP Project # / CIP Project Name			Total	2023	2024	2025	2026	2027	2028
BRE									
Capital Outlay - General (Costs are halved, split 50/50 between Water/Sewer)									
A0005	50	IT Infrastructure - Replace/Update Hardware, Network Security, & OS (newest server installed in 2022)	37,500			18,000			19,500
V0001	18	Replace Tool Truck (7 tool trucks in fleet, oldest 1999 model, newest 2020 model)	156,000		49,000		52,000		55,000
E0007	12	Replace Mini Excavator (2005 model in fleet)	52,000						52,000
E0002	10	Replace 5-yard Dump Truck (2007 model in fleet)	93,000					93,000	
V0002	9	Replace Admin Staff Vehicle (4 cars in fleet, oldest 2000 model, newest 2017 model)	19,500					19,500	
Subtotal			358,000		49,000	18,000	52,000	112,500	126,500
Capital Outlay - Sewer									
A0010	35	Update Sewer Comprehensive Plan (Current Plan approved 7/21/2020)	113,000				113,000		
E0003	14	Replace Sewer Camera Vehicle (2003 model in fleet)	116,000					116,000	
Subtotal			229,000				113,000	116,000	
Capital Projects - Sewer									
0032a	36	Agate Bay Sewer Pump Station - Predesign and Shorelines Permitting	146,000			146,000			
0032b	36	Agate Bay Sewer Pump Station - Design and Bidding	188,000				188,000		
0032c	36	Agate Bay Sewer Pump Station - Construction	813,000					813,000	
0222b	36	LWBI CIPP Renewal Project P1-2023 (when all P1 done current ERU capacity w/o need for det tank)	185,000	185,000					
0222c	36	LWBI CIPP Renewal Project P1-2024 (when all P1 done current ERU capacity w/o need for det tank)	174,000			174,000			
0222d	36	LWBI CIPP Renewal Project P2 (when all P2 done build-out ERU capacity w/o need for det tank)	532,000				532,000		
0055	30	Rocky Ridge Pump Station - Construction and SDC	880,000		880,000				
0056	30	Lakewood Pump Station - Construction and SDC	792,000		792,000				
0171	18	Sudden Valley Sewer Pump Station - Recondition Electrical Controls	248,000						248,000
0172	16	Flat Car Sewer Pump Station - Recondition Electrical Controls	248,000						248,000
0173	16	Beaver Sewer Pump Station- Recondition Electrical Controls	248,000						248,000
S0001a	15	Sewer System Rehab and Replacement Projects	232,000	113,000	119,000				
S0001b	15	Sewer System Rehab and Replacement Projects	36,000			36,000			
S0001c	15	Sewer System Rehab and Replacement Projects	77,000					38,000	39,000
0202	12	Airport Sewer Crossing Gravity Pipeline Sag - Reinstall 250LF to Remove Sag	52,000					52,000	
Subtotal			4,851,000	298,000	1,791,000	356,000	720,000	903,000	783,000
Grand Total			5,438,000	298,000	1,840,000	374,000	885,000	1,131,500	909,500

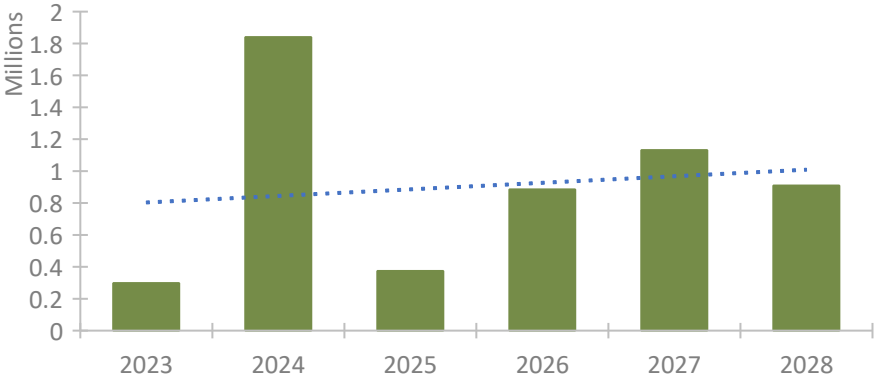
BRE

Analytical Summary

Assumed Year over Year Cost Estimate Escalation: 10.0% 5.0% 3.0% 3.0% 3.0% 3.0%

Annual Budget Targets per 2022 Rate Study ( Study assumes 3% annual construction Inflation) ==> \$820k \$830k \$840k \$850k

Average Annual Total	Over Plan Years
1,069,000	Years 1+2
837,333	Years 1+2+3
849,250	Years 1+2+3+4
905,700	Years 1+2+3+4+5
906,333	Years 1+2+3+4+5+6



# Water System Reinvestment Plan 2023 thru 2028 (CASH FUNDED)

Program Area / CIP Project # / CIP Project Name			Total	2023	2024	2025	2026	2027	2028
BRE									
Capital Outlay - General (Costs are halved, split 50/50 between Water/Sewer)									
A0005	50	IT Infrastructure - Replace/Update Hardware, Network Security, & OS (newest server installed in 2022)	37,500			18,000			19,500
V0001	18	Replace Tool Truck (7 tool trucks in fleet, oldest 1999 model, newest 2020 model)	156,000		49,000		52,000		55,000
E0007	12	Replace Mini Excavator (2005 model in fleet)	52,000						52,000
E0002	10	Replace 5-yard Dump Truck (2007 model in fleet)	93,000					93,000	
V0002	9	Replace Admin Staff Vehicle (4 cars in fleet, oldest 2000 model, newest 2017 model)	19,500					19,500	
Subtotal			358,000		49,000	18,000	52,000	112,500	126,500
Capital Outlay - Water									
W0005	35	Reservoirs - Inspection & Maintenance	41,000		41,000				
V0003	18	Replace Locator / Meter Reading Van (2018 model in fleet)	53,000						53,000
W0009	16	SVWTP - Replace 6 Turbidimeters and 2 Chlorine Analyzers	59,000						59,000
0219a	1	Misc 2023 Water Capital Outlay	6,000	6,000					
0219b	1	Misc 2024 Water Capital Outlay	38,000		38,000				
Subtotal			197,000	6,000	79,000				112,000
Capital Projects - Water									
1001	72	SVWTP - Core - Alum System Improvements	88,000	88,000					
0145a	70	Div 7 Reservoir Phase 2 Construction FEMA HMG 12.5% Local Match Commitment	229,000	229,000					
0145b	70	Div 7 Reservoir Phase 2 Construction Supplemental LWWS Cash Funding	664,000	664,000					
0228	36	Eagleridge - Replace High Flow Pumps Control Panel, Integrate with Low Flow Pumps	116,000		116,000				
1004	32	SVWTP - Core - Replace Transfer Pumps - Design and Construction	542,000						542,000
0110	18	Security - Intrusion Alarms at Reservoirs, Cameras at SVWTP AHWTP	184,000				184,000		
0215	16	1237 Lakeview St - Replace 2" PVC with 2" HDPE	65,000			65,000			
0226	12	Division 30 Reservoir - Impressed Current Cathodic Protection	36,000		36,000				
Subtotal			1,924,000	981,000	152,000	65,000	184,000		542,000
Grand Total			2,479,000	987,000	280,000	83,000	236,000	112,500	780,500



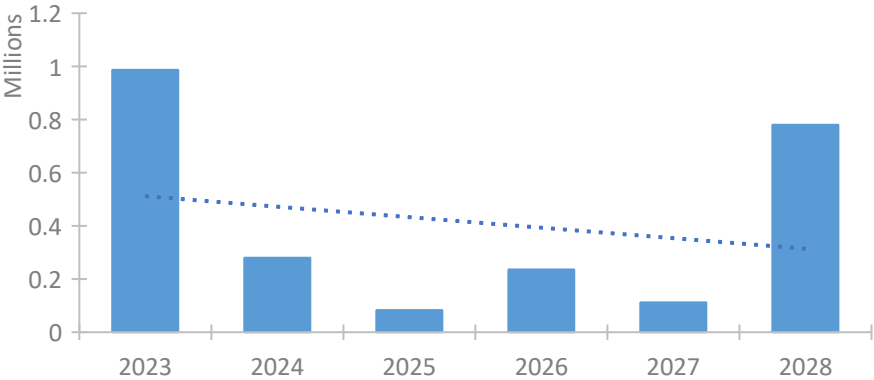
BRE

Analytical Summary

Assumed Year over Year Cost Estimate Escalation: 10.0% 5.0% 3.0% 3.0% 3.0% 3.0%

Annual Budget Targets per 2022 Rate Study ==> \$260k \$270k \$280k \$290k

Average Annual Total	Over Plan Year
633,500	Years 1+2
450,000	Years 1+2+3
396,500	Years 1+2+3+4
339,700	Years 1+2+3+4+5
413,167	Years 1+2+3+4+5+6



## 2023/2024 Capital Outlay

Report Last Revised 10/27/2022

CoF	PoF	RF	BRE	2023 Budget Amount	2024 Budget Amount	Description
<b>Sewer</b>						
				\$0	\$0	Total Sewer
<b>Water</b>						
2	10	1.00	20	\$5,000		BOOSTER - Eagleridge Diesel Fuel Tank Replacements.
2	9	1.00	18		\$18,000	SVWTP - Replace 4 filter flow meters.
2	9	1.00	18		\$5,000	SVWTP - Replace backwash flow meter.
1	1	1.00	1		\$10,000	DISTRIBUTION - Install Autoflushers on deadend water mains on Wood Rush (towards lake) and Big Leaf (Div 30 area).
				\$5,000	\$33,000	Total Water
<b>General (costs split 50/50 between water/sewer)</b>						
				\$0	\$0	Total General
				\$5,000	\$33,000	Grand Total

This appears as CIP #0219a "Misc 2023 Water Capital Outlay" on the 6-year Water System Reinvestment Plan

\$6,000
\$38,000

Inflated to 2023 Dollars (10% from 2022 to 2023) - rounded to nearest \$1000

Inflated to 2024 Dollars (10% from 2022 to 2023 + 5% from 2023 to 2024) - rounded to nearest \$1000

This appears as CIP #0219b "Misc 2024 Water Capital Outlay" on the 6-year Water System Reinvestment Plan

# Debt/Grant Funding Plan 2023 thru 2028

Program Area / CIP Project # / CIP Project Name		Fund	Total	2023	2024	2025	2026	2027	2028
Contingent on Receiving Grant Funding (note: unknown if/when obtained)									
1010	36	SVWTP - Core Seismic - WTP Main Bldg Seismic Retrofits (Grant Contingent)	194,000						194,000
1009	35	SVWTP - Core Security - Site Security Improvements (Grant Contingent)	194,000						194,000
1011	32	SVWTP - Core Seismic - Finished Water Pump Bldg Seismic Retrofits (Grant Contingent)	464,000						464,000
1012	27	SVWTP - Medium Config - Chlorine Gas Modifications (Grant Contingent)	395,000						395,000
1013	18	SVWTP - Medium Config - Rehabilitate & Repurpose Existing CCB (Grant Contingent)	1,599,000						1,599,000
Subtotal			2,846,000						2,846,000
Haz Mit Grant Funds (87.5% Grant) - Amounts do NOT include 12.5% local match									
0145c	70	Div 7 Reservoir Phase 1 - Grant Funding \$393,702 (which is 87.5% of \$449,975)	394,000	394,000					
0145d	70	Div 7 Reservoir Phase 2 Construction - Grant Funding \$1,602,174 (which is 87.5% of \$1,831,055)	1,602,000	1,602,000					
Subtotal			1,996,000	1,996,000					
New Sewer Debt - Bond, PWTF, Etc									
0193	100	COB Post Point WWTP Biosolids Handling (LWWSD Cost Share 4.8%) - Estimate as of 9/26/2022 per COB Council Decision to Rehab Incinerators	5,000,000			5,000,000			
Subtotal			5,000,000			5,000,000			
New Water Debt - Bond, PWTF, Etc									
1002a	72	SVWTP - Core - New 0.3MG Welded Steel CCB - Design, Permitting	245,000				245,000		
1002b	72	SVWTP - Core - New 0.3MG Welded Steel CCB - Design, Permitting (continued)	316,000					316,000	
1002c	72	SVWTP - Core - New 0.3MG Welded Steel CCB - Construction	1,968,000						1,968,000
1006	54	SVWTP - Medium Config - Rehab Existing Filters 1 & 2	283,000						
1003	32	SVWTP - Core - Replace Finished Water Pumps	1,174,000						1,174,000
W9999	1	Blank	0	0	0	0	0	0	0
Subtotal			3,986,000	0	0	0	245,000	316,000	3,142,000
Grand Total			13,828,000	1,996,000	0	5,000,000	245,000	316,000	5,988,000

Analytical Summary

Assumed Year over Year Cost Estimate Escalation:

10.0%

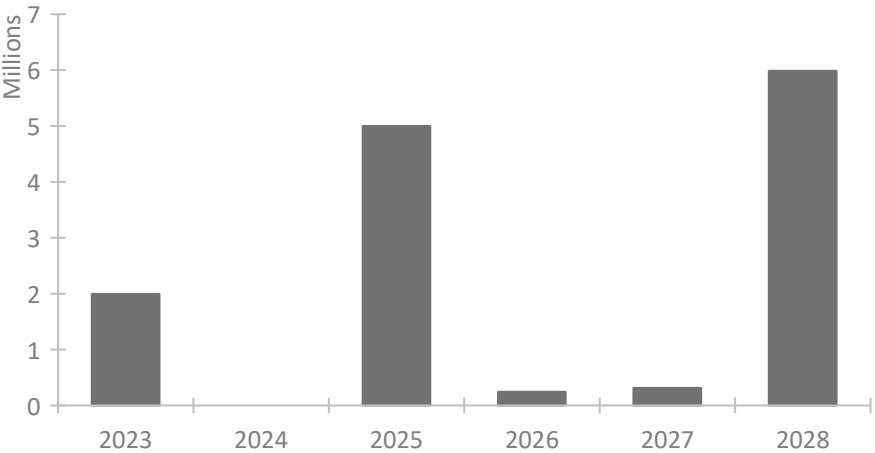
5.0%

3.0%

3.0%

3.0%

3.0%



## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Rocky Ridge Sewer Pump Station Replacement
<b>CIP #:</b>	0055

Asset Register:	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.

Phase 1 – Predesign, Permitting is in progress (District project #C2112). Predesign report was completed and presented to board on 7/13/2022. Board moved to pursue permitting and design of replacements with top mounted configurations. Two board members expressed importance to provide all-weather foot path/stair access. Staff is pursuing permitting and design of all-weather footpath/stair access to each station; and planning to have an additive bid alternate on the bid form for the work.

## CAPITAL PROJECT NARRATIVE

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

	Rocky Ridge	Lakewood	
<b>Phase 1 - Predesign, Permitting (In Progress - Project #C2112)</b>	88,500	88,500	Existing \$177k NTE contract with RH2 (included with 2023/20204 Continuing Active Project Estimates)
<b>Phase 2 - Design &amp; Bidding</b>			
RR & LW Pump Stations	104,500	104,500	Future amendment with RH2
Access Trail/Stairs	20,000	13,000	Future amendment with RH2
Easements (placeholder)	20,000	-	Assume WWU \$0 for easement
Subtotal	144,500	117,500	(\$262k included in 2023/2024 Continuing Active Project Estimates for future amendments and easement placeholder)
<b>Phase 3 - Construction, SDC</b>			
Construction			
RR & LW Pump Stations	596,000	563,000	
Access Trail/Stairs	110,000	70,000	
Subtotal	706,000	633,000	
Services During Construction			
RR & LW Pump Stations	46,500	46,500	Future amendment with RH2
Access Trail/Stairs	9,000	6,000	Future amendment with RH2
Subtotal	55,500	52,500	
Subtotal Phase 3	761,500	685,500	
Subtotal Phase 3 Including Escalation 10% in 2023 + 5% in 2024	880,000	792,000	(\$880k for RR and \$792k for LW construction included on Sewer System Reinvestment Plan in year 2024)
<b>Grand Project Total - All Phases</b>	<b>1,113,000</b>	<b>998,000</b>	

## CAPITAL PROJECT NARRATIVE

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.
- Updated 10/31/2022 by BH. Updated project cost estimates based on RH2 input 9/15/2022.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Lakewood Sewer Pump Station Replacement
<b>CIP #:</b>	0056

Asset Register:	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.

Phase 1 – Predesign, Permitting is in progress (District project #C2112). Predesign report was completed and presented to board on 7/13/2022. Board moved to pursue permitting and design of replacements with top mounted configurations. Two board members expressed importance to provide all-weather foot path/stair access. Staff is pursuing permitting and design of all-weather footpath/stair access to each station; and planning to have an additive bid alternate on the bid form for the work.



## CAPITAL PROJECT NARRATIVE

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

	Rocky Ridge	Lakewood	
<b>Phase 1 - Predesign, Permitting (In Progress - Project #C2112)</b>	88,500	88,500	Existing \$177k NTE contract with RH2 (included with 2023/20204 Continuing Active Project Estimates)
<b>Phase 2 - Design &amp; Bidding</b>			
RR & LW Pump Stations	104,500	104,500	Future amendment with RH2
Access Trail/Stairs	20,000	13,000	Future amendment with RH2
Easements (placeholder)	20,000	-	Assume WWU \$0 for easement
Subtotal	144,500	117,500	(\$262k included in 2023/2024 Continuing Active Project Estimates for future amendments and easement placeholder)
<b>Phase 3 - Construction, SDC</b>			
Construction			
RR & LW Pump Stations	596,000	563,000	
Access Trail/Stairs	110,000	70,000	
Subtotal	706,000	633,000	
Services During Construction			
RR & LW Pump Stations	46,500	46,500	Future amendment with RH2
Access Trail/Stairs	9,000	6,000	Future amendment with RH2
Subtotal	55,500	52,500	
Subtotal Phase 3	761,500	685,500	
Subtotal Phase 3 Including Escalation 10% in 2023 + 5% in 2024	880,000	792,000	(\$880k for RR and \$792k for LW construction included on Sewer System Reinvestment Plan in year 2024)
<b>Grand Project Total - All Phases</b>	<b>1,113,000</b>	<b>998,000</b>	

## CAPITAL PROJECT NARRATIVE

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.
- Updated 10/31/2022 by BH. Updated project cost estimates based on RH2 input 9/15/2022.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Division 7 Reservoir Replacement
<b>CIP #:</b>	0145

Asset Register:	Water → Reservoirs				
Failure Mode:	Capacity	<u>Level of Service</u>	Mortality	Efficiency	
Business Risk Exposure:	54	= 6 x 9 x 1 (PoF x CoF x Redundancy)			
Remaining Life:	51 years	Consumed Life:	49 years	Effective Life:	100 years

### **PURPOSE and DESCRIPTION OF THE PROJECT**

A structural analysis of the Lake Whatcom Water and Sewer District Division 7 water reservoir has found significant deficiencies in its ability to meet existing earthquake code requirements (BHC report, December 2016). The recent Water System Plan also analyzed the capacity of the Division 7 reservoir and found it to be significantly oversized at a volume of one million gallons. The Water System Plan recommended an alternatives analysis for this reservoir to compare the cost of making seismic upgrades and replacing the interior and exterior coatings that are beyond their useful life against the alternative of replacing the Division 7 reservoir with a more appropriate (~half a million gallons) amount of storage volume. Wilson Engineering LLC prepared a technical memorandum dated February 8, 2018 that documents the analysis of alternatives.

Alternative 2 was recommended as the preferred alternative that replaces 1-million gallon Division 7 reservoir with two smaller 185,000 gallon reservoirs. The advantages noted in the tech memo for Alternative 2 include:

1. Capital Cost – the estimated capital cost of Alternative 2 is significantly lower than other alternatives.
2. Water Quality – The existing Division 7 reservoir is significantly oversized and results in an excessive average water age of 4.6 days. The hydraulic residence time in the reservoirs proposed in Alternative 2 would be 2.1 days under average day demand in a build-out scenario. This would be within the AWWA recommendation of less than 2.5 days average hydraulic residence time and would help improve water quality in terms of less formation of disinfection by-products and better maintenance of chlorine residual in the distribution system.
3. Improved Water Pressure – Installing new storage 25 feet higher than the existing reservoir will improve water pressure for those houses immediately adjacent to the reservoir. The increased pressure will not negatively impact the system in terms of over pressurizing or decreasing pumped flow excessively.
4. Resiliency – Having two parallel water storage reservoirs provides substantially improved system resiliency in case of emergency (earthquake or unexpected failure of one tank) or typical maintenance. Having the ability to keep one reservoir in service while taking the other out of service will improve the District's ability to serve their customers efficiently.

## CAPITAL PROJECT NARRATIVE

5. Maintenance – Replacing a steel reservoir with concrete reservoirs decreases maintenance efforts and costs. The corrosion protection systems (interior and exterior coatings, cathodic protection) that are required for steel reservoirs are not needed for concrete reservoirs. Current interior coatings for a steel reservoir need to be replaced/refurbished at least every 15 years. This requires the tank to be taken out of service for the work, and this is significantly challenging with only one tank.
6. Construction/Operation Feasibility – other alternatives would require temporary storage during construction that would either be prohibitively expensive or would make operation of the system during construction very challenging. Selected alternative allows the existing tank to remain in service during construction.

In 2018, the District submitted a FEMA Hazard Mitigation Grant application to replace the Division 7 Reservoir with two new reservoirs constructed to meet seismic standards, and to implement ShakeAlert on reservoirs, water pumps and water treatment plants District-wide.

The grant application was developed in conjunction with Washington State Emergency Management Division (WA-EMD) and the Federal Emergency Management Agency (FEMA) as a Hazard Mitigation project. The cost share would be as follows: FEMA 75%, WA-EMD 12.5%, and LWWSD 12.5%.

In 2019, the District also applied for a Public Works Trust Fund loan to assist with the District's 12.5% share. Unfortunately, the District's application did not score high enough to qualify.

In late summer 2021 the District went through a Request for Qualifications process to select the most qualified engineering consultant for the project. On October 13, 2021, the Board of Commissioners selected Wilson Engineering LLC as the most qualified consultant and an Architectural/Engineering Agreement was executed shortly after.

In late 2021, the District learned that it was awarded grant funding for the project.

In early spring 2022, the grant agreement was executed for Phase 1 – Design and Permitting.

Through 2022 the consultant and staff have completed significant parts of predesign and sizing of the proposed reservoirs. Project briefings were provided to the board at the May 25, 2022 and July 13, 2022 meetings. At the latter meeting, the board affirmed by motion to proceed with design and permitting of two proposed reservoirs totaling 475,800 gallons. Permit application documents and the Washington State Department of Health project report are being prepared for submittal to reviewing agencies.

### Budget Estimate

See attached spreadsheet that summarizes current cost estimates, grant funding, and funding shortfall.

Construction cost estimates, one in May 2022 and a second in October 2022, have been prepared to track projected costs for funding and budgeting. Estimated construction costs have escalated significantly from the estimates prepared in 2018 and 2021.

Staff is developing a request for additional grant funds due to construction cost estimate escalation. The grant coordinator indicated that a request for additional funding can be

## **CAPITAL PROJECT NARRATIVE**

made, but there is no guarantee of the desired result. Staff is also looking at possible DWSRF or PWTF loans.

The District also applied for a hazard mitigation grant (HMG) to fund the new 0.3 million gallon SVWTP Chlorine Contact Basin (CCB) which is estimated near \$2M. The District's Debt/Grant Funding Plan schedules new debt for the SVWTP CCB in the 2026-2028 time frame. If HMG grant funding comes through on the SVWTP CCB, it could allow the District to utilize the planned debt for the SVWTP CCB and switch it to fund the shortfall for the Division 7 Reservoir. There has been no news from agencies regarding the status of the SVWTP CCB grant application.

For further information about this project contact Bill Hunter.

### **Revision History**

- Created 11/30/2020 by BH.
- 11/2/2022 BH. Update narrative and budget estimates.

## Division 7 Reservoir Project Cost Estimate and Funding Summary

District Project #C2111 (aka CIP# 0145 in Water System Reinvestment and Debt/Grant Plans)  
Project Estimates as of 10/27/2022

Estimated Project Costs		
Phase 1 - Wilson Agreement	\$	201,080.00 Design, Permitting, Bidding
Phase 1 - Easements (per Appraisal Group of the NW)	\$	42,000.00
Subtotal Phase 1	\$	243,080.00
Phase 2 - Wilson 30% Design Construction Cost Estimate 10/20/2022	\$	2,602,000.00 Includes 20% contingency and sales tax.
Cost Escalation from 2022 to 2023	\$	- No escalation applied since cost estimate refreshed and current as of October 2022.
Subtotal Phase 2 Construction Contract in 2023 Dollars	\$	2,602,000.00
Phase 2 - Draft Wilson Services During Construction 10/11/2022	\$	100,000.00 Assumes LWWSD performs certified payroll reviews, field observation, inspection reports. \$183k if all work performed by Wilson.
Subtotal Phase 2	\$	2,702,000.00
Total Estimated Project Cost	\$	2,945,080.00

Funding Sources		
Phase 1 - Design, Permitting, Etc		
Federal Grant Funding (75%)	\$	337,458.75 Note \$394k (\$337.5k + \$56.2k) shown on Grant/Debt Funding Plan in year 2023 which is the Federal and State funding 87.5% share
State Grant Funding (12.5%)	\$	56,243.13
Local Match - LWWSD (12.5%)	\$	56,243.13
Subtotal Phase 1 Funding per Grant Agreement	\$	449,945.00
Phase 2 - Construction		
Federal Grant Funding (75%)	\$	1,373,291.25 Note \$1.602M (\$1,373.3k + \$228.9k) is shown on Grant/Debt Funding Plan in year 2023 which is the Federal and State 87.5% share
State Grant Funding (12.5%)	\$	228,881.88
Local Match - LWWSD (12.5%)	\$	228,881.88 Note \$229k LWWSD 12.5% share shown on Water System Reinvestment Plan in year 2023
Subtotal Phase 2 Funding per Grant Application	\$	1,831,055.00 Note grant agreement amendment was planned by FEMA, State & LWWSD to add construction funding once reservoir predesign was nearing completion when project scope requirements have been defined to prepare accurate construction
Total Original Project Funding Plan	\$	2,281,000.00

<b>Projected Additional Funding Needs</b>	<b>\$</b>	<b>664,080.00</b>	Note \$664k LWWSD supplemental funding shown on Water System Reinvestment Plan in year 2023
---	-----------	-------------------	---

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	LWBI CIPP Renewal Project
<b>CIP #:</b>	0222

Asset Register:	Sewer → Collection System				
Failure Mode:	Capacity	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		Upstream MH	Downstream MH	Segment	Diameter (inch)	Length (feet)	LWBI CIPP Budget	
	Year							Estimate (\$)	
Priority 1	2021	GT-29STP	GT-28	29-28 (480 LF)	10	480			
		GT-28	GT-27A	28-27A (213 LF)	10	213			
		GT-27A	GT-27	27A-27 (170 LF)	10	170		2021 COMPLETED	
		GT-24	GT-23	24-23 (438 LF)	14	438		CONTRACT AMOUNT	
						1301		\$	149,923.00
	2022	GT-27	GT-26	27-26 (313 LF)	10	313		2022 COMPLETED	
		GT-26	GT-25	26-25 (385 LF)	10	385		CONTRACT AMOUNT	
						698		\$	89,103.00
	2023	GT-25	GT-24	25-24 (402 LF)	14	402			
		GT-23	GT-22	23-22 (269 LF)	14	269			
		GT-22	GT-21	22-21 (404 LF)	14	404			
						1075		\$	185,000.00
	2025	GT-21	GT-20	21-20 (472 LF)	14	472			
		GT-20	GT-19	20-19 (373 LF)	14	373			
						845		\$	174,000.00
Priority 2	2026	GT-19	GT-8	19-18 (384 LF)	14	384			
		GT-18	GT-17	18-17 (196 LF)	14	196			
		GT-17	GT16	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		\$	532,000.00

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:

\$185,000 for segments scheduled for renewal in 2023 (2023 dollars).

\$174,000 for segments scheduled for renewal in 2025 (2025 dollars).

\$532,000 for segments scheduled for renewal in 2026 (2026 dollars).

### Assumed escalation rates:

10% 2022 to 2023

5% 2023 to 2024

3% 2024 to 2025+ (compounded each year beyond)



## **CAPITAL PROJECT NARRATIVE**

For further information about this project contact Bill Hunter.

### **Revision History**

- Created 11/30/21 by KH & BH.
- 10/31/2022 by BH. Updated historical and future costs.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Division 30 Reservoir Impressed Current Cathodic Protection System
<b>CIP #:</b>	0226

Asset Register:	Water → Reservoirs				
Failure Mode:	Capacity	Level of Service	Mortality	Efficiency	
Business Risk Exposure:	NA	= _ x _ x _ (PoF x CoF x Redundancy)			
Remaining Life:	NA	Consumed Life:		Effective Life:	

### **PURPOSE and DESCRIPTION OF THE PROJECT**

This project includes installation of an impressed current cathodic protection system at the Division 30 Reservoir.

Norton Corrosion performed an annual inspection of the Division 30 galvanic cathodic protection system in March 2022. The report notes that the level of corrosion in the Division 30 Reservoir exceeds what the galvanic cathodic protection system can provide and recommends the installation of an impressed current cathodic protection system. Subsequently, September 2022, Evergreen Coating Consultants (ECC) performed a coating analysis on several of the District's steel reservoirs. At this time, ECC noted the most significant interior coating deterioration is in the interior, above the waterline, and at the interior roof plates. These areas are not protected by cathodic protection systems.

The reservoir coating inspection performed by ECC in the Fall 2022 confirms the coating failures observed by Norton Corrosion at the Division 30 reservoir. The assessment by ECC reports the following current coating conditions:

Surface	Rust Grade (Sept. 2022)	Percent of Surface Rusted
Interior Roof Plates	2-G	Greater than 16.0% to 33.0%
Interior Shell Wall	6-S	Greater than 0.3% to 1.0%
Interior Ladder	5-G	Greater than 1.0% to 3.0%
Interior Overflow Pipe	5-S	Greater than 1.0% to 3.0%
Interior Inlet Pipe	3-G	Greater than 10.0% to 16.0%
Exterior Roof Plates	5-S	Greater than 1.0% to 3.0%
Exterior Shell Wall	5-S	Greater than 1.0% to 3.0%
Exterior Ladder and Cage	7-S	Greater than 0.1% to 0.3%

Where S=Spot, G=General and P=Pinpoint

Where Scale and Description of Rust Grades are per SSPC-VIS 2

## CAPITAL PROJECT NARRATIVE

ECC estimates the interior coating has 3 to 5 years of life left at this time before steel loss starts to become more of a concern.

Evergreen Coating Consultants outlined three alternatives for this reservoir:

1. Build a new reservoir. To be feasible, the reservoir would need to either be built on land adjacent to the existing reservoir or the existing reservoir would need to be demolished so that this reservoir can be constructed. A 26-foot diameter by 40-foot tall reservoir would provide sufficient storage and hydraulic pressure. It may be possible to clear a large enough area on the existing site to construct a reservoir of that size and then demolish the existing in order to provide working space around the structure. Alternatively, it may be possible to modify the pump station that supplies the Division 30 reservoir to work as a closed zone during construction.

Constructing a concrete, Baker Silo-style reservoir is significantly cheaper than constructing a welded steel reservoir of the same volume or even seismically upgrading and recoating the existing reservoir. The concrete reservoir will also have a lower lifecycle cost than either the new or rehabilitated welded steel reservoir due to the cost to recoat the steel reservoir over time.

2. Recoat the reservoir and not seismically upgrade it. ECC recommends recoating the interior with an AWWA D102 ICS 5 system and topcoating the exterior with an epoxy tie-coat and polyurethane finish coat that would result in a coating life of approximately 15 to 20 years. The reservoir would remain seismically deficient; however, it would preserve the steel of the reservoir. This option would require alternative storage while out of service for approximately two months.
3. Seismically upgrade and recoat the reservoir. This alternative would cause significant damage to the existing exterior coating system and thus require its full removal and replacement. ECC recommends replacing the interior coatings with an AWWA D102 ICS 3 system and the exterior with an AWWA D102 OCS 4 system providing a coating life of approximately 25 to 30 years. The reservoir would be seismically stable. This option would require alternative storage while out of service for approximately four months.

### Division 30 Reservoir Alternative Opinion of Probable Construction Costs

Alternative	Total Project Cost
Alternative 1 – Construct new concrete reservoir	\$1,020,000
Alternative 2 – Recoat the reservoir without seismic upgrades	\$630,000
Alternative 3 – Seismically upgrade and recoat reservoir	\$1,400,000

ECC's opinion is that an impressed current cathodic protection system would not extend the interior coatings life above the water level, but would extend the submerged coating life below the water level. An impressed current cathodic protection system can be reused/replaced when/if the welded steel reservoir is rehabilitated or replaced. However, if the District replaces the Division 30 reservoir with a concrete reservoir, the impressed current cathodic protection system would not be reused.

## CAPITAL PROJECT NARRATIVE

Budget Estimate for installation of impressed current cathodic protection system:

Cost estimate in 2022 dollars.

\$27,000 (\$25,000 for installation of system + \$2k for contingencies)

Cost estimate in 2024 dollars.

\$36,000

Assumed escalation rates:

10% 2022 to 2023

5% 2023 to 2024

3% 2024 to 2025+ (compounded each year beyond)

For further information about this project contact Bill Hunter or Kristin Hemenway.

### Revision History

- Created 11/4/2019 by BH
- Revised 11/2/2022 by KH

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Eagleridge – Replace High Flow Pumps Control Panel, Integrate with Low Flow Pumps
<b>CIP #:</b>	0228

Asset Register:	Water → Booster Pump				
Failure Mode:	Capacity	Level of Service	Mortality	Efficiency	
Business Risk Exposure:	36	9 x 4 x 1= (PoF x CoF x Redundancy Factor)			
Remaining Life:	0	Consumed Life:	33	Effective Life:	30

### PURPOSE and DESCRIPTION OF THE PROJECT

The purpose of this project is the replace the high flow pumps control panel.

The Eagleridge Booster Pump Station, along with the rest of the Eagleridge water system, was constructed in 1989. The station was originally built to deliver City of Bellingham water throughout the Eagleridge system because City water system pressures alone were not sufficient to meet minimum pressure and flow requirements. The Eagleridge community is situated on a hillside, with the highest service being approximately 80 feet higher than the intertie.

At some point between 1989 and 2016, the City of Bellingham increased the pressure in the service area that feeds the Eagleridge system. Based on this, a recent project (District Project #C2011) was developed to study whether part or all of the pump station could be decommissioned. The engineering study determined that low flow (or domestic use) pumps are not required, and that the high flow pumps (pumps used to deliver fire flows) are needed.

In 2022 the Board of Commissioners, in coordination and input from the Eagleridge community, determined that maintaining historical water pressures above Washington State Department of Health design guidelines and District Design and Construction Standards is required to maintain pressures at historical levels of service. How to fund replacement of the low flow pumps has not been determined; whether by District rate payers as a whole or a special benefit fee applicable to only Eagleridge customers.

The determination that low flow pumps must be maintained or replaced, is a key consideration in determining the most economical solution to replacing the aging high flow pumps control panel.

The high flow pumps must remain, as the hydraulic analysis found that the City pressures were not sufficient to deliver the minimum required flow and pressure in a fire flow scenario. The hydraulic analysis found the existing high flow pumps to be oversized, and since they are simple on/off pumps (i.e., not controlled by a Variable Frequency Drive) with pump control valves (no pressure reducing function), they tend to create undesirable pressure spikes in the system. The analysis therefore concluded that the high flow pumps could be replaced with modern and

## CAPITAL PROJECT NARRATIVE

appropriately-sized pumps, or as a lower cost alternative, the existing pump control valves could be modified to add a pressure reducing function to prevent pressure spikes.

Either way, the control of the high flow pumps needs to be coordinated with the to-be-replaced low flow pumps. Custom control panels, programmable logic controller (PLC) programming and integration add a significant amount of labor costs versus package stations that have all controls and pumps delivered as a unit ready to start.

Even though the purpose of this project is simple (to replace the high flow pumps control panel), the integration/coordination of how the station will operate needs to be investigate and thought out. It may be as simple as replacing a single on/off control panel for the high flow pumps or as involved as providing a brand-new package pump system that can deliver all flows low to high.

### Budget Estimate

\$116k is budgeted in 2024 to determine the best overall renewal strategy for the station (both high flow and low flow pumps), and to provide some funds towards construction of the high flow pumps control panel replacement (or possibly new package station).

The scope of work depends on what is determined as the best renewal strategy, and the subsequent construction costs.

### Revision History

- Created 11/2/2022 by BH.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Sudden Valley WTP Alum System Improvements
<b>CIP #:</b>	1001

Asset Register:	Water → Treatment Plant				
Failure Mode:	Capacity	Level of Service	Mortality	Efficiency	
Business Risk Exposure:	60	= 10 x 6 x 1 (PoF x CoF x Redundancy)			
Remaining Life (yrs):	0	Consumed Life (yrs):	15	Effective Life (yrs):	15

### Project Purpose

The purpose of this project is to replace the existing alum storage and injections systems.

### Project Description

The WTP injects alum into the raw water supply piping upstream of the flocculation tank to aid coagulation of particulates in the raw water.

The alum tank is beyond its useful life and should be replaced. This project replaces the existing alum storage tank and metering pump system but continues with equipment located within the existing WTP Main Building. It is an interim solution until the chemical equipment is relocated to a new building scheduled for 2036 in the SVWTP 20-Year Facility Plan. When equipment is finally relocated to a new building it will address problems with its proximity to electrical equipment which is contributing to deterioration and/or corrosion of the electrical components.

The project scope and cost estimate were prepared Gray & Osborne, Inc. as part of the Sudden Valley Water Treatment Plant Alternatives Analysis and 20-year Facility Plan. Below is a snapshot of the cost estimate breakdown from Tech Memo #20434-4 SVWTP Chemical System Analysis the Alternatives Analysis report.

## CAPITAL PROJECT NARRATIVE

### Budget Construction Cost Estimate

#### LAKE WHATCOM WATER AND SEWER DISTRICT

#### SUDDEN VALLEY WTP ASSESSMENT AND ALTERNATIVES ANALYSIS PROJECT PRELIMINARY COST ESTIMATE

Technical Memorandum 20434-4 - Liquid Alum in Existing WTP Main Building

November 4, 2020

G&O# 20434.00

<u>NO.</u>	<u>ITEM</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
1	Mobilization and Demobilization	1	LS	\$ 6,500	\$ 6,500
2	Alum System Modifications	1	LS	\$ 18,000	\$ 18,000
3	Piping, Valves, and Appurtenances	1	LS	\$ 5,000	\$ 5,000
4	Telemetry / SCADA Modifications	1	LS	\$ 8,000	\$ 8,000
Subtotal*					\$ 37,500
Contingency (25%)					\$ 9,400
Subtotal					\$ 46,900
Washington State Sales Tax (9.0%)**					\$ 4,200
Subtotal					\$ 51,100
Design and Project Administration (25.0%)***					\$ 12,800
TOTAL CONSTRUCTION COST					\$ 64,000

\* Costs listed are in 2020 dollars

\*\* Current sales tax rate is 8.7%.

\*\*\* Standard project design and administration fees are 25% of the subtotal including contingency and tax

### Cost Estimate Escalation

15% from 2020 dollars to November 2022 dollars per ENR Construction Cost Index  
\$74k (\$64k x 1.15)

10% assumed escalation from 2022 to 2023  
\$82k (\$74k x 1.10)  
\$6k Additional contingencies  
\$88k Total 2023 budget estimate

For further information about this project contact Bill Hunter.

### Revision History

- Created 6/17/2021 by KPS (G&O).
- 11/2/2022 BH. Updated project narrative description and budget estimate.



## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Sewer System Rehabilitation and Replacement Projects
<b>CIP #:</b>	S0001

Asset Register:	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 (2023)
	\$119,000 (2024)
	\$36,000 (2025)
	\$38,000 (2027)
	\$39,000 (2028)

2023 & 2024 budget includes \$113,000 and \$119,000 respectively 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 estimates have been escalated to future years assuming the following escalation rates:

10% 2022 to 2023  
5% 2023 to 2024  
3% 2024 to 2025+ (compounded each year beyond)

## CAPITAL PROJECT NARRATIVE

For further information about this project call Bill Hunter.

### 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

<b>Project Name:</b>	Replace Tool Truck
<b>CIP #:</b>	V0001

Asset Register:	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	169845
VEH31	2005	Chevy	Silverado 3500	Chevy Silverado	170436
VEH41	2010	Ford	F350	Used by Maintenance Electrician	80184
VEH47	2012	Chevy	Silverado 3500	Utility Truck w/ Service Body	96126
VEH51	2017	Ford	F350	Utility Truck w/ Service Body	43626
VEH52	2018	Ford	F350	Utility Truck w/ Service Body	29048
VEH56	2020	Ford	F350	Includes Utility Box Body and Snow Plow	7799

**Budget Estimate: \$98,000 (2024 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
- Updated 10/31/2022 by RM Updated prices from state contract and vehicle mileages

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Reservoir Inspection and Maintenance
<b>CIP #:</b>	W0005

Asset Register:	Water → Reservoirs				
Failure Mode:	Capacity	Level of Service	<u>Mortality</u>	Efficiency	
Business Risk Exposure:	16	= 4 x 4 x 1 (PoF x CoF x Redundancy)			
Remaining Life:		Consumed Life:		Effective Life:	

### PURPOSE and DESCRIPTION OF THE PROJECT

Visually inspect and clean the inside all of the District's reservoirs and Sudden Valley Water Treatment Plant intake screen. Divers will also performed minor maintenance and repairs noted by the District and found during the inspection. Staff recommends this work be performed every 6 years. The last inspection/cleaning was done in 2018.

Below is a listing of the District's reservoirs compiled Cartegraph the District's asset management software).

ID	Year Built	Estimated OCI	Estimated OCR	Capacity (gal)	Material	Diameter (ft)	Height (ft)
DIV22-1	1971	48.1	Average	520,088	Steel	50	35
DIV22-2	2017	94.96	Excellent	626,000	Steel	56	39.33
DIV30	1973	61.4	Good	151,390	Steel	25.5	40.5
DIV7	1971	66.87	Good	997,939	Steel	70	35
GEN	1979	33.52	Fair	519,206	Steel	53	33
LWRTC	2009	61.48	Good	107,461	Concrete	31	20
OPAL	1999	46.7	Average	80,596	Concrete	31	16
SVWTP-CCB	1992	32.62	Fair	160,000	Steel	40	25
SVWTP-CLR	1971	47.91	Average	39,600	Concrete	26	18

The previous inspection and cleaning work was completed in 2018 by H2O Solutions (District project #M1806).

## CAPITAL PROJECT NARRATIVE

### Budget Estimate

\$24,000	2018 Project Costs (including sales tax)
<u>\$6,000</u>	<u>Assume \$6k extra to add new Division 22-2 Reservoir to list.</u>
\$30,000	Estimate in 2018 dollars

The cost in 2024 is estimated at \$41,000.

Cost escalation calculated using historical ENR Construction Cost Index and future cost escalation rates of:

- 10% 2022 to 2023
- 5% 2023 to 2024
- 3% 2024 to 2025+ (compounded each year beyond)

For further information about this project call Bill Hunter.

### Revision History

- Created 8/4/2006 by RM.
- Updated 10/23/2017 by BH.
- Updated 10/31/22 by RM

# APPENDIX C

## 2023-24 REVENUE BOND AND LOANS SUMMARY



## APPENDIX C

### Revenue Bonds and Loan Summary

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

Project Title	Balance Remaining 12/31/2023	Funding Source	Agency/Service	End Date	Rate
Geneva AC Mains	\$ 1,439,250	Rates	Drinking Water State Revolving Fund	2035	1.50%
Division 22 Reservoir	\$ 916,946	Rates	Drinking Water State Revolving Fund	2037	1.50%
2016 Revenue Bonds	<u>\$ 4,255,000</u>	Rates	US Bank	2035	2.25%
<i>Total Outstanding Debt 12/31/2023</i>	<i>\$ 6,611,196</i>				

Project Title	Balance Remaining 12/31/2024	Funding Source	Agency/Service	End Date	Rate
Geneva AC Mains	\$ 1,319,313	Rates	Drinking Water State Revolving Fund	2035	1.50%
Division 22 Reservoir	\$ 851,171	Rates	Drinking Water State Revolving Fund	2037	1.50%
2016 Revenue Bonds	<u>\$ 3,775,000</u>	Rates	US Bank	2035	2.25%
<i>Total Outstanding Debt 12/31/2024</i>	<i>\$ 5,945,484</i>				