

2019 ANNUAL BUDGET

LAKE WHATCOM WATER & SEWER DISTRICT



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

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APPROVED NOVEMBER 28, 2018

BOARD OF COMMISSIONERS

Laura L. Weide

Laura Weide, President, Position 1

Todd Citron

Todd Citron, Secretary, Position 2

Bruce Ford

Bruce Ford, Commissioner, Position 3

Leslie McRoberts

Leslie McRoberts, Commissioner, Position 4

John Carter

John Carter, Commissioner, Position 5

General Manager
Justin Clary

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2019 BUDGET

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1 GENERAL MANAGER'S MESSAGE

The 2019 Budget represents the proposed fiscal plans for the Lake Whatcom Water & Sewer District for the 2019 calendar year (please refer to Appendix A for a comprehensive presentation of the 2019 Budget). This budget is the culmination of a collaborative effort between the Board of Commissioners and staff, and aligns with the District's mission *to provide the best possible water and sewer services to District customers at an affordable cost, 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 funding to the extent practicable, and strong stewardship through asset management.

Through adherence to its conservative fiscal policies and the prior adopted multi-year rate schedule, the District enters 2019 with stable revenue projections that enable continued maintenance of fully funded operational and capital contingency reserves. Though 2018 has witnessed the highest number of new home starts (27) within recent memory, and informal communications with development partners indicate that 2019 may result in similar quantities, development-related revenue projections have been cautiously budgeted at just over half of 2018's totals. As a result, the 2019 Budget anticipates this growth, yet also maintains a conservative approach in accounting for these revenues.

The budget includes approximately \$8.2 million in expenditures, which is comprised of an operations budget of approximately \$4.7 million, a capital budget of approximately \$2.6 million, and a debt service budget of approximately \$870,000. For 2019, the operations budget increases by approximately 5.8% over 2018 to accommodate staff salary cost-of-living adjustments and benefit increases, hiring an additional maintenance worker to overlap with an anticipated retirement in the Operation Department later in the year, and upgrades to asset management and records management systems. Debt service expenditures will be reduced by \$260,000 from 2018 expenditures with the final Public Works Trust Fund loan payment completed in 2018 that was associated with the Utility Local Improvement District (ULID) 18 project. On the other hand, the District will be completing a much larger capital program than 2018. Much of the increase (approximately \$1.2 million) will in actuality be carryover of projects that did not move through completion in 2018 due to a variety of reasons (external permitting delays and staffing limitations created by management vacancies being the primary two reasons). To maintain the District's multi-year capital improvement programs of continued investment in our water and sewer system infrastructure, the Engineering Department will aggressively manage our full slate of projects, which includes construction associated with renovation or circumvention of three sanitary sewer lift stations, and design and permitting of the renovation of two additional sanitary sewer lift stations (to be constructed in 2020) and the Agate Heights water treatment plant upgrades (also to be constructed in 2020).

The budget has been carefully crafted to emphasize the Board's service priorities while deploying resources in a manner that assures a firm foundation. As a result, the 2019 Budget maintains

reserves at levels defined by District financial policies, while maintaining adequate operating capital and investing in critical infrastructure improvements that are aimed at prolonging the life of our assets and protecting the environment. The 2019 capital improvement 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 2016 water and sewer utility rate study. The fact that the 2019 investments can be made without reliance on debt is made possible by the ongoing commitment to disciplined fiscal policy and management.

The 2019 Budget also reaffirms the District's ongoing commitment to protecting Lake Whatcom. In 2019, the District will continue its partnership with Whatcom County and the City of Bellingham for water quality monitoring and invasive species inspection programs, and has allocated an additional \$35,000 beyond its partnership commitments to supplement water quality monitoring and preservation of the lake.

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 2019 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 limited 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 Lake Whatcom, including Geneva, Sudden Valley and the North Shore of Lake Whatcom. The District is governed by a five member Board of Commissioners (Board) who set the policies and rates of the District, and who adopt an annual operating budget. The annual budget defines the operational and capital improvement programs for that year, as well as maintenance of contingency and reserve funds to respond to unanticipated events, should they occur. The following summarizes each of the District's funds.

2.1 Operating Fund (Fund 401)

This fund is maintained as the primary operating fund of the District. The majority of revenue is derived from rates charged to water and sewer customers. Other revenue sources are interest income, late payment fees, recording fees, permit fees, payments associated with existing utility local improvement districts (ULIDs), and miscellaneous charges and fees. All fees and charges are set by the Board. Funds collected are used to pay for operations and maintenance expenditures in accordance with the Board-approved annual operating budget.

2.2 System Reinvestment Fund (Fund 420)

This is a special fund intended to receive and disburse funds for capital construction projects. This fund is primarily funded through interfund income from the Operating Fund. The fund amount is established through periodic rate studies. Expenses associated with this fund are developed annually in a *Capital Improvement and Maintenance Plan*, which is derived from the capital improvement programs for the sewer and water utilities.

2.3 Sewer/Stormwater Contingency Fund (Fund 425)

This fund was created to ensure that unanticipated projects related to sewer system and stormwater system expenses will be funded, subsequent to Board approval. The fund amount is established through the District's financial policies at one percent of the sewer utility infrastructure replacement cost.

2.4 Water Contingency Fund (Fund 426)

This fund was created to ensure that unanticipated projects related to the water system expenses will be funded, subsequent to Board approval. The fund amount is established through the District's financial policies at one percent of the water utility infrastructure replacement cost.

2.5 Debt Service Fund (Fund 450)

This fund provides redemption of outstanding debt incurred. The 2016 Bond issue interest is paid semi-annually, and the principal is paid annually from Operating Fund revenues. This fund also provides redemption of long term water project loans. Principal and interest on those loans are paid entirely from Operating Fund revenues.

2.6 Bond Reserve Fund (Fund 460)

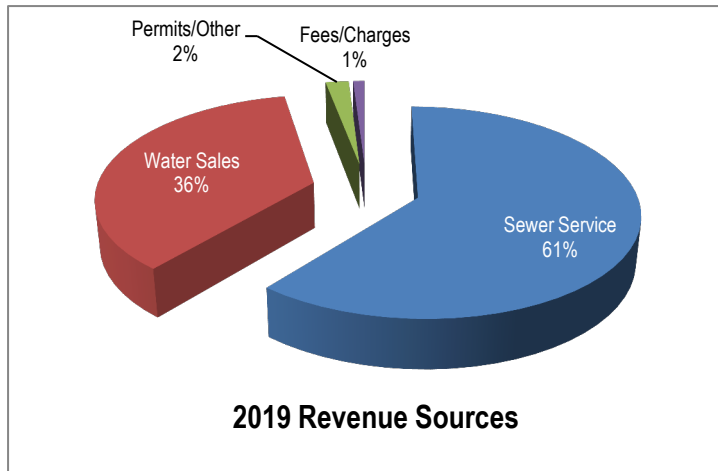
The fund was established by the covenants of the 2016 bond sale and is restricted by definition. A reserve limitation is required to be held in this fund until the outstanding 2016 bonds are paid in full. The bond reserve is fully funded.

3 2019 REVENUE PROJECTIONS

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

In 2016, the District engaged the services of a utility financing consultant to review the District's operational and capital programs relative to revenue projections. The outcome of the study provided a multi-year approach to

incremental increases to water and sewer rates through 2021 to ensure sufficient funding for operations, outstanding debt service, and system reinvestment through capital projects. Per the Board-approved multi-year rate schedule, 2019 Budget revenues have been based upon water and sewer rate increases of 4 and 2.5 percent, respectively, over 2018 rates. This will result in approximately \$2.5 and \$4.1 million in water and sewer utility revenues, respectively.



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 impact. Development within the District increased significantly during 2018, with 27 permits issued for new homes. As a result, general facility charge revenues increased significantly over that of prior years. Although current indications are that 2019 will witness similar levels of new development, the 2019 Budget revenues have been based upon a more conservative number of 15 new homes (resulting in a projection of \$210,000 in associated revenue).

Other revenues (totaling approximately \$167,000), comprised of latecomer and other miscellaneous fees, investment interest, and revenues associated with ULID 18, have been based upon 2018 revenues.

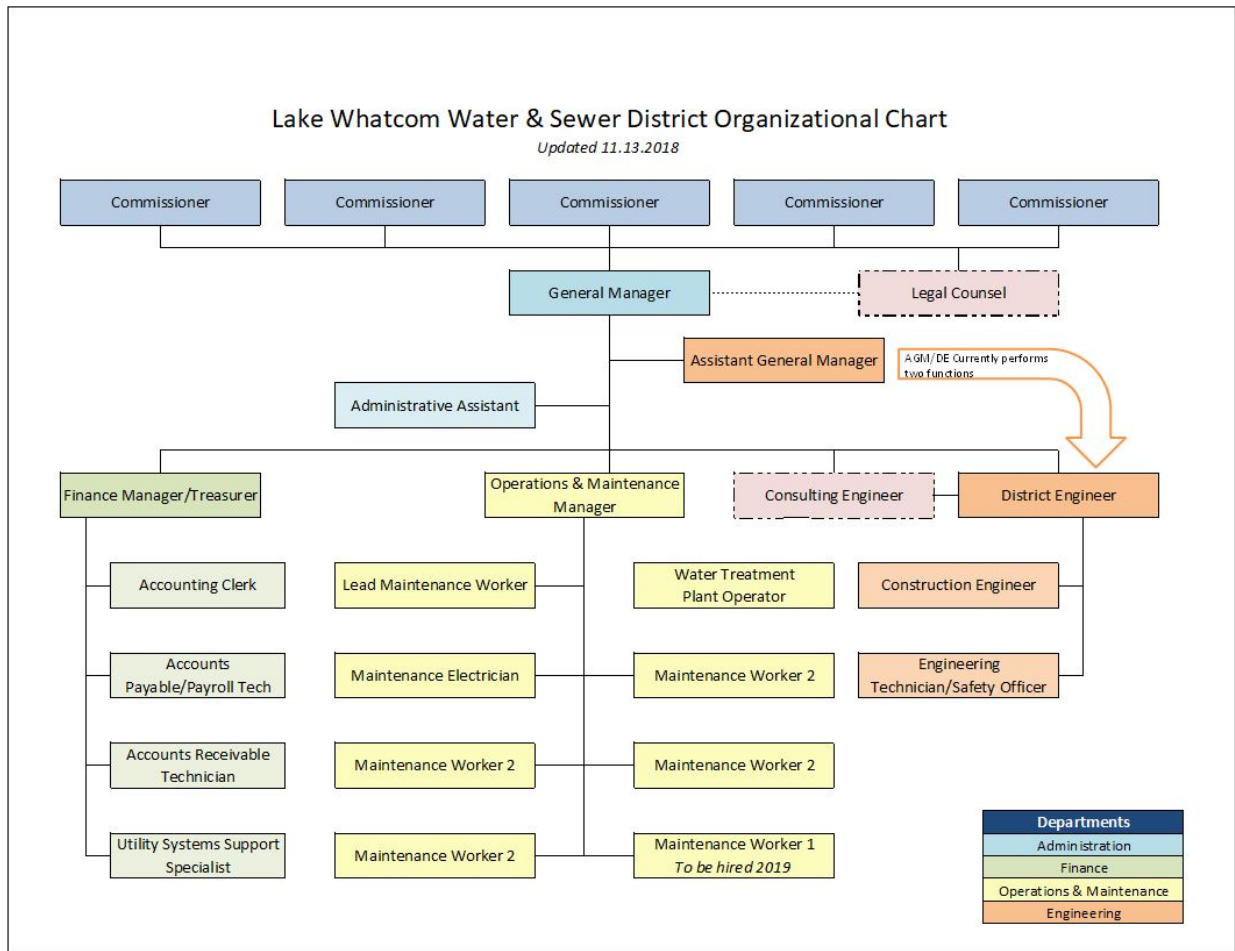
Therefore, based upon prior adopted rate increases and conservative projections of other revenues, the 2019 Budget reflects a total revenue from external sources of \$6,965,145, which is an approximate four percent increase over revenues projected in the 2018 Budget, but roughly equivalent to actual revenues projected through 2018 yearend.

4 2019 EXPENDITURES

4.1 Operating Fund (Fund 401)

As previously stated, the Operating Fund is the primary fund through which District business is conducted. Following provides a summary of the primary expenditures anticipated in 2019.

Personnel. Being a service-oriented organization, staff salary and associated benefits make up a large portion of the overall Operating Fund budget. In 2019, the District will add one Maintenance Worker 1 position beyond the 2018-budgeted 18 full-time equivalent positions. The additional position is consistent with the District's staff succession plan as it will allow for overlap of an entry-level maintenance worker with that of a Maintenance Worker 2 position that is anticipated to retire in fall 2019. Beyond the additional position, personnel-related cost increases from the 2018 Budget are primarily associated with union contract-required cost-of-living adjustments to salaries (estimated at three percent) and increases to healthcare and related benefits (an increase of four percent). The 2019 Organization Chart is:



Professional Services. The District relies on a number of professional- and vendor-related services to efficiently and effectively carry out the business of the District. Such providers include contracting with the District's legal counsel and on-call consulting engineer, support services associated with asset management, infrastructure control, administrative systems, and general services (e.g., custodial, landscape maintenance, security, etc.). Total professional services for 2019 are projected at \$290,000, which is a significant decrease from the 2018 budget, due primarily to costs associated with a salary study and the bi-annual audit performed by the Washington State Auditor's Office not being required in 2019.

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 of Bellingham for treatment of all sewage collected by the District. Similarly, 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 and sewer fees from the City of Bellingham for 2019 is budgeted at \$650,000, which is relatively equivalent to costs projected through 2018 yearend.

Water Quality Partnerships. With Lake Whatcom as the primary source of drinking water within the District, protection of its water quality is crucial. In 2019, the District will continue its partnership with Whatcom County and the City of Bellingham for water quality monitoring and invasive species inspection programs (\$55,000), as well as invest an additional \$35,000 in associated initiatives aimed at protecting water quality within the lake.

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. Electricity costs, together with other utilities, are budgeted at \$230,000 for 2019, up approximately ten percent from the 2018 Budget to account for rate increases and growth within the District.

Operating Reserve. An operating reserve is maintained within the Operating Fund to provide a liquidity cushion; it protects the utilities from the risk of short-term variation in the timing of revenue collection and the payment of expenses. Like other types of reserves, operating reserves also serve another purpose in that they help smooth rate increases over time. In accordance with District financial policies, an operating reserve is maintained equivalent to the cost of operating the sewer and water utilities for 60 days (\$800,000). Also per District policies, in any year where operating reserves exceed the maximum days of operations expenses at yearend (60 days), that excess cash is transferred to the System Reinvestment Fund for capital projects. For 2019, \$75,000 of excess cash is projected for reinvestment in District infrastructure.

2018 Fund Carryover. Due to external permitting delays and limited engineering staff availability resulting from management vacancies that occurred in 2018, \$1.2 million in Operating Fund monies were not transferred to the System Reinvestment Fund because the associated capital projects were not completed. As a result, these funds will be carried over to 2019 when the associated projects will be completed.

4.2 System Reinvestment Fund (Fund 420)

In 2019, the District will undertake an aggressive program of capital improvement, system maintenance, and system reinvestment projects. The *2019 Capital Improvement and Maintenance Plan*, included as Appendix B, provides a comprehensive description of the projects that will be completed under this fund.

Category	Project	Cost ¹
Capital Improvement Projects		
Sewer	Country Club Lift Station Design, Permitting & Construction	\$563,700
Sewer	Geneva Lift Station/Force Main Design, Permitting & Construction	\$660,600
Sewer	Euclid Lift Station Design, Permitting & Construction	\$298,000
Sewer	Dellesta and Edgewater Lift Stations Design & Permitting	\$59,500
Sewer	Camp Firwood ATS	\$2,000
Sewer	Airport Lift Station Generator and Lakewood Lift Station Easement	\$35,000
Sewer	Northshore Force Main Stream Crossing Protection	\$75,000
Water	Dead End Blowoffs	\$8,800
Water	Geneva Booster Station Renovation	\$40,000
Water	ShakeAlert Pilot Program	\$5,000
Water	Division 7 Reservoir FEMA Grant Application	\$5,000
Water	Agate Heights Water Treatment Plant and Opal Booster Pump Upgrades	\$22,000
General	Replace Backhoe	\$105,000
Subtotal		\$1,879,600
Maintenance Projects		
Sewer	Flat Car Lift Station Pump Renovation	\$28,000
Sewer	AB PLC-5 Replacements, Uninterrupted Power Service Improvements	\$100,000
General	Replace Tires – 5-Yard Dump Truck	\$3,600
Subtotal		\$131,600
System Reinvestment Projects		
Sewer	Edgewater Lift Station Design & Bidding	\$100,000
Sewer	Update Sewer Comprehensive Plan	\$85,000
Sewer	Rehabilitation and Replacement Projects	\$40,000
Water	Water Meters (40) and Replacement Registers (200)	\$45,000
Water	Fire Flow Improvements (2 projects)	\$17,000
Water	Little Strawberry Bridge Water Main Replacement Pre-design	\$20,000
Water	Sudden Valley & Agate Heights Water Treatment Plant Component Replacements	\$72,000
Water	Field Chlorine Injection System	\$5,000
Water	Safety Improvements – Division 7, Division 22, and Geneva Reservoirs	\$25,000
Water	Sudden Valley Water Treatment Plant Facility Improvement Plan	\$50,000
Water	Rehabilitation and Replacement Projects	\$25,000
General	District Office Improvements (Irrigation, Parking/Drainage Improvements, and Front Access	\$60,000
Subtotal		\$544,000
TOTAL		\$2,555,200

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

4.3 Sewer/Stormwater Contingency Fund (Fund 425)

The fund amount, as established through the District's financial policies at one percent of the sewer utility infrastructure replacement cost, is \$785,000. To meet District financial policies, \$15,000 will be transferred into the fund from the Operating Fund; however, as this is contingency fund, no expenditures are budgeted for 2019.

4.4 Water Contingency Fund (Fund 426)

The fund amount, as established through the District's financial policies at one percent of the water utility infrastructure replacement cost, is \$460,000. To meet District financial policies, \$20,000 will be transferred into the fund from the Operating Fund; however, as this is contingency fund, no expenditures are budgeted for 2019.

4.5 Debt Service Fund (Fund 450)

This fund accounts for debt service repayment associated with prior District capital improvements and are summarized in the *Revenue Bonds and Loan Funds Summary* (Appendix C). Total 2019 expenditures to make principal and interest payments on District low interest loan and bond obligations will be \$867,100. Payments will be associated with:

- Geneva AC Pipe Mains Replacement Project
- Division 22 Water Reservoir Construction Project
- 2009 Bond (financed renovation of three sewer lift stations and system-wide telemetry upgrades)
- 2016 Bond (re-funded the 2009 Bond, as well as financed 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)

Of note, payments associated with Debt Loan 064 (associated with ULID 18) were completed in 2018, reducing expenditures from this fund relative to 2018 expenditures by approximately \$240,000.

4.6 Bond Reserve Fund (Fund 460)

No expenditures are anticipated in 2019 from this fund. A fund balance of approximately \$770,000 will be carried over from 2018.

APPENDIX A

2019 BUDGET

LAKE WHATCOM WATER AND SEWER DISTRICT

	Description	Actual 2016	Actual 2017	Budget 2018	Budget 2019
<i>OPERATING - 401</i>					
<i>EXPENDITURES</i>					
401-53X-10-10	Admin Payroll (3% cola plus step increases - 2019)	519,076	640,699	652,846	674,270
401-53X-10-20	Admin Personnel Benefits (Medical,Retirement etc)	179,628	246,153	274,332	284,390
401-53X-10-31	Gen Admin Supplies/Equipment	25,633	27,178	30,000	30,000
401-53X-10-31-01	Meetings/Team building	2,540	3,063	3,000	3,000
401-53X-10-40	Web pay/Bank Fees	25,422	33,320	30,000	40,000
	Interlocal - Invasive Species (City)				50,000
	Interlocal - Lake Whatcom Tributary Monitor (County)				5,000
	North Shore Sampling (County)				30,000
	Mutt Mits				5,000
401-534-10-41	Water Quality Assurance Programs (TOTAL)	58,181	8,856	55,000	90,000
	County Auditor Filing Fees				6,500
	Statement processing				25,000
	Answering Service				2,000
	Time clock system				2,000
	Financial Software Maintenance				10,000
	Web Check services				5,000
	CPA (Internal audit and Financial statements)				6,000
	Docuware maintenance and upgrade				15,000
	Legal Counsel				60,000
	Computer support				25,000
	Firewall renewal				15,000
	Anti virus subscription				1,000
	Building security for offices				2,000
	Building custodial				10,000
	Pest control				500
	Landscaping service				4,000
	South Whatcom Fire (hydrant maintenance)				1,000
	Scada System Software Maintenance - Operations				7,500
	Engineering Consultant				20,000
	Camera Van Software				1,500
	SCADA/PLC Support - Engineering/Operations				5,000
	Cartegraph - Engineering/Operations				30,000
	Auto Desk - Engineering				1,000

LAKE WHATCOM WATER AND SEWER DISTRICT

	Description	Actual 2016	Actual 2017	Budget 2018	Budget 2019
	GIS Partnership (County)				1,000
	Rockwell - Engineering/Operations				500
	IT Pipes				1,500
	ESRI - ARC GIS				1,500
	Innovyze - Engineering				2,500
	Master Meter				2,000
	Cyberlock software				1,000
	Whatcom County Emergency Management				20,000
	Misc (Bid notices etc.)				5,000
401-53X-10-41-01	Professional Services (TOTAL)	300,587	367,846	334,000	290,000
401-53X-10-42	Communication	49,276	49,463	50,000	50,000
401-53X-10-45	Admin Lease (copy/printers now leased)	1,796	1,820	2,000	7,000
401-53X-10-46	Property Insurance	129,198	135,190	140,000	134,000
401-53X-10-49	Admin Misc.	1,867	1,192	1,000	1,000
401-53X-10-49-01	Memberships/Dues	12,843	14,215	17,000	17,000
401-53X-10-49-02	WA State Dept of RevenueTaxes/Permits	200,780	202,182	205,000	215,000
401-53X-40-43	Training & Travel	21,814	20,463	35,000	35,000
401-53X-40-43-01	Tuition reimbursement	-	286	1,000	1,000
401-53X-50-31	Operations/Maintenance Supplies	196,312	147,259	150,000	280,000
401-53X-50-31-01	Small Assets/tools	-	-	-	20,000
401-53X-50-48	Operations Repair/Maint contracted work	111,230	176,712	190,000	40,000
401-53X-50-49	Insurance Claims	5,000	-	5,000	5,000
401-53X-60-41	Operations Contracted (water testing/generator load testing)	7,613	18,979	8,500	22,500
401-534-60-47	Water City of Bellingham	37,823	40,386	40,000	45,000
401-535-60-47	Sewer City of Bellingham Treatment Fee	616,004	643,912	640,000	650,000
401-53X-80-10	Operations Payroll (3% cola plus step increases - 2019)	986,544	926,386	954,742	1,066,380
401-53X-80-20	Operations Personnel Benefits (Medical,Retirement etc)	382,279	402,301	446,472	503,000
401-53X-80-32	Fuel	15,232	27,422	24,000	28,000
401-53X-80-35	Safety Supplies	5,657	12,429	10,000	10,000
401-53X-80-35-01	Safety Supplies Boots	1,158	2,019	2,500	2,500
401-53X-80-35-02	Emergency Preparedness	-	428	10,000	10,000
401-53X-80-47	General Utilities (Electric, gas, water, garbage)	203,339	191,704	208,000	230,000
401-53X-80-49	Laundry	3,544	3,901	4,000	4,000
401-591-35-77	Post Point Principal Payments	73,213	-	-	-
401-592-35-83	Post Point Interest Payments	120,426	-	-	-
	OPERATING EXPENDITURES	4,294,015	4,345,764	4,523,392	4,788,040

LAKE WHATCOM WATER AND SEWER DISTRICT

	Description	Actual 2016	Actual 2017	Budget 2018	Budget 2019
<i>TRANSFERS</i>	Transfers Out to System Reinvestment Fund 420	372,111	1,043,087	1,505,000	1,600,000
	Transfers Out to Sewer/Storm Water Contingency Fund 425		149,000	60,000	15,000
	Transfers Out to Water Contingency Fund 426	600,000		120,000	20,000
	Transfers Out to DWSRF Projects Fund 440	65,334	6,299		-
	Transfers Out to Debt Service Fund 450	443,050	832,727	649,775	867,100
	Transfers Out to Bond Reserve Fund 460	250,000	-		-
	Transfers Out to Water Loan Debt Service Fund 470	215,470	-	289,110	-
	TOTAL TRANSFERS	1,945,965	2,031,113	2,623,885	2,502,100
OPERATING FUND	OPERATING REVENUES	6,066,170	6,527,640	6,693,348	6,965,145
	OPERATING EXPENDITURES	(4,294,015)	(4,345,764)	(4,523,392)	(4,788,040)
	TRANSFERS	(1,945,965)	(2,031,113)	(2,623,885)	(2,502,100)
	2018 BALANCE CARRYOVER				1,200,000
	2019 ALLOCATED TO OPERATING RESERVES				(800,000)
	PROPOSED AVAILABLE 2019 YEAR END BALANCE				75,005

LAKE WHATCOM WATER AND SEWER DISTRICT

	Description	Actual 2016	Actual 2017	Budget 2018	Budget 2019
SYSTEM REINVESTMENT - 420					
420-343-40-19	DEA Permits	7,100	84,570	-	-
420-379-10-30	Permits Capital Portion (moved to General Fund 2018)	123,443	97,223	-	-
420-379-10-40	Latecomer Fees (Moved to General Fund 2017)	4,102	529	-	-
420-397-10-00	Transfers In from Operating Fund 401	372,111	1,043,087	1,505,000	1,600,000
	TOTAL REVENUES	506,756	1,225,409	1,505,000	1,600,000
420-534-10-41	DEA Contracted Services	-	30,460	-	-
420-534-90-61	DEA Refunds	2,866	-	-	-
	Capital Outlay - Budget only			2,005,000	-
420-594-38-62	Capital Outlay - Structures	185,766	223,899	-	-
420-594-38-63	Capital Outlay - Water/Sewer Systems	268,752	295,815	-	-
420-594-38-64	Capital Outlay - Machinery/Equipment	50,094	154,878	-	-
	Active Projects to be completed (See CIP detail - 2019)			-	1,925,000
	New Capital Projects (see CIP detail - 2019)			-	675,000
	TOTAL EXPENDITURES	507,478	705,052	2,005,000	2,600,000
SYSTEM REINVESTMENT FUND	REVENUES	506,756	1,225,409	1,505,000	1,600,000
	EXPENDITURES	(507,478)	(705,052)	(2,005,000)	(2,600,000)
	CASH/INVESTMENTS BALANCE CARRYOVER			500,000	1,000,000
	PROPOSED 2019 YEAR END BALANCE				-

LAKE WHATCOM WATER AND SEWER DISTRICT

	Description	Actual 2016	Actual 2017	Budget 2018	Budget 2019
SEWER/STORM WATER - 425					
CONTINGENCY					
425-361-11-00-25	Investment Interest (to Operating Fund)	7,955	7,743	-	-
425-397-10-00-10	Transfers In from Operating Fund 401	-	149,000	60,000	15,000
	TOTAL REVENUES	7,955	156,743	60,000	15,000
425-535-10-42-25	Investment Service Charges	199	187	-	-
	SV Sewer Pump Station Emergency Repairs	55,876	-	-	-
	North Shore Sampling C 16-07		-	60,000	-
425-594-38-63-25	Water/Sewer Systems	-	265,050	-	-
	TOTAL EXPENDITURES	56,075	265,237	60,000	0
SEWER/STORM WATER CONTINGENCY	REVENUES	7,955	156,743	60,000	15,000
	EXPENDITURES	(56,075)	(265,237)	(60,000)	0
	CASH/INVESTMENTS BALANCE CARRYOVER				770,000
	PROPOSED 2019 YEAR END BALANCE				785,000
WATER CONTINGENCY- 426					
426-397-10-00-26	Transfers In from Operating Fund 401	600,000	-	-	20,000
	TOTAL REVENUES	600,000	-	-	20,000
426-597-10-00-26	Transfer Out to Operating Fund 401	160,000	-	-	-
	TOTAL EXPENDITURES	160,000	0	0	0
WATER CONTINGENCY FUND	REVENUES	600,000	-	-	20,000
	EXPENDITURES	160,000	-	-	0
	CASH/INVESTMENTS BALANCE CARRYOVER				440,000
	PROPOSED 2019 YEAR END BALANCE				460,000

LAKE WHATCOM WATER AND SEWER DISTRICT

	Description	Actual 2016	Actual 2017	Budget 2018	Budget 2019
DEBT SERVICE - 450					
450-391-20-00-50	2016 Bond Proceeds	5,508	-	-	-
450-397-10-00-70	Transfers In from Operating Fund 401 - Water loan projects	215,470	184,652	289,110	219,694
450-397-10-00-50	Transfers In from Operating Fund 401 - Bond payments	443,050	648,075	649,775	647,406
	TOTAL REVENUES	664,028	832,727	938,885	867,100
450-535-10-41-50	Bond Admin Fee	-	600	-	-
450-591-34-77-41	Redemption of Long Term Debt Geneva AC Mains	119,938	119,938	119,937	119,937
450-591-34-77-42	Redemption of Long Term Debt Div 22 Reservoir	-	-	53,831	53,831
450-591-34-77-73	Redemption of Long Term Debt Loan 064	47,252	47,252	47,252	-
450-592-34-83-41	Debt Service Interest Geneva AC Mains	41,624	34,182	32,383	30,584
450-592-34-83-42	Debt Service Interest Div 22 Reservoir	-	-	30,982	15,342
450-592-34-83-73	Debt Service Interest Loan 064	6,615	5,670	4,725	-
450-591-35-72-50	2009 Bond Principal Payments	250,000	265,000	275,000	285,000
450-591-35-72-51	2016 Bond Principal Payments	-	125,000	130,000	130,000
450-592-35-83-50	2009 Bond Interest Payments	116,925	30,900	20,300	10,332
450-592-35-83-51	2016 Bond Interest Payments	58,687	227,175	224,475	222,074
	TOTAL EXPENDITURES	641,041	855,717	938,885	867,100
DEBT SERVICE FUND	REVENUES	664,028	832,727	938,885	867,100
	EXPENDITURES	(641,041)	(855,717)	(938,885)	(867,100)
	CASH/INVESTMENTS BALANCE CARRYOVER				-
	PROPOSED 2019 YEAR END BALANCE				-

LAKE WHATCOM WATER AND SEWER DISTRICT

	Description	Actual 2016	Actual 2017	Budget 2018	Budget 2019
BOND RESERVE - 460					
460-361-11-00	Investment Interest (to Operating Fund)	-	9,870	-	-
460-397-10-00-60	Transfers In from Operating Fund 401	250,000	-	-	-
	TOTAL REVENUES	250,000	9,870	0	0
460-535-10-41	Investment Service Charges	199	765	-	-
	TOTAL EXPENDITURES	199	765	0	0
BOND RESERVE FUND	REVENUES	250,000	9,870	-	0
	EXPENDITURES	(199)	(765)		0
	CASH/INVESTMENTS BALANCE CARRYOVER				772,334
	PROPOSED 2019 YEAR END BALANCE				772,334

LAKE WHATCOM WATER AND SEWER DISTRICT					
	Description	Actual	Actual	Adopted	Budget
		2016	2017	2018	2019
OPERATING FUND - 401					
REVENUES					
401-333-66-00-01	North Shore Consolidation Feasibility Study		29,986		
401-333-97-00-00	FEMA Aug 2015 Storm Assistance		14,280		
401-343-40-10	Water Sales Metered (4% base rate increase) *	2,099,344	2,269,645	2,437,545	2,526,043
401-343-41-10	Permits (15 new connection permits)	66,580	171,830	143,480	210,000
401-343-50-11	Sewer Service Residential (2.5% rate increase) *	3,734,240	3,849,280	3,949,323	4,058,102
401-343-50-19	Sewer Service Other	4,361	3,961	4,000	4,000
401-343-50-80	Latecomer's Fees	6,766	6,772	-	-
401-343-81-10	Combined Fees	29,564	27,211	30,000	30,000
401-359-90-00	Late fees	54,573	56,798	50,000	50,000
401-361-11-00	Investment Interest	1,332	11,163	20,000	50,000
401-361-40-00-80	ULID 18 Interest/Penalties	20,166	18,631	8,000	5,000
401-368-10-00-80	ULID 18 Principal Payments	45,368	60,796	50,000	30,000
401-369-10-00	Sale of scrap metal and surplus	2,641	448	1,000	2,000
401-369-10-01	Miscellaneous	1,235	2,756	-	-
401-369-40-00	Judgements and Settlements	-	-	-	-
401-395-10-00	Sale of Capital Assets	-	-	-	-
401-395-20-00	Insurance Recoveries	-	4,083	-	-
	TOTAL REVENUES	6,066,170	6,527,640	6,693,348	6,965,145



LAKE WHATCOM WATER AND SEWER FUND SUMMARY 2019

	401	420	425	426	450	460	
	OPERATING	SYSTEM REINVESTMENT	SEWER/ STORM WATER CONTINGENCY	WATER CONTINGENCY	DEBT SERVICE	BOND RESERVE (RESTRICTED)	TOTAL
2019 REVENUES AND TRANSFERS IN	6,965,145	1,600,000	15,000	20,000	867,100	-	9,467,245
2019 EXPENDITURES AND TRANSFERS OUT	(7,290,140)	(2,600,000)	-	-	(867,100)	-	(10,757,240)
CASH/INVESTMENTS 2018 CARRYOVER	1,200,000	1,000,000	770,000	440,000	-	772,334	4,182,334
	-----	-----	-----	-----	-----	-----	-----
PROPOSED 2019 YEAR END BALANCE	\$875,005	\$0	\$785,000	\$460,000	\$0	\$772,334	\$2,892,339
ALLOCATED TO OPERATING RESERVE	-\$800,000						
AVAILABLE 2019 YEAR END BALANCE	\$75,005						

APPENDIX B

2019 CAPITAL AND IMPROVEMENT MAINTENANCE PLAN

Active Capital Improvement Projects						
			(values updated 10/18/2018)			
			Projected Budget	Projected Spending	Amt Remaining	
Category	Project #	Project Title / Tasks	to Completion	Thru 2018	to include in	Notes
					2019 Budget	
Rate Funded Projects						
Sewer	C1611	Country Club Sewer Pump Station - HDD				
		BHC Design, Permitting, Bidding	\$ 206,222.00	\$ 180,000.00	\$ 26,222.00	Incl Amend #4
		BHC Services During Construction - Estimate	\$ 80,000.00	\$ -	\$ 80,000.00	BHC estimate \$75k
		Agency Permitting Fees	\$ 15,000.00	\$ 7,574.70	\$ 7,425.30	
		Construction - Estimate	\$ 450,000.00	\$ -	\$ 450,000.00	BHC estimate \$435k
Sewer	C1705	Geneva and Par Sewer Pump Stations				
		RH2 Design, Permitting, Bidding	\$ 269,288.00	\$ 269,288.00	\$ -	Incl Amend #3
		Par RH2 Services During Construction	\$ 67,067.00	\$ 67,067.00	\$ -	Incl Amend #3
		Par Construction Contract	\$ 438,340.00	\$ 438,340.00	\$ -	
		Geneva RH2 Services During Construction Estimate	\$ 70,000.00	\$ -	\$ 70,000.00	Estimate
		Geneva Pump Station Construction Estimate	\$ 500,000.00	\$ -	\$ 500,000.00	RH2 estimate \$493k
		Geneva Force Main Construction Estimate	\$ 90,622.83	\$ -	\$ 90,622.83	RH2 estimate range \$65k - \$100k
Water	C1716A	Dead End Blowoffs	\$ 20,000.00	\$ 11,158.37	\$ 8,841.63	need to budget for remaining
Water	C1716B	Geneva Booster Station - PRV's, Backflow, Roof	\$ 40,000.00	\$ -	\$ 40,000.00	
Water	C1801	Shake Alert Pilot Program	\$ 20,000.00	\$ 15,000.00	\$ 5,000.00	
Sewer	C1802	Dellesta, Edgewater & Euclid Sewer Pump Stations				
		Euclid - RH2 Design, Permitting, Bidding	\$ 93,512.00	\$ 50,000.00	\$ 43,512.00	Phase 1A
		Euclid - RH2 Services During Construction - Estimate	\$ 50,000.00	\$ -	\$ 50,000.00	requested budget from RH2 10/17/2018
		Agency Permitting Fees	\$ 5,000.00	\$ 875.00	\$ 4,125.00	
		Euclid Construction - Estimate	\$ 200,000.00	\$ -	\$ 200,000.00	requested budget from RH2 10/17/2018
		Dellesta, Edgewater - RH2 Predesign, Permitting	\$ 99,489.00	\$ 40,000.00	\$ 59,489.00	Phase 1B
Sewer	C1803	Camp Firwood ATS	\$ 10,000.00	\$ 8,000.00	\$ 2,000.00	Incl PO for ATS & fence matl
General	C1809	Replace Backhoe	\$ 105,000.00	\$ -	\$ 105,000.00	Order placed with state bid
Sewer	C1810	Airport Sewer PS Generator & Lakewood PS Esmt	\$ 45,000.00	\$ 10,000.00	\$ 35,000.00	
Sewer	M1811	North Shore Sewer FM Stream Crossing Protection			\$ -	
		Wilson Design, Permitting	\$ 19,800.00	\$ 19,800.00	\$ -	Wilson Task Order
		Wilson Services During Construction - Estimate	\$ 10,000.00	\$ -	\$ 10,000.00	Wilson Estimate
		Construction - Estimate	\$ 65,000.00	\$ -	\$ 65,000.00	Wilson Estimate
Water	C1813	Div 7 Reservoir - Seismic FEMA Grant Application	\$ 15,000.00	\$ 10,147.50	\$ 4,852.50	
Water	C1814	Agate Heights WTP and Opal Booster Upgrades				
		Wilson Predesign, Permitting, DOH Project Report	\$ 42,046.00	\$ 20,000.00	\$ 22,046.00	Wilson Task Order
		Grand Total for Rate Funded Projects	\$ 3,026,386.83	\$ 1,147,250.57	\$ 1,879,136.26	

Lake Whatcom Water and Sewer District - Capital Improvement Plan 2019 thru 2024

Program Area / CIP Project # / CIP Project Name		Fund	Total	2019	2020	2021	2022	2023	2024
Maintenance - General									
0195	VEH42 5-yard Dump Truck - Replace Tires		3,600	3,600					
Subtotal			3,600	3,600					
Maintenance - Sewer									
0190	Flat Car Sewer Pump Station - Replace Volute, Impeller, Wear Rings (for pumps #1 and #3)		28,000	28,000					
0192	AB PLC-5 Replacements, UPS Improvements		100,000	100,000					
Subtotal			128,000	128,000					
Maintenance - Water									
W0005	Reservoirs - Inspection & Maintenance		30,900					30,900	
Subtotal			30,900					30,900	
System Reinvestment - General									
0198	District Office - Irrigation, Asphalt Patching, Surface Drainage, Front Door Concrete Steps		60,000	60,000					
A0005	Accounting & Administration Server - Replace/Update Hardware, Network Security, & OS		51,500		25,750			25,750	
E0002	Replace 5-yard Dump Truck		127,308						127,308
E0008	Replace Flush and Vac Truck		432,600			432,600			
V0001	Replace Tool Truck (7 tool trucks in fleet)		200,850		66,950		66,950		66,950
V0002	Replace Administrative Staff Vehicle (4 cars in fleet)		26,780			26,780			
Subtotal			899,038	60,000	92,700	459,380	66,950	25,750	194,258
System Reinvestment - Sewer									
0032a	Agate Bay Sewer Pump Station - Predesign and Shorelines Permitting		100,000				100,000		
0032b	Agate Bay Sewer Pump Station - Design and Bidding		125,000					125,000	
0032c	Agate Bay Sewer Pump Station - Construction		525,000						525,000
0044b	Edgewater Pump Station - Design and Bidding		100,000	100,000					
0044c	Edgewater Pump Station - Construction		500,000		500,000				
0053b	Dellesta Pump Station - Design and Bidding		100,000		100,000				
0053c	Dellesta Pump Station - Construction		500,000			500,000			
0055a	Rocky Ridge Pump Station - Predesign and Shorelines Permitting		100,000		100,000				
0055b	Rocky Ridge Pump Station - Design and Bidding		100,000			100,000			
0055c	Rocky Ridge Pump Station - Construction		555,000				555,000		
0056a	Lakewood Pump Station - Predesign and Shorelines Permitting		100,000			100,000			
0056b	Lakewood Pump Station - Design and Bidding		100,000				100,000		
0056c	Lakewood Pump Station - Construction		595,000					595,000	
0155	Lake Whatcom Boulevard - Replace ~200LF at Gravity Outlet		54,636		54,636				
0157	Install Ball Check Valves at Cable, Ranch House, Flat Car, Beaver		109,273				109,273		
0161	Stationary Generator Closed Loop Cooling Retrofit - North Point, SV, Flat Car, Beaver		218,545					218,545	

Program Area / CIP Project # / CIP Project Name		Fund	Total	2019	2020	2021	2022	2023	2024
0171	Sudden Valley Sewer Pump Station - Recondition Electrical Controls		163,909						163,909
0193	COB Post Point WWTP Biosolids Handling (LWWSD Cost Share 4.8%)		1					1	
A0010	Update Sewer Comprehensive Plan (Current Plan Dated 6-14-2014)		85,000	85,000					
E0003	Replace Sewer Camera Vehicle		79,942				79,942		
E0004	Replace Camera Equipment		40,314				40,314		
S0001a	Sewer System Rehab and Replacement Projects		40,000	40,000					
S0001b	Sewer System Rehab and Replacement Projects		60,000		60,000				
S0001c	Sewer System Rehab and Replacement Projects		330,000					165,000	165,000
Subtotal			4,681,621	225,000	814,636	700,000	984,529	1,103,546	853,909

System Reinvestment - Water

0084a	Agate Heights Water System - Phase 1 WTP Upgrade 1/3 capacity (from 30gpm to 60gpm) - Design, Bid, SDC		55,000		55,000				
0084b	Agate Heights Water System - Phase 1 WTP Upgrade 1/3 capacity (from 30gpm to 60gpm) - Construction		85,000		85,000				
0144	South Shore Water System - 1992 SVWTP 0.235MG Chlorine Contact Tank Seismic Retrofit - Priority 2		170,465						170,465
0164	Demolish Old Concrete Reservoir at 1010 Lakeview Street		35,000		35,000				
0166	South Shore Water System - SVWTP - Convert from Chlorine Gas to Liquid		100,000			100,000			
0177	Water Meters (40) and Replacement Registers (200)		45,000	45,000					
0187	Fire Flow Improvements - Remove Deficient Fire Hydrant ID 22-112 (Low flow and pressure) at top of Kinglet Ct		2,000	2,000					
0188	Fire Flow Improvements - Hydraulic Model Calibration of Assumed Pipe Friction Loss Factor (C-Factor) in Areas of Fire Flow Deficiencies		15,000	15,000					
0189	Fire Flow & Seismic Improvements - Replace Division 7 Reservoir (Applied for \$1.5M Grant + \$215k matching District Funds = \$1.7M Total Project Cost)		215,000		215,000				
0191	Little Strawberry Bridge Water Main Replacement - Phase 1 Pre-Design & Cost Estimate		20,000	20,000					
0194	SVWTP & AHWTP Misc Component Replacements		72,000	72,000					
0196	Field Chlorine Injection System for Water Main Disinfection after Depressurization		5,000	5,000					
0197	Reservoir Cage/Railing Improvements at Top of Fixed Ladders (Div 7, Div 22, & Geneva)		25,000	25,000					
0199	SVWTP 20-year Facility Improvement Plan		50,000	50,000					
0200	Division 30 Reservoir Safety Railing Around Perimeter		30,000		30,000				
0201	Convert Eageridge Booster to Metering Station		30,000		30,000				
W0002a	Water System Rehab and Replacement Projects		50,000	25,000	25,000				
W0002b	Water System Rehab and Replacement Projects		70,000			70,000			
W0002c	Water System Rehab and Replacement Projects		660,000				220,000	220,000	220,000
Subtotal			1,734,465	259,000	475,000	170,000	220,000	220,000	390,465

* Note: Cost Estimates in 2019 Dollars

Grand Total	7,477,624	675,600	1,382,336	1,329,380	1,271,479	1,380,196	1,438,632
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CAPITAL PROJECT NARRATIVE

Project Name:	Update Sewer Comprehensive Plan
CIP #:	A0010

Asset Register:	LWWSD → Sewer				
Failure Mode:	<u>Capacity</u>	<u>Level of Service</u>	<u>Mortality</u>	<u>Efficiency</u>	
Business Risk Exposure:	NA	= 1 x 1 x 1 (PoF x CoF x Redundancy)			
Remaining Life:	1	Consumed Life:	5	Effective Life:	6

PURPOSE and DESCRIPTION OF THE PROJECT

The current plan was approved by Washington State Department of Ecology on June 6, 2014. The District updates the plan every 6-years.

The purpose of the sewer comprehensive plan is to provide an overview of the existing sewage installations and treatment facilities operated and maintained by Lake Whatcom Water and Sewer District. In addition, it addresses potential future facilities development and projected population growth. The plan covers the following topics:

- system owner/operator information,
- sewer system layout including a description of the existing system boundaries, description of existing collection facilities including recently completed improvements,
- discussion of development trends within sewer district boundaries,
- discussion of existing and future collection and treatment issues such as existing and future sewer flows, and infiltration/inflow (I&I),
- discussion of sewer rate structure and revenue planning,
- discussion of present and future development alternatives within the district boundaries,
- outline of future improvement projects within the District.

Additional guidance is provided in Title 57 RCW Water-Sewer Districts:

RCW 57.16.010 - Before ordering any improvements or submitting to vote any proposition for incurring any indebtedness, the district commissioners shall adopt a general comprehensive plan for the type or types of facilities the district proposes to provide. A district may prepare a separate general comprehensive plan for each of these services and other services that districts are permitted to provide, or the district may combine any or all of its comprehensive plans into a single general comprehensive plan.

RCW 57.16.010 (2) - For a general comprehensive plan for a sewer system, the commissioners shall investigate all portions and sections of the district and select a general comprehensive plan for a sewer system for the district suitable and adequate for present and reasonably foreseeable future needs thereof. The general comprehensive plan shall provide for treatment plants and other methods and services, if any, for the prevention, control, and reduction of water pollution and for the treatment and disposal of sewage and industrial and other liquid wastes now produced or which may reasonably

CAPITAL PROJECT NARRATIVE

be expected to be produced within the district and shall, for such portions of the district as may then reasonably be served, provide for the acquisition or construction and installation of laterals, trunk sewers, intercepting sewers, syphons, pumping stations or other sewage collection facilities, septic tanks, septic tank systems or drainfields, and systems for the transmission and treatment of wastewater. The general comprehensive plan shall provide a long-term plan for financing the planned projects and the method of distributing the cost and expense of the sewer system and services, including the creation of local improvement districts or utility local improvement districts; and provide whether the whole or some part of the cost and expenses shall be paid from revenue or general obligation bonds.

The estimated budget to update the plan is \$85,000.

Cost estimates in 2019 dollars.

For further information about this project call Bill Hunter.

Revision History

- Created 11/5/2018.

CAPITAL PROJECT NARRATIVE

Project Name:	Edgewater Pump Station Retrofit
CIP #:	0044

Asset Register:	LWWSD → Sewer → Pump Stations → Edgewater				
Failure Mode:	Capacity	Level of Service	<u>Mortality</u>	Efficiency	
Business Risk Exposure:	30	= 10 x 3 x 1 (PoF x CoF x Redundancy)			
Remaining Life:	-4 years	Consumed Life:	44 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. 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 station has two existing 1.5 HP pumps; each have a design point of 100 GPM at 20-feet TDH. The wet well diameter is 6-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.

Budget Estimate (*Based on Boulevard, Strawberry Pt., Country Club and Geneva/Par Costs*)

Phase A – begin 2 years before construction (<u>Budgeted Active Project #C1802</u>)	
Predesign, Shoreline Permit:	\$100,000
Phase B – begin 1 year before construction (<u>Included in 2019 CIP Budget</u>)	
Design, Bidding:	\$100,000
Phase C – construction year (<u>Scheduled for 2020 CIP Budget</u>)	
Services During Construction:	\$ 75,000
Construction:	\$425,000
<hr/>	
Grand Project Total:	\$700,000

Cost estimate in 2017 dollars.

CAPITAL PROJECT NARRATIVE

Historical Pump Station Replacement Cost Data

Boulevard (2014)

Pre-design and Permitting	\$90k
Design and Bidding	\$100k
Services During Construction	\$90k
Construction	\$353k
Total	\$633k

Strawberry Pt (2016)

Pre-design and Permitting	\$103k
Design and Bidding	\$95k
Services During Construction	\$50k
Construction	\$400k
Total	\$648k

Country Club (2016)

Pre-design, Permitting, Design, Bidding	\$153k
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Geneva (with Stationary Generator) & Par (2017)

Pre-design and Permitting	\$102k
Design, Bidding and Services During Construction	\$146k
Geneva Construction Engineer's Estimate	\$650k
Par Construction Engineer's Estimate	\$477k
Total	---

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 10/24/2017 by KH. Updated narrative and updated budget numbers based on recent pump station projects.
- Updated 11/5/2018 by BH. Added notes on budget scheduling for each phase.

CAPITAL PROJECT NARRATIVE

Project Name:	Water Meter Registers
CIP #:	0177

Asset Register:	LWWSD → Water → Distribution System → Services				
Failure Mode:	Capacity	Level of Service	Mortality	Efficiency	
Business Risk Exposure:	10	= 10 x 1 x 1 (PoF x CoF x Redundancy)			
Remaining Life:	0	Consumed Life:	10	Effective Life:	10

PURPOSE and DESCRIPTION OF THE PROJECT

It has been more than a decade since the District completed rebuilding customer water services and installing radio-read water meters. These original radio-read meters had a 10 year battery life. Over the last several years the District has been replacing an ever increasing number of meter registers as they fail.

In 2017 and 2018 a large number of these older models to reached the end of their service life and were replaced. It appears that these were the peak replacement years.

In 2019 staff is projecting about 200 older generation (10-year life) registers will need to be replaced which is starting to taper off compared to the previous years. Staff is also estimating about 40 new meters should be stocked for new development.

The newer generation meters have an improved expected service life of 20 years.

Budget Estimate

200 New Registers x \$165/ea	\$33,000
<u>40 New Meters x \$216/ea</u>	<u>\$8,640</u>
Subtotal	\$41,640
8.7% Sales Tax	\$3,623
Total	\$45k

Cost estimate in 2019 dollars.

For further information about this project call Bill Hunter.

CAPITAL PROJECT NARRATIVE

Revision History

- Created 8/2/2006.
- Revised 1/5/2010 by BH: Adjusted materials cost to closer match recent brass bids. Deleted labor since it is already in the general budget.
- Revised 10/26/2011 by BH: Reduced annual budget from \$30k (85 rebuilds/year) to 15k (40-50 rebuilds/year) to better match available District labor resources.
- Revised 11/20/2013 by BH: Updated number of remaining rebuilds and annual budget.
- Revised 10/25/2017 by RM: Updated purpose, description and budget estimate
- Revised 11/6/2018 by BH: Updated description and budget estimate.

CAPITAL PROJECT NARRATIVE

Project Name:	Fire Flow Improvements – Remove Deficient Fire Hydrant #22-122
CIP #:	0187

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

PURPOSE and DESCRIPTION OF THE PROJECT

This project removes a fire hydrant identified in the 2018 Water System Plan as having deficient fire flow.

It is the only hydrant where sufficient fire flow cannot be reasonably achieved, and it is not needed. The District standard spacing for hydrants is 600 feet, and all parcels in this vicinity are within 600 feet of other hydrants.

Hydrant #22-112 is located at the upper end of Kinglet Court.

An amount of \$2k is included in the 2019 budget to remove the hydrant and install a blow-off assembly used for flushing the main.

Cost estimate in 2019 dollars.

For further information about this project call Bill Hunter.

Revision History

- Created 11/6/2018 by BH.

CAPITAL PROJECT NARRATIVE

Project Name:	Fire Flow Improvements – Hydraulic Model Calibration of Assumed Pipe Friction Loss Factor in Areas of Fire Flow Deficiencies
CIP #:	0188

Asset Register:	LWWSD → Water → Distribution System				
Failure Mode:	Capacity	Level of Service	Mortality	Efficiency	
Business Risk Exposure:	NA	= __ x __ x 1 (PoF x CoF x Redundancy)			
Remaining Life:	NA	Consumed Life:	NA	Effective Life:	NA

PURPOSE and DESCRIPTION OF THE PROJECT

This project was identified in the 2018 Water System Plan.

Project includes additional field testing for hydraulic model calibration to determine the appropriate friction factor (C factor) to use in the model. The C factor was reduced globally based on limited field tests which had a significant negative impact on available fire flow in the higher elevation areas. If the current C factor is correct and these are “real” (not modeling) deficiencies, the District will explore options to eliminate the deficiencies.

A budget amount of \$15k is included for 2019 for analyzing 4 to 8 areas in the water system. District staff will work with the consulting engineer to flow hydrants as needed for data collection. The estimate includes data reduction, updating the hydraulic model if warranted by the data, and updating the fire flow tech memo as needed.

Cost estimate in 2019 dollars.

For further information about this project call Bill Hunter.

Revision History

- Created 11/6/2018 by BH.

CAPITAL PROJECT NARRATIVE

Project Name:	Flat Car Sewer Pump Station – Replace Volute, Impeller, Wear Rings (for Pumps #1 and #3)
CIP #:	0190

Asset Register:	LWWSD → Sewer → Pump Stations → Flat Car				
Failure Mode:	Capacity	Level of Service	<u>Mortality</u>	<u>Efficiency</u>	
Business Risk Exposure:	10	= 10 x 2 x 0.5 (PoF x CoF x Redundancy)			
Remaining Life:	0 years	Consumed Life:	15 years	Effective Life:	15 years

PURPOSE and DESCRIPTION OF THE PROJECT

Replace worn volute, impeller, and wear rings on pumps #1 and #3 at Flat Car Sewer Pump Station.

Flat Car Sewer Pump Station was constructed in 2003. The liquid end of the pumps lasted 15 years with uncoated parts. Pump #2 parts were replaced in 2018 for \$14k and were ordered with a ceramic coating that should extend part service life compared to the original parts.

Estimate is \$28k in 2019 dollars.

Revision History

- Created 11/6/2018 by BH.

CAPITAL PROJECT NARRATIVE

Project Name:	Little Strawberry Bridge Water Main Replacement
CIP #:	0191

Asset Register:	LWWSD → Water → Distribution System				
Failure Mode:	Capacity	Level of Service	Mortality	Efficiency	
Business Risk Exposure:	NA	= __ x __ x 1 (PoF x CoF x Redundancy)			
Remaining Life:	NA	Consumed Life:	NA	Effective Life:	NA

PURPOSE and DESCRIPTION OF THE PROJECT

Multiple leaks were repaired in 2018 on a short section of water main hung from the concrete bridge on Little Strawberry Lane in Sudden Valley. The main is coated steel that has reached the end of its serviceable life.

This project is split into 2 phases:

Phase 1 (2019) - Includes preliminary engineering and development of a construction cost estimated to replace the main. 2019 Budget includes \$20k for Phase 1.

Phase 2 (future) - A future CIP project will be scheduled using preliminary engineering and cost estimate information developed in Phase 1.

Cost estimate in 2019 dollars.

For further information about this project call Bill Hunter.

Revision History

- Created 11/6/2018 by BH.

CAPITAL PROJECT NARRATIVE

Project Name:	AB PLC-5 Replacements and UPS Improvements
CIP #:	0192

Asset Register:	LWWSD → Sewer → Pump Stations LWWSD → Water → Booster Pump Stations				
Failure Mode:	Capacity	Level of Service	Mortality	Efficiency	
Business Risk Exposure:	27	= 9 x 3 x 1 (PoF x CoF x Redundancy)			
Remaining Life:	5 years	Consumed Life:	15 years	Effective Life:	20 years

PURPOSE and DESCRIPTION OF THE PROJECT

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

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

- Sudden Valley Sewer Pump Station
- Flat Car Sewer Pump Station
- Beaver Sewer Pump Station
- Division 30 Booster Station

This project is intended to begin the replacement process of discontinued PLC's as well as make uninterruptable power supply (UPS) improvements for better facility reliability.

The scope of work and budget to complete the project is not known at this time. A **budget amount of \$100k** is recommended by staff to:

- Select a general electrical/control engineering consultant through the Request for Qualifications (RFQ) selection process. This consultant would be retained with an Architectural/Engineering (AE) Agreement for a 5-year term. Individual project Task Orders will developed and authorized as needed for all types of general electrical/controls engineering services needed by the District.
- Develop a Task Order scope to figure out the best way to migrate each site to the new PLC's and what UPS improvements can be made to increase facility reliability.
- With the remaining 2019 budget, prepare bid documents, bid the work, and contract with a contractor to begin the migration.
- Develop future CIP budgets to finish the work.

Revision History

- Created 11/6/2018 by BH.

CAPITAL PROJECT NARRATIVE

Project Name:	SVWTP & AHWTP Misc Component Replacements
CIP #:	0194

Asset Register:	LWWSD → Water → Water Treatment Plants				
Failure Mode:	Capacity	Level of Service	Mortality	Efficiency	
Business Risk Exposure:	18	= 9 x 2 x 1 (PoF x CoF x Redundancy)			
Remaining Life:	4	Consumed Life:	26	Effective Life:	30

PURPOSE and DESCRIPTION OF THE PROJECT

Replace worn out components at Sudden Valley Water Treatment Plant (SVWTP) and Agate Height Water Treatment Plant (AHWTP). Replacements include:

- \$1.5k SVWTP Raw Water pH Probe
- \$36k SVWTP Transmission Pump Control Valves (4 valves)
- \$12k SVWTP Transmission Pipeline Surge Valves (2 valves)
- \$4.5k SVWTP Raw Water Flow Meter
- \$1.5k SVWTP CL2 Contact Tank Pressure Transmitter (used to measure tank level)
- \$12k SVWTP Spare Transfer Pump
- \$4.5 AHWTP Finish Water Flow Meter

- \$72k Total Budget

Cost estimate in 2019 dollars.

For further information about this project call Kevin Cook.

Revision History

- Created 11/06/2018 by BH.

CAPITAL PROJECT NARRATIVE

Project Name:	VEH42 5-Yard Dump Truck – Replace Tires
CIP #:	0195

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

PURPOSE and DESCRIPTION OF THE PROJECT

Replace worn out tires on VEH42 5-yard dump truck. (Note that all the other large equipment tires were checked for wear and only VEH42 needed replacements.)

Estimate is \$3,600

Cost estimate in 2019 dollars.

For further information about this project call Bill Hunter.

Revision History

- Created 11/6/2018 by BH.

CAPITAL PROJECT NARRATIVE

Project Name:	Field Chlorine Injection System for Water Main Disinfection after Depressurization
CIP #:	0196

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

PURPOSE and DESCRIPTION OF THE PROJECT

Procure chlorine injection system for use in the field to chlorinate water mains after depressurization.

Estimate is \$5,000

Cost estimate in 2019 dollars.

For further information about this project call Bill Hunter.

Revision History

- Created 11/6/2018 by BH.

CAPITAL PROJECT NARRATIVE

Project Name:	Reservoir Cage/Railing Improvements at Top of Fix Ladders
CIP #:	0197

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

PURPOSE and DESCRIPTION OF THE PROJECT

Field staff has requested that safety cage / railing improvements be installed at the top of fixed ladders on several reservoirs (Division 7, Old Division 22, and Geneva). The project will improve fall protection safety for District staff as they routinely inspect and maintain the reservoirs.

The 2019 budget includes \$25k to begin making these improvements.

Cost estimate in 2019 dollars.

For further information about this project call Bill Hunter.

Revision History

- Created 11/6/2018 by BH.

CAPITAL PROJECT NARRATIVE

Project Name:	District Office Minor Facility Repairs and Improvements
CIP #:	0198

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

PURPOSE and DESCRIPTION OF THE PROJECT

District administrative office facility repairs and improvements located at 1220 Lakeway Drive. Work includes:

\$5k Install irrigation system

\$25k Upper parking lot asphalt patching (approx. 16-ft x 75-ft = 1,200 sf area)

\$25k Front entrance parking lot surface drainage grading / asphalt patching (approx. 40-ft x 30-ft = 1,200 sf area)

\$5k Replace front entrance garden stepping pavers with concrete steps/walkway

\$60k Total Budget

Cost estimate in 2019 dollars.

Asphalt patching estimate based on 2018 Asphalt Patching project which was about \$20 per square foot (including tax) for excavation and disposal of asphalt, prep with crushed rock and compaction, 2" of asphalt and hot asphalt seal at edges. Unit price cost does not include saw cutting of asphalt.

For further information about this project call Bill Hunter.

Revision History

- Created 10/24/2018 by BH.

CAPITAL PROJECT NARRATIVE

Project Name:	SVWTP 20-Year Facility Improvement Plan
CIP #:	0199

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

PURPOSE and DESCRIPTION OF THE PROJECT

Background:

The Sudden Valley Treatment Plant was upgraded in 1992 to increase raw water and transmission pumping capacities to match the capacity of the filtration system. Additional objectives included increasing the reliability of the plant and complying with the EPA's Surface Water Treatment Rules (SWTR). The plant treats, disinfects, and delivers water to the distribution system, with 100% backup capacity of all pumping systems, and diesel standby generator capable of operating the plant at full capacity. The treatment plant is a direct filtration treatment plant with disinfection provided by chlorine gas.

The disinfection contact time provided by the tank was investigated in detail in a study by the Department of Health in 2016. This study concluded that the baffling efficiency (T10/T) used to calculate contact time in the tank should be adjusted from 0.7 to 0.3. This change resulted in a requirement to increase chlorine concentration to meet the required chlorine contact time (CT).

The plant is typically operated at half its capacity, approximately 700 gpm. Because the transfer pump that pumps into the CT reservoir is a constant speed pump that pumps at 1400 gpm and is operates on and off while the plant is operating based on a float, the Department of Health has set a minimum contact tank depth of 16.5 ft (155,000 gallons) based on a flow rate of **1,000 gpm on a 60-minute basis**. Options could be investigated to utilize additional water system components for the calculation of contact time.

Purpose:

The purpose of this project is to:

- Identify and document specific operational, maintenance, renewal, and replacement needs for the next 20-years which includes everything (concrete building structure, underground vaults, motors, pumps, piping, valves, electrical, controls, heating and ventilation, chemical handling, lab space, etc.)
- Prioritize the improvements
- Analyze physical space requirements for identified improvements.
- Develop several conceptual plans that could accommodate all the components (it is likely that additional floor space is needed).

CAPITAL PROJECT NARRATIVE

- Sequence improvements into logical phases such that each phase can build upon previous phases.
- For each phase, develop conceptual cost estimates along with a written narrative which describes the scope of work and assumptions.

Some of the needs/goals identified to date include:

- Switch from chlorine gas to liquid chlorine
- Variable frequency drives for transfer and transmission pumps (as part of motor control center panel replacements)
- Lab workspace improvements
- Replace Alum tank (front windows will need to be removed, possible replace with rollup door)
- Complete fiber circuit from Afternoon Beach Sewer Pump Station to Sudden Valley Sewer Pump Station (this completes District owned fiber communication from Operations Facility to SVWTP)

The amount to complete such a facility plan is not known. An amount of \$50k is included in the 2019 to begin the process. Staff recommends soliciting for a specialized engineering consultant team (civil, mechanical, electrical, controls) through the Request for Qualifications (RFQ) process. Once a consultant is selected staff will work with the consultant to develop an initial scope of work to try fit within the 2019 budget amount.

For further information about this project contact Bill Hunter.

Revision History

- Created 11/6/2018 by BH.

CAPITAL PROJECT NARRATIVE

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

Asset Register:	LWWSD → Sewer → Collection System				
Failure Mode:	<u>Capacity</u>	Level of Service	Mortality	<u>Efficiency</u>	
Business Risk Exposure:	15	= 3 x 5 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 goal is to find and repair inflow and infiltration (I&I) sources. District crews camera sewer mains during wet season months searching for I&I.

The annual project scope and focus will vary based on the type of high priority items discovered during the previous wet season. 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.

Engineering (Plans, Specs & Est.):	District Staff
Bid & Contract Administration:	District Staff
Construction:	\$165,000 (annual target)

2019 budget includes \$40,000 for minor sewer system rehab and replacement projects that are not identified as specific CIP projects. Some of the work identified to date includes:

- Lake Louise Sewer Pump Station – Protection from Stormwater Surface Runoff
- Misc repairs and I&I

Cost estimate in 2019 dollars.

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.

CAPITAL PROJECT NARRATIVE

Project Name:	Water System Rehabilitation and Replacement Projects
CIP #:	W0002

Asset Register:	LWWSD → Water → Distribution System				
Failure Mode:	Capacity	<u>Level of Service</u>	<u>Mortality</u>	Efficiency	
Business Risk Exposure:	18	= 9 x 2 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 recurring annual project. The intent is to rehabilitate or replace aging water distribution system mains, service lines, hydrants, and valves.

As infrastructure is assessed and found nearing end of useful life, it will be scheduled for renewal using this annual project budget. The annual project scope and focus will vary based on the type of high priority items discovered during the previous year.

Target Water System Reinvestment (per 2016 Water & Sewer Rate Update dated 1/24/2017)

2017	\$200k	
2018	\$210k	
2019	\$220k	**Note that the 2019 budget includes \$259k of capital water projects, of which \$25k is set aside for the miscellaneous water system rehab and replacement projects (CIP #W0002a) identified below
2020	\$230k	
2021	\$240k	
2022	\$250k	

Miscellaneous water system rehab and replacement projects identified for 2019 include:

- Installing PRV vault drains at 5 PRV sites (Cascade, Rock Ridge, Hillside, Dutch Harbor, & Fremont)

Cost estimates in 2019 dollars.

For further information about this project call Bill Hunter.

Revision History

- Created 8/2/2006.
- 11/20/2013. Combined separate water related projects into one recurring annual project budget. Bill Hunter.
- Updated 12/5/2016 by BH. Revised target amounts and updated scope for 2017.
- Updated 11/17/2017 by BH.
- Updated 11/5/2018 by BH.

APPENDIX C

2019 REVENUE BOND AND LOANS FUND SUMMARY

REVENUE BONDS AND LOANS SUMMARY

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

Project Title	Balance Remaining 1/1/2019	Funding Source	Agency	End Date	Rate
Geneva AC Mains	\$ 2,038,938	Rates	Drinking Water State Revolving Fund	2035	1.5%
Division 22 Reservoir	\$ 1,022,780	Rates	Drinking Water State Revolving Fund	2037	1.5%
2016 Revenue Bonds Outstanding	\$ 6,160,000	Rates		2035	2.25%
2009 Revenue Bonds Outstanding	\$ 285,000	Rates		2019	4.0%
Total Debt Outstanding - 1/1/2019	\$ 9,506,718				