

CAPITAL REGIONAL DISTRICT

2021 BUDGET

Regional Water Supply

COMMISSION REVIEW

OCTOBER 2020

Service: 2.670 Regional Water Supply

Commission: Regional Water Supply

DEFINITION:

To finance, install, operate and maintain a water supply local service in the Capital Regional District, as per the Water Supply Local Service Establishment Bylaw No. 2537.

The establishment and operation of a Regional Water Supply Commission is done by Bylaw No. 2539.

SERVICE DESCRIPTION:

Regional Water Supply is responsible for the water supply, treatment and transmission system for the Greater Victoria region, providing wholesale water to municipalities that operate municipal distribution systems. The service administration and operation is provided by the Integrated Water Services Department.

PARTICIPATION:

City of Victoria
District of Oak Bay
District of Saanich
Township of Esquimalt
District of Central Saanich

Town of Sidney
District of North Saanich
Town of View Royal
City of Colwood
City of Langford

District of Metchosin
District of Sooke
Juan de Fuca Electoral Area
District of Highlands

MAXIMUM LEVY:

No stated limit in establishment bylaw and no ability to requisition.

MAXIMUM CAPITAL DEBT:

Authorized:	\$137,700,000	Pre - (Consolidated MFA Loan Authorizations - Regional Water Supply Water Works Facilities)
Borrowed:	\$91,400,000	Pre - (Consolidated amounts borrowed - Regional Water Supply Water Works Facilities)
Expired:	\$46,300,000	

Authorized:	\$60,000,000	(MFA Bylaw No. 3451 - Regional Water Supply Land Acquisition)
Borrowed:	\$60,000,000	(MFA Bylaw No. 3451 - Regional Water Supply Land Acquisition)

Authorized:	\$12,500,000	2014 - (MFA Bylaw No. 3902 - Regional Water Supply Water Works Facilities)
Borrowed:	\$9,500,000	
Expired:	\$3,000,000	

FUNDING:

Costs are recovered through the sale of bulk water.

Rate Base for 2021 Revenue Year

	<u>2019</u> <u>Application</u>	<u>2020</u> <u>Application</u>	<u>End of 2020</u> <u>for '21 Applic.</u>	<u>Change</u>	
Wholesale System					
Physical Plant	\$ 232,755,867	\$ 231,437,695	\$ 231,156,835	\$ (280,860)	Note 1
Construction Work In Progress	4,667,513	6,285,937	8,055,763	1,769,827	Note 1
Cash Working Capital	1,840,531	1,991,738	2,088,652	96,914	
Inventory	<u>225,000</u>	<u>225,000</u>	<u>225,000</u>	<u>-</u>	
Total Wholesale Rate Base	\$ 239,488,911	\$ 239,940,370	\$ 241,526,250	\$ 1,585,880	

Note 1: Refer to the Schedule of Change in Physical Plant & work in Progress for details.

Revenue Requirements for 2021 Year

	2019 Application	2020 Application	2021 Application	Change
Wholesale				
Operations & maintenance	\$ 14,928,749	\$ 16,155,207	\$ 16,941,286	\$ 786,079
Depreciation	6,207,713	6,243,311	6,694,087	\$ 450,776
Return on rate base	<u>10,948,000</u>	<u>11,626,400</u>	<u>11,252,300</u>	\$ (374,100) Note 1
Subtotal of above	\$ 32,084,462	\$ 34,024,918	\$ 34,887,673	\$ 862,755
Non-rate revenue including unaccounted water revenue	<u>(582,060)</u>	<u>(582,060)</u>	<u>(582,060)</u>	\$ -
Total wholesale	\$ 31,502,402	\$ 33,442,858	\$ 34,305,613	\$ 862,755

Note 1: Return on rate base is calculated with reference to the long term Canada bond rate & the average debt rate.

Schedule of Change in Physical Plant & Work In Progress

Wholesale

Projected Asset Additions	Projected Assets Capitalized
Japan Gulch Treatment Plant Upgrades	\$ 3,135,023
Lubbe Dam Safety Improvements	2,952,346
Kapoor Tunnel Repairs	500,000
Dam Actuators	373,497
Goldream River Bridge Replacement	324,736
Watershed Culvert Replacement	315,000
Water Supply Eqpt Upgrades	270,000
Sooke Dam Safety Improvements	200,000
Gravel Crushing	200,000
Reservoir Log Boom Replacement	200,000
Post Disaster Emergency Water Supply	200,000
Dam Improvements	180,000
Major Main Repairs	170,000
Stelly's Pump Station Assessment	158,843
Sooke Spillway Gate Standby Power	150,000
Meter Replacement	109,432
Building Modification	101,799
SCDA Repairs and Equipment Replacement	100,000
Valve Chamber Upgrades	100,000
Leech River Restoration	95,000
Computer upgrades	85,000
Parkdale Meter Decommissioning	80,000
Leech Tunnel Intake Stop Log Replacement	75,763
Generator for Pump Station	75,000
Forrest Fuel Management Roads	75,000
Leech Watershed Lake Assessment	75,000
Meter Station Backflow Installation	70,000
Transmission System Component Replacement	65,000
SRR Disinfection Facility component upgrades	64,163
Cathodic Protection Program	52,161
Humpback Overflow Channel Assessment	48,000
Other Projects (24 minor projects under \$50k)	503,754
Total projected assets capitalized	\$ 11,104,516
Less: current years depreciation	(6,162,783)
Less: change in prior year forecast addition estimates, & disposals.	(5,222,593)
Change in Physical Plant	<u>\$ (280,860)</u>

Projected Construction Work In Progress (CWIP)

Sooke Intake Screens Condition Assessment/Replacement	\$ 2,936,485
Meter Replacement	497,289
Butchart Dam #5 Remediation	479,963
Post Disaster Emergency Water Supply	466,609
Sooke Dam Safety Improvements	435,246
Weeks Lake Pit Assessment	302,858
SCDA Repairs and Equipment Replacement	280,112
Dam Safety Review	251,833
Lab Information Management System	200,000
Strategic Asset Management Plan	169,249
Wildlife Habitat Assessment	125,984
Water Quality Main Lab Renovation	117,469
Dam Decommissioning	107,839
Cathodic Protection Program	105,360
Critical Equip Storage Building	103,146
Hydraulic Capacity Assessment	100,058
High Level Output Valve Replacement	100,000
Large Equipment Storage	95,250
Leech River Restoration	95,000
Dam Emergency Plan & Manual Updates	83,541
Asset Reconciliation/Transfer agreement study	77,708
Transmission system component upgrades	76,191
Supply System Vulnerability Assessment	75,464
Goldstream Field Operations Centre	75,000
Watershed Facilities Upgrade	62,392
Leech River Hydromet	55,427
Main No.3 Replacement	53,765
Water Quality Database Upgrade	52,022
Other Projects (25 minor projects under \$50k)	474,503
Projected CWIP	\$ 8,055,763
Less Prior years projected CWIP	(6,285,937)
Change in CWIP	<u>\$ 1,769,827</u>

Change in Budget 2020 to 2021
Service: 2.670 Regional Water Supply

Total Expenditure

Comments

2020 Budget

34,055,398

Change in Salaries:

Change in Labour	188,241	Labour charges (Salaries and overhead, including corporate allocations)
0.4 FTE Water Sampling Technician	55,000	IBC 10d-2 Leech River Water Quality Operations
1.0 FTE Water Utility Operator	190,000	IBC 10a-2.1 Water Infrastructure Resilience
1.0 FTE Watershed Operator	125,000	IBC 10a-0.1 Watershed Security Position
Auxiliary staff	(81,000)	Reduction in auxiliary budget to offset 1.0 FTE Watershed Operator IBC 10a-0.1
Total Change in Salaries	477,241	

Other Changes:

Contract for Services	(25,000)	2020 NSERC funding
Contract for Services	25,000	2021 NSERC funding
Contract for Services	(150,000)	IBC 10d-3 2020 Watershed Hydrology Monitoring
Contract for Services	150,000	IBC 10d-3 2021 Watershed Hydrology Monitoring
Contract for Services	100,000	Agricultural Water Rate Review and Options Study
Chemical Supplies	145,257	
Transfer to Capital Fund	209,342	
Principal & Interest Payments	(129,537)	
Agriculture Water Rate Funding	100,000	
Other Costs	(36,418)	
Total Other Changes	388,644	

2021 Budget

34,921,283

% expense increase from 2020:

2.5%

% Requisition increase from 2020 (if applicable):

n/a

Requisition funding is (x)% of service revenue

SAP

Overall 2020 Budget Performance

(expected variance to budget and surplus treatment)

There is a one time favourable operating variance of \$720,000 (4.9%) due to reduced staffing costs from vacant positions, reduced overtime, and reduced Demand Management allocation. Revenue has decreased by \$590,000 (1.7%) from budget due to lower than budgeted water sales. The net surplus of \$130,000 will be transferred to the services' Water Capital Fund.

2021 Demand Estimate

Wholesale Demand

Years	Actual Demand cu.metre	Budgeted Demand cu.metre
2016	47,602,170	43,152,000
2017	46,515,000	45,000,000
2018	48,300,036	45,000,000
2019	47,734,121	46,500,000
2020	47,100,000*	48,000,000

2021 Demand Estimate

48,000,000

* *Projected consumption for 2020*

Summary of Wholesale Water Rates

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>Change</u>
Wholesale water rate						
Unit cost per cu.m.	\$0.6375	\$0.6644	\$0.6775	\$0.6968	\$0.7148	\$0.0180

Wholesale Water Rate Increase Impact on Residential Water Bill

Average Annual Consumption : 235.0 cubic metres

<u>Charge for Twelve Months Consumption</u>		<u>Annual Charge</u>	<u>2020 Annual Change \$</u>
Average Consumption	2020 Year	\$ 163.75	
	2021	\$ 167.98	\$ 4.23
Half Average Consumption	2020 Year	\$ 81.87	
	2021	\$ 83.99	\$ 2.12
Twice Average Consumption	2020 Year	\$ 327.50	
	2021	\$ 335.96	\$ 8.46

CAPITAL REGIONAL DISTRICT

Program Group: CRD-Regional Water Supply

SUMMARY

Program Group: CRD-Regional Water Supply	2021 BUDGET REQUEST						FUTURE PROJECTIONS			
	2020 BOARD BUDGET	2020 ESTIMATED ACTUAL	2021 CORE BUDGET	2021 ONGOING	2021 ONE-TIME	TOTAL (COL 4, 5 & 6)	2022	2023	2024	2025
	2	3	4	5	6	7	8	9	10	11
1										
<u>GENERAL PROGRAM EXPENDITURES:</u>										
WATERSHED PROTECTION	5,458,878	5,179,839	5,349,054	44,000	175,000	5,568,054	5,500,915	5,610,933	5,723,152	5,837,615
WATER MANAGEMENT	5,223,517	5,075,428	5,420,530	190,000	-	5,610,530	5,711,860	5,827,345	5,944,992	6,054,070
WATER QUALITY	1,611,591	1,634,545	1,775,256	55,000	-	1,830,256	1,843,700	1,882,386	1,921,900	1,962,233
CROSS CONNECTION	744,787	740,854	737,690	-	-	737,690	752,465	767,519	782,865	798,503
DEMAND MANAGEMENT	813,710	673,034	686,034	-	-	686,034	694,708	708,581	722,745	737,187
INFRASTRUCTURE ENGINEERING	494,110	491,110	486,900	-	-	486,900	496,640	506,570	516,710	527,040
FLEET OPERATION & MAINTENANCE	(299,295)	(287,024)	(297,540)	-	-	(297,540)	(303,491)	(309,561)	(315,751)	(322,067)
CUSTOMER TECHNICAL SERVICES & GM SUPPORT *	607,905	427,503	619,362	-	100,000	719,362	624,871	637,936	651,275	656,063
TOTAL OPERATING EXPENDITURES	14,655,203	13,935,289	14,777,286	289,000	275,000	15,341,286	15,321,669	15,631,708	15,947,888	16,250,644
<i>Percentage increase over prior year's board budget</i>			0.83%			4.68%	-0.13%	2.02%	2.02%	1.90%
AGRICULTURAL WATER RATE FUNDING	1,500,000	1,500,000	1,600,000	-	-	1,600,000	1,650,000	1,700,000	1,750,000	1,800,000
			6.67%			6.67%	3.13%	3.03%	2.94%	2.86%
<u>CAPITAL EXPENDITURES & TRANSFERS</u>										
TRANSFER TO WATER CAPITAL FUND	9,107,214	9,237,453	9,297,180	-	-	9,297,180	9,500,000	10,200,000	14,652,000	15,873,204
TRANSFER TO EQUIPMENT REPLACEMENT FUND	299,294	299,294	297,540	-	-	297,540	303,491	309,561	315,751	322,066
TRANSFER TO DEBT RESERVE FUND	30,480	30,480	51,610	-	-	51,610	192,610	205,610	264,610	33,610
TOTAL CAPITAL EXPENDITURES & TRANSFERS	9,436,988	9,567,227	9,646,330	-	-	9,646,330	9,996,101	10,715,171	15,232,361	16,228,880
<u>DEBT</u>										
DEBT - INTEREST AND PRINCIPAL	8,463,204	8,463,204	8,333,667	-	-	8,333,667	8,658,848	8,944,560	5,152,302	5,196,255
TOTAL DEBT EXPENDITURES	8,463,204	8,463,204	8,333,667	-	-	8,333,667	8,658,848	8,944,560	5,152,302	5,196,255
<u>DEFICIT TRANSFERRED TO FOLLOWING YR</u>										
TRANSFER TO FOLLOWING YEAR DEFICIT CARRY FORWARD										
TOTAL EXPENDITURES	34,055,395	33,465,720	34,357,283	289,000	275,000	34,921,283	35,626,618	36,991,439	38,082,551	39,475,779
<u>SOURCES OF FUNDING</u>										
REVENUE - SALES	(33,442,855)	(32,819,280)	(33,741,613)	(289,000)	(275,000)	(34,305,613)	(35,010,948)	(36,375,769)	(37,466,881)	(38,860,109)
REVENUE - OTHER	(612,540)	(646,440)	(615,670)	-	-	(615,670)	(615,670)	(615,670)	(615,670)	(615,670)
TOTAL SOURCE OF FUNDING FROM OPERATIONS	(34,055,395)	(33,465,720)	(34,357,283)	(289,000)	(275,000)	(34,921,283)	(35,626,618)	(36,991,439)	(38,082,551)	(39,475,779)
TRANSFER FROM PRIOR YEAR	-	-	-	-	-	-	-	-	-	-
TRANSFER TO FOLLOWING YEAR SURPLUS CARRY FORWARD										
TOTAL SOURCES OF FUNDING	(34,055,395)	(33,465,720)	(34,357,283)	(289,000)	(275,000)	(34,921,283)	(35,626,618)	(36,991,439)	(38,082,551)	(39,475,779)
<i>Percentage increase over prior year's board budget</i>			0.89%			2.54%	2.02%	3.83%	2.95%	3.66%

CAPITAL REGIONAL DISTRICT
FIVE YEAR CAPITAL EXPENDITURE PLAN SUMMARY - 2021 to 2025

Service No.	2.670 Regional Water Supply	Carry Forward from 2020	2021	2022	2023	2024	2025	TOTAL
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EXPENDITURE

Buildings	\$410,000	\$400,000	\$2,155,000	\$2,130,000	\$0	\$0	\$4,685,000
Equipment	\$2,360,000	\$3,965,000	\$5,295,000	\$2,635,000	\$895,000	\$705,000	\$13,495,000
Land	\$275,350	\$1,615,350	\$845,000	\$730,000	\$500,000	\$400,000	\$4,090,350
Engineered Structures	\$8,648,000	\$16,248,000	\$21,775,000	\$29,025,000	\$30,500,000	\$3,450,000	\$100,998,000
Vehicles	\$168,000	\$520,000	\$215,000	\$265,000	\$280,000	\$280,000	\$1,560,000

\$11,861,350	\$22,748,350	\$30,285,000	\$34,785,000	\$32,175,000	\$4,835,000	\$124,828,350
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SOURCE OF FUNDS

Capital Funds on Hand	\$11,773,350	\$19,438,350	\$8,970,000	\$9,720,000	\$11,795,000	\$3,955,000	\$53,878,350
Debenture Debt (New Debt Only)	\$0	\$1,800,000	\$15,900,000	\$17,200,000	\$11,100,000	\$0	\$46,000,000
Equipment Replacement Fund	\$88,000	\$310,000	\$215,000	\$265,000	\$280,000	\$280,000	\$1,350,000
Grants (Federal, Provincial)	\$0	\$1,200,000	\$5,200,000	\$7,600,000	\$9,000,000	\$600,000	\$23,600,000
Donations / Third Party Funding	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reserve Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0

\$11,861,350	\$22,748,350	\$30,285,000	\$34,785,000	\$32,175,000	\$4,835,000	\$124,828,350
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CAPITAL REGIONAL DISTRICT
FIVE YEAR CAPITAL EXPENDITURE PLAN SUMMARY - 2021 to 2025

Service No.	2.670/2.680							
	Regional Water Supply & JDF Water Distribution Combo							
		Carry Forward from 2020	2021	2022	2023	2024	2025	TOTAL

EXPENDITURE

Buildings	\$0	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$400,000
Equipment	\$500,000	\$1,490,000	\$980,000	\$330,000	\$330,000	\$330,000	\$3,460,000
Land	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Engineered Structures	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Vehicles	\$0	\$0	\$0	\$0	\$0	\$0	\$0

\$500,000	\$1,570,000	\$1,060,000	\$410,000	\$410,000	\$410,000	\$3,860,000
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SOURCE OF FUNDS

Capital Funds on Hand	\$500,000	\$1,570,000	\$1,060,000	\$410,000	\$410,000	\$410,000	\$3,860,000
Debenture Debt (New Debt Only)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Equipment Replacement Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Grants (Federal, Provincial)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Donations / Third Party Funding	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reserve Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0

\$500,000	\$1,570,000	\$1,060,000	\$410,000	\$410,000	\$410,000	\$3,860,000
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CAPITAL REGIONAL DISTRICT CAPITAL PLAN

CAPITAL BUDGET FORM
2021 & Forecast 2022 to 2025

Service #:

2.670

Service Name:

Regional Water Supply

Proj. No.
The first two digits represent first year the project was in the capital plan.

Capital Exp. Type
Study - Expenditure for feasibility and business case report.
New - Expenditure for new asset only
Renewal - Expenditure upgrades an existing asset and extends the service ability or enhances technology in delivering that service
Replacement - Expenditure replaces an existing asset

Funding Source Codes
Debt = Debenture Debt (new debt only)
ERF = Equipment Replacement Fund
Grant = Grants (Federal, Provincial)
Cap = Capital Funds on Hand
Other = Donations / Third Party Funding

Funding Source Codes (con't)
Res = Reserve Fund
STLoan = Short Term Loans
WU = Water Utility

Asset Class
L - Land
S - Engineering Structure
B - Buildings
V - Vehicles
E - Equipment

Capital Project Title
Input Title of Project. For example "Asset Name - Roof Replacement", "Main Water Pipe Replacement".

Capital Project Description
Briefly describe project scope and service benefits.
For example: *"Full Roof Replacement of a 40 year old roof above the swimming pool area; The new roofing system is built current energy standards, designed to minimize maintenance and have an expected service life of 35 years".*

Total Project Budget
This column represents the total project budget not only within the 5-year window.

FINANCIAL PLAN													
Proj. No.	Capital Exp.Type	Capital Project Title	Capital Project Description	Total Proj Budget	Asset Class	Funding Source	C/F from 2020	2021	2022	2023	2024	2025	5 - Year Total
WATERSHED PROTECTION													
Planning													
17-01	Renewal	Repair of Historic Goldstream Powerhouse Building	Repairs of historic Goldstream Powerhouse building	\$90,000	B	WU	\$0	\$0	\$0	\$50,000	\$0	\$0	\$50,000
17-04	New	Water Supply Area - Fish Stream Assessments	Inventory and assessment of fish, fish habitat, and stream channel stability in priority streams in the GVWSA.	\$325,000	L	WU	\$93,350	\$93,350	\$0	\$0	\$0	\$0	\$93,350
18-01	New	Post-Wildfire Debris Flow Modelling	Site specific modelling of the potential impact to Sooke Lake Reservoir and infrastructure of a significant wildfire in the Sooke WSA.	\$150,000	L	WU	\$55,000	\$55,000	\$0	\$0	\$0	\$0	\$55,000
18-10	Study	Species-at-Risk Wildlife Habitat	An assessment (office and field) and plan for managing wildlife habitat, in particular species-at-risk habitat, in the GVWSA.	\$135,000	L	WU	\$0	\$25,000	\$0	\$0	\$0	\$0	\$25,000
19-30	Study	Leech WSA Lakes/Tributaries Assessment	An assessment of the physical, chemical and biological parameters of the lakes in the Leech WSA.	\$75,000	L	WU	\$20,000	\$20,000	\$0	\$0	\$0	\$0	\$20,000
20-05	Renewal	Leech WSA Terrestrial Ecosystem Mapping & Wetland Classification/Mapping	Classification and mapping of terrestrial ecosystems and wetlands and integration with Sooke and Goldstream data.	\$180,000	L	WU	\$0	\$0	\$180,000	\$0	\$0	\$0	\$180,000
20-06	Study	Addressing mining in Leech WSA (impacts, agreements)	Funding to support work to reduce the impact of mining claims in the Leech WSA	\$30,000	L	WU	\$15,000	\$30,000	\$0	\$0	\$0	\$0	\$30,000
20-27	Study	GVWSA Forest Resilience - wildfire/forest modelling and forest management field trials	Modelling forest and wildfire risk under climate change scenarios & forest/fuel management field trials.	\$260,000	L	WU	\$0	\$85,000	\$70,000	\$50,000	\$0	\$0	\$205,000
20-28	Study	GVWSA Forest Resilience - Assessments of forest health and resilience	Field assessments to better understand current forest health and resilience.	\$230,000	L	WU	\$75,000	\$75,000	\$95,000	\$60,000	\$0	\$0	\$230,000
21-19	Study	Lakes Assessment Sooke and Goldstream WSAs	An assessment of the physical, chemical and biological parameters of the natural lakes in Sooke and Goldstream WSAs	\$75,000	L	WU	\$0	\$75,000	\$0	\$0	\$0	\$0	\$75,000
21-20	Study	West Leech Road	Plan for future construction of a road to access the western portion of the Leech WSA.	\$20,000	L	WU	\$0	\$20,000	\$0	\$0	\$0	\$0	\$20,000
22-03	Study	GVWSA Land Exchange/Acquisition	Land surveys, appraisals to support decisions regarding land exchange to increase catchment area or buffer water supply areas.	\$300,000	L	WU	\$0	\$0	\$100,000	\$100,000	\$100,000	\$0	\$300,000

23-02	Renewal	GVWSA LiDAR Mapping	Detailed contour mapping of ground, vegetation and tree cover (3D scanning)	\$120,000	L	WU	\$0	\$0	\$0	\$120,000	\$0	\$0	\$120,000
Capital													
09-01	Renewal	Leech River Watershed Restoration	A 17 year project to restore the Leech WSA lands for water supply.	\$5,756,000	L	WU	\$0	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1,000,000
16-01	Renewal	Replace Gatehouse at Goldstream Entrance	The GVWSA entry gatehouse at Goldstream is past end of life and is to be replaced with a purpose built structure with improved vehicle flow and security oversight.	\$600,000	B	WU	\$190,000	\$395,000	\$200,000	\$0	\$0	\$0	\$595,000
16-06	Renewal	Goldstream IWS Field Office	Renewal of Water Quality field office, lab and equipment and supplies storage and Watershed Protection office, training, emergency response, storage and interpretation space at Goldstream entrance, replacing temporary trailers.	\$4,050,000	B	WU	\$215,000	\$0	\$1,915,000	\$2,000,000	\$0	\$0	\$3,915,000
17-02	New	Leech River HydroMet System	Installation of a network of hydrometeorological stations to collect water quantity and quality information for the Leech WSA.	\$480,000	E	WU	\$100,000	\$125,000	\$0	\$0	\$0	\$0	\$125,000
17-06	New	Weeks Lake Area Environmental Assessment and Remediation	Assessment and remediation of the Weeks Lake gravel pit (lead from firearms) and Weeks Lake (metals and hydrocarbons from dumping).	\$365,000	L	WU	\$17,000	\$67,000	\$0	\$0	\$0	\$0	\$67,000
17-09	Renewal	Goldstream Gate Upgrade	The main entrance autogate in Goldstream is past end of life and requires replacement with lifting in/out gates along with project 16-01.	\$75,000	S	WU	\$68,000	\$68,000	\$0	\$0	\$0	\$0	\$68,000
18-05	New	GVWSA Forest Fuel Management/FireSmart Activities	Implementation of forest fuel management and FireSmart actions in strategic locations for wildfire risk management in the GVWSA.	\$750,000	L	WU	\$0	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$500,000
18-11	New	Large Equipment Storage (Field Operations Centre)	Two additional bays are to be added to the existing fire/spill equipment warehouse at the FOC to shelter large water supply infrastructure equipment.	\$100,000	B	WU	\$5,000	\$5,000	\$0	\$0	\$0	\$0	\$5,000
19-02	New	Whiskey Creek Bridge Replacement (Sooke WSA)	Replacement of the existing undersized bridge with a longer and higher concrete structure.	\$300,000	S	WU	\$0	\$0	\$0	\$300,000	\$0	\$0	\$300,000
19-19	New	Hydromet Upgrades Sooke and Goldstream	Install additional hydrology monitoring sites on Sooke Lake Reservoir inflow streams and increase instrumentation on meteorological stations in Sooke and Goldstream watersheds.	\$170,000	E	WU	\$140,000	\$140,000	\$0	\$0	\$0	\$0	\$140,000
20-01	Replacement	Kapoor Main Mile 1 Bridge and Asphalt Upgrade	Replacement of the existing undersized culvert with a large bridge as well as nearby asphalt repair or replacement.	\$450,000	S	WU	\$0	\$0	\$450,000	\$0	\$0	\$0	\$450,000
20-29	Renewal	Gravel crushing 14G and 10S quarry (Sooke and Goldstream WSA)	Production of gravel at existing quarries in Sooke and Goldstream WSAs.	\$350,000	S	WU	\$0	\$150,000	\$0	\$0	\$0	\$0	\$150,000
21-01	New	31N Bridge to Replace Undersized Culvert (Goldstream WSA)	Replacement of the existing undersized and failing culvert with a bridge structure.	\$325,000	S	WU	\$0	\$325,000	\$0	\$0	\$0	\$0	\$325,000
21-26	New	Road Deactivation/Rehabilitation in the GVWSA	Deactivate or rehabilitate unneeded roads in the Sooke and Goldstream WSAs.	\$420,000	L	WU	\$0	\$20,000	\$100,000	\$100,000	\$100,000	\$100,000	\$420,000
21-27	New	Autogate Installations on Primary Access Routes	Install autogates on the main access routes where the Sooke Hills Wilderness Trail and E&N rail line cross to improve security	\$250,000	S	WU	\$0	\$250,000	\$0	\$0	\$0	\$0	\$250,000
21-28	New	GVWSA Land Acquisition Priorities	Acquisition of priority GVWSA catchment and buffer lands.	\$750,000	L	WU	\$0	\$750,000	\$0	\$0	\$0	\$0	\$750,000
22-02	New	Muckpile Bridge Supply and Install (Deception)	Replacement of undersized culverts with bridge which will allow for fish and western toad migration.	\$325,000	S	WU	\$0	\$0	\$0	\$0	\$325,000	\$0	\$325,000
23-03	New	Air curtain burner for fuel management	A transportable burner that provides more effective and rapid burning of woody debris with reduced smoke emissions.	\$40,000	E	WU	\$0	\$40,000	\$0	\$0	\$0	\$0	\$40,000
23-04	Renewal	17S/Sooke Main Bridge Replacement	Undersized bridge replacement	\$300,000	S	WU	\$0	\$0	\$0	\$0	\$0	\$300,000	\$300,000
24-01	Renewal	6M/Judge Creek Culvert Replacement (Sooke WSA)	Undersized culvert replacement	\$200,000	S	WU	\$0	\$0	\$0	\$0	\$200,000	\$0	\$200,000
WaterShed Protection Sub-Total				\$18,046,000			\$993,350	\$3,113,350	\$3,410,000	\$3,080,000	\$1,025,000	\$700,000	\$11,328,350

INFRASTRUCTURE ENGINEERING AND OPERATIONS													
Planning													
16-10	New	Post Disaster Emergency Water Supply	Identify and procure emergency systems for post disaster preparedness.	\$1,300,000	S	WU	\$0	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
17-13	New	Asset Management Plan	Development of a plan to inform future areas of study and highlight critical infrastructure improvements.	\$300,000	S	WU	\$100,000	\$200,000	\$0	\$0	\$0	\$0	\$200,000
19-04	New	Seismic Assessment of Critical Facilities	Identified as a priority from Strategic Plan, a seismic assessment of critical facilities and a supply system resilience feasibility study will be undertaken.	\$255,000	S	WU	\$55,000	\$255,000	\$0	\$0	\$0	\$0	\$255,000
19-15	New	Hydraulic Capacity Assessment and Transient Pressure Analysis	Determine the existing level-of-service for the RWSC transmission system and conduct a transient pressure analysis	\$300,000	S	WU	\$0	\$150,000	\$0	\$0	\$0	\$0	\$150,000
19-28	Study	Goldstream System Hydraulic Analysis	Analysis and documentation of hydraulics of the Goldstream system.	\$50,000	S	WU	\$50,000	\$50,000	\$0	\$0	\$0	\$0	\$50,000
20-02	New	Supply System Resilience Feasibility Study	Identified as a priority from the Strategic Plan, a study of water supply system's resilience and high level measures to make important assets resilient will be undertaken	\$200,000	S	WU	\$100,000	\$100,000	\$0	\$0	\$0	\$0	\$100,000
20-07	Study	Deep Northern Intake & Transmission Pipeline Study	A technical and business case analysis will be carried out with possible expansion and filtration study upstream of the head tank - this is to replace 2016-09	\$250,000	S	WU	\$200,000	\$200,000	\$0	\$0	\$0	\$0	\$200,000
20-08	Study	Regional Water DCC Program	Design of a Regional DCC Program	\$200,000	S	WU	\$150,000	\$150,000	\$0	\$0	\$0	\$0	\$150,000
20-10	Study	Condition & Vulnerability Assessment	Conduct a condition assessment of critical supply infrastructure and assess its possibility of risk.	\$200,000	S	WU	\$200,000	\$200,000	\$0	\$0	\$0	\$0	\$200,000
20-11	Study	Develop Master Plan	Develop a long term strategic plan to anticipate water demand, water treatment, and future siting of facilities.	\$500,000	S	WU	\$0	\$400,000	\$0	\$0	\$0	\$0	\$400,000
21-05	Study	Level of Service Agreement	From #19-15 & #20-11, develop level-of-service agreements for participating municipalities to address hydraulic capacity of infrastructure.	\$150,000	S	WU	\$0	\$150,000	\$0	\$0	\$0	\$0	\$150,000
Capital													
15-03	Renewal	Sooke Intake Screens Condition Assessment & Replacement	Renewal of the aging Sooke Intake Tower and equipment to maintain water supply.	\$2,205,000	S	WU	\$200,000	\$200,000	\$0	\$0	\$0	\$0	\$200,000
18-07	New	Replacement of UV System	Replacement of the UV system at the Goldstream Water Treatment Plant	\$5,400,000	E	WU	\$0	\$400,000	\$3,000,000	\$1,800,000	\$0	\$0	\$5,200,000
18-08	Replacement	Bulk Supply Meter Replacement Program	Planned replacement of aging bulk meter replacement based upon a condition assessment and water audit.	\$2,200,000	E	WU	\$450,000	\$450,000	\$200,000	\$200,000	\$200,000	\$150,000	\$1,200,000
18-15	Renewal	Corrosion Protection Program	Study deficiencies in the current material protection and implement recommendations.	\$750,000	S	WU	\$0	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$750,000
18-18	Replacement	Main No.3 Segment Replacement	Replacement of segments of Main No. 3 based upon previous studies.	\$15,090,000	S	WU	\$100,000	\$350,000	\$4,900,000	\$4,900,000	\$4,900,000	\$0	\$15,050,000
19-05	Renewal	Repairs - Kapoor Shutdown	Repair items such as defects in the Kapoor tunnel, replacement of critical valves, intake exterior inspection and actuator replacement while the Kapoor tunnel is shutdown.	\$500,000	S	WU	\$100,000	\$100,000	\$0	\$0	\$100,000	\$0	\$200,000
19-23	New	Critical Spare Equipment Storage & Pipe Yard	Plan, design and construct a critical equipment storage building.	\$400,000	S	WU	\$300,000	\$300,000	\$0	\$0	\$0	\$0	\$300,000
20-13	New	Electrical Isolation Audit	Inspection audit of facilities to ensure that there is sufficient electrical separation and isolation for safety.	\$50,000	S	WU	\$20,000	\$20,000	\$0	\$0	\$0	\$0	\$20,000
20-16	Replacement	Cecelia Meter Replacement	Replacement of the Cecelia billing meter as well as its enclosure.	\$1,000,000	S	WU	\$0	\$100,000	\$450,000	\$450,000	\$0	\$0	\$1,000,000
20-17	Replacement	Decommission Smith Hill Site	Plan and decommission the abandoned Smith Hill reservoir site.	\$650,000	S	WU	\$0	\$0	\$150,000	\$0	\$500,000	\$0	\$650,000
20-18	Replacement	Goldstream Main #4 Replacement	Plan and replacement of the concrete pipe portion of Main #4.	\$200,000	S	WU	\$150,000	\$150,000	\$0	\$0	\$0	\$0	\$150,000
20-32	New	pH Adjustment Facility	Design and construct a pH adjustment facility based upon the results of the pH and corrosion study.	\$2,500,000	S	WU	\$0	\$0	\$500,000	\$2,000,000	\$0	\$0	\$2,500,000
20-33	Replacement	Sooke Intake Screens Replacement	Emergency replacement of the Sooke Intake screens.	\$1,800,000	E	WU	\$800,000	\$800,000	\$0	\$0	\$0	\$0	\$800,000
21-06	Replacement	Sooke Lake Dam Spillway Hoist Replacement	Replacement of the sluice gate spillway hoist at Sooke Lake Dam.	\$275,000	E	WU	\$0	\$75,000	\$200,000	\$0	\$0	\$0	\$275,000

21-07	Replacement	Goldstream Water Treatment Plant Communications Upgrade	Increase reliability and resilience of data and voice communications between the UV Plant, Sodium Hypochlorite Building, Ammonia Building.	\$250,000	S	WU	\$0	\$250,000	\$0	\$0	\$0	\$0	\$250,000
21-08	New	Goldstream Water Treatment Plant Emergency Automation	Installation of automatic valves and controls to safeguard chemicals in the event of dosing line breaks	\$145,000	E	WU	\$0	\$145,000	\$0	\$0	\$0	\$0	\$145,000
21-09	New	Goldstream Water Treatment Plant Demolition	Plan and construct provisions demolition.	\$200,000	S	WU	\$0	\$200,000	\$0	\$0	\$0	\$0	\$200,000
21-10	Replacement	SCADA Upgrades	Update the SCADA Master Plan in conjunction with the Juan de Fuca Water Distribution, Saanich Peninsula Water and Wastewater, and Core Area Wastewater Services.	\$650,000	E	WU	\$0	\$200,000	\$450,000	\$0	\$0	\$0	\$650,000
21-11	Replacement	RWS Supply Main No. 4 Upgrade	Upgrade vulnerable sections of the RWS Supply Main No. 4 to a resilient system to better able to withstand a seismic event. Vulnerable sections are Concrete Cylinder pipe material which is susceptible to failure during a seismic event. This is part of partially grant funded project partnered with the Saanich Peninsula Water system.	\$35,400,000	S	WU	\$0	\$1,800,000	\$7,800,000	\$11,400,000	\$13,500,000	\$900,000	\$35,400,000
21-11	Replacement	RWS Supply Main No. 4 Upgrade	Upgrade vulnerable sections of the RWS Supply Main No. 4 to a resilient system to better able to withstand a seismic event. Vulnerable sections are Concrete Cylinder pipe material which is susceptible to failure during a seismic event. This is part of partially grant funded project partnered with the Saanich Peninsula Water system.	\$23,600,000	S	Grant	\$0	\$1,200,000	\$5,200,000	\$7,600,000	\$9,000,000	\$600,000	\$23,600,000
21-12	New	SR RDF Upgrade	Increased water flows in the Sooke region have resulted in an additional sodium hypochlorite dosing pump and automation for summer flows.	\$75,000	E	WU	\$0	\$75,000	\$0	\$0	\$0	\$0	\$75,000
Sub-Total Infrastructure Engineering and Operations				\$97,045,000			\$2,975,000	\$9,020,000	\$23,200,000	\$28,700,000	\$28,550,000	\$2,000,000	\$91,470,000
DAM SAFETY PROGRAM				Database)									
16-16	Renewal	Implications from Goldstream Dam Safety Review	Conduct dam improvements at the Goldstream dams that resulted for the Dam Safety Review and routine inspections (refer to the Dam Safety Database).	\$705,000	S	WU	\$300,000	\$300,000	\$75,000	\$75,000	\$75,000	\$0	\$525,000
16-17	Renewal	Butchart Dam No. 5 Remediation	Phase 1 Rehabilitation (grouting) of Butchart Dam No. 5 and planning for Phase 2.	\$3,550,000	S	WU	\$2,900,000	\$2,900,000	\$0	\$0	\$0	\$0	\$2,900,000
17-25	Renewal	Implications from Sooke Lake Dam Safety Review	Conduct dam improvments at the Sookel Lake Dam that resulted from the Dam Safety Review and routine inspections (refer to the Dam Safety Database)	\$1,350,000	S	WU	\$900,000	\$900,000	\$0	\$0	\$0	\$0	\$900,000
18-19	New	Sooke Lake Dam - Instrumentation System Improvements	Complete dam performance instrumentation system/surveillance improvements for the Sooke Lake Dam.	\$1,300,000	S	WU	\$700,000	\$900,000	\$100,000	\$100,000	\$100,000	\$0	\$1,200,000
18-20	New	Sooke Lake Dam - Breach Risk Reduction Measures	Implement measures to reduce Sooke Lake Dam breach implications in the unlikely event of dam failure (refer to the NHC Consulting study).	\$600,000	S	WU	\$500,000	\$500,000	\$0	\$0	\$0	\$0	\$500,000
19-07	New	Integrate Dam Performance and Hydromet to SCADA	Integrate the dam safety instrumentation/surveillance (i.e. piezometers and weirs) and HydroMet stations to report to WIO through the existing SCADA system.	\$1,100,000	E	WU	\$500,000	\$500,000	\$500,000	\$0	\$0	\$0	\$1,000,000
19-08	New	Charters Dam Decommissioning	Charters Dam has been retired from drinking water service, no other interested owners, plan to decommission.	\$450,000	S	WU	\$100,000	\$100,000	\$200,000	\$0	\$0	\$0	\$300,000
19-09	New	Cabin Pond Dams Decommissioning	The Cabin Pond Dams (x2) have been retired from drinking water service, plan to decommission.	\$600,000	S	WU	\$600,000	\$600,000	\$0	\$0	\$0	\$0	\$600,000
19-12	New	Goldstream Dams Instrumentation Improvements	Conduct dam safety instrumentation/surveillance improvements (refer to report from Thurber Engineering).	\$600,000	S	WU	\$500,000	\$500,000	\$0	\$0	\$0	\$0	\$500,000

19-13	New	Dam Safety Instrumentation - Hydromet	The existing dam safety instrumentation/surveillance equipment is getting older and will need to be replaced/rehabilitated (does not include pending SCADA effort).	\$250,000	E	WU	\$50,000	\$100,000	\$50,000	\$50,000	\$50,000	\$0	\$250,000
20-19	Replacement	Goldstream System High Level Outlet Valve Replacements	The Goldstream and Butchart high level outlet valves have been identified as requiring replacement.	\$200,000	S	WU	\$100,000	\$100,000	\$0	\$0	\$0	\$0	\$100,000
20-20	Replacement	Saddle Dam Piezometer Installation	Dam safety instrumentation/surveillance installations (i.e. piezometers) are required to monitor the Saddle Dam to monitor the performance of Saddle Dam and for future stability assessments.	\$250,000	S	WU	\$0	\$125,000	\$0	\$0	\$0	\$0	\$125,000
21-03	New	Deception Dam - Dam Safety Review 2021 & Improvements	Conduct a Dam Safety Review and some improvements for the Deception Dam.	\$300,000	S	WU	\$100,000	\$200,000	\$100,000	\$0	\$0	\$0	\$300,000
21-04	New	Saddle Dam - Dam Safety Review 2021 & Improvements	Conduct a Dam Safety Review and some improvements for the Saddle Dam.	\$200,000	S	WU	\$100,000	\$200,000	\$0	\$0	\$0	\$0	\$200,000
21-21	Replacement	Goldstream Dams - Gate Improvements	logistics planning in 2021, installation in 2022	\$150,000	S	WU	\$0	\$50,000	\$100,000	\$0	\$0	\$0	\$150,000
21-22	Study	Charters Dam - Dam Safety Review 2021	Legislated obligation to conduct Dam Safety Review, contingent on outcome of the Decommissioning plan and DSO expectations (relates to Item 19-08)	\$250,000	S	WU	\$0	\$150,000	\$100,000	\$0	\$0	\$0	\$250,000
22-08	New	Deception Dam Surveillance Improvements	Replace and supplement the Dam Safety Instrumentation at Deception Dam.	\$450,000	S	WU	\$0	\$0	\$150,000	\$300,000	\$0	\$0	\$450,000
23-01	New	Sooke Lake Dam Update Seismic Assessment	Conduct a seismic assessment of the Sooke Lake Dam as per the previous Dam Safety Reiviews.	\$150,000	E	WU	\$0	\$0	\$150,000	\$0	\$0	\$0	\$150,000
23-07	New	Sooke Lake Dam Seismic Retrofits	Detail and construct seismic retrofits for the existing structures initially focusing on the spillway and gates structures.	\$450,000	S	WU	\$0	\$0	\$0	\$150,000	\$300,000	\$0	\$450,000
23-08	Study	Regional Watershed Dams – Flood Forecasting System	Update the existing flood forecasting system (WD4Cast) to a modern version including Standard Operating Procedures and training for staff.	\$300,000	S	WU	\$0	\$0	\$0	\$150,000	\$150,000	\$0	\$300,000
23-09	Study	Sooke Lake Dam - Dam Safety Review 2023	Conduct a Dam Safety Review	\$200,000	S	WU	\$0	\$0	\$0	\$200,000	\$0	\$0	\$200,000
25-01	Study	Goldstream Dams - Dam Safety Review 2025	Conduct a Dam Safety Review	\$150,000	S	WU	\$0	\$0	\$0	\$0	\$0	\$150,000	\$150,000
25-02	Study	Probable Maximum Flood and Inflow Design Flood Updates	Update the previous edition from 2015 (recommended 10 year review cycle).	\$150,000	S	WU	\$0	\$0	\$0	\$0	\$0	\$150,000	\$150,000
Sub-Total Dam Safety Program				\$13,705,000			\$7,350,000	\$8,125,000	\$1,525,000	\$1,025,000	\$675,000	\$300,000	\$11,650,000
WATER QUALITY													
19-29	Study	Leech River Water Quality Monitoring	Monitor water quality from the Leech River for 2 years	\$100,000	S	WU	\$15,000	\$15,000	\$0	\$0	\$0	\$0	\$15,000
20-03	Study	Leech River Watershed - Implications for Supply Management	Review data of Leech Monitoring Project and report on implications of adding Leech to water supply	\$40,000	S	WU	\$40,000	\$40,000	\$0	\$0	\$0	\$0	\$40,000
20-04	New	Sooke Lake HyDy Model Development	Critical data collection, model building+calibration, model utilization for 3 different scenarios	\$340,000	E	WU	\$320,000	\$80,000	\$180,000	\$30,000	\$30,000	\$0	\$320,000
21-13	New	Flowcam Imaging System	Utilize semi-automated algal analysis to meet increased demands without increasing FTEs	\$150,000	E	WU	\$0	\$140,000	\$10,000	\$0	\$0	\$0	\$150,000
21-14	Renewal	Sooke Lake Sampling Boat Repair	Refurbishment of structural boat parts (floor)	\$10,000	E	WU	\$0	\$10,000	\$0	\$0	\$0	\$0	\$10,000
21-29	Renewal	Microbiological plate pourer	Automation of manual process to increase capacity/worker safety	\$30,000	E	WU	\$0	\$30,000	\$0	\$0	\$0	\$0	\$30,000
22-05	New	WQ Lab Capital Improvements	Building improvements in the lab	\$40,000	B	WU	\$0	\$0	\$40,000	\$0	\$0	\$0	\$40,000
22-06	Study	Sooke Lake Food Web Study	Assess the aquatic food web structure and create an inventory of fish and invertebrate species and distribution in Sooke Lake Reservoir - to be used as indicators of stream health	\$100,000	S	WU	\$0	\$0	\$100,000	\$0	\$0	\$0	\$100,000
22-07	Study	Bulk-Water Connection Backflow Protection Study	Investigate all bulk-water connections to CRD or municipal systems and identify the need for backflow protection	\$50,000	S	WU	\$0	\$0	\$50,000	\$0	\$0	\$0	\$50,000
23-05	Renewal	Renovation of Samplers Hut (2955 Sooke Lk Road)	Building exterior paint, roof, gutters, flooring, bathroom	\$80,000	B	WU	\$0	\$0	\$0	\$80,000	\$0	\$0	\$80,000

23-06	Study	GVDWS Nitrification Study	Investigate nitrification occurrence and potential impacts on drinking water quality	\$50,000	S	WU	\$0	\$0	\$0	\$50,000	\$0	\$0	\$50,000	
24-02	Replacement	Boat Motor Replacement with Electric Outboards (Sooke and Goldstream Boats)	50hp and 15hp motor replacement due to age and water quality concerns, large electric outboards are already available from Torqeedo for instance	\$60,000	E	WU	\$0	\$0	\$0	\$0	\$60,000	\$0	\$60,000	
Water Quality Sub-Total				\$1,050,000			\$375,000	\$315,000	\$380,000	\$160,000	\$90,000	\$0	\$945,000	
ANNUAL PROVISIONAL														
17-27	Replacement	Watershed Bridge and Culvert Replacement	Replacement of small culverts and bridges throughout the GVWSA.	\$1,000,000	S	WU	\$0	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1,000,000
17-28	Replacement	Watershed Security Infrastructure Upgrade and Replacement	New, upgrade and replacement of security infrastructure in the GVWSA.	\$425,000	E	WU	\$0	\$85,000	\$85,000	\$85,000	\$85,000	\$85,000	\$85,000	\$425,000
17-29	Replacement	Water Supply Area Equipment Replacement	Hydrometeorological, fireweather and wildfire suppression equipment replacement.	\$650,000	E	WU	\$0	\$130,000	\$130,000	\$130,000	\$130,000	\$130,000	\$130,000	\$650,000
17-30	Replacement	Transmission Main Repairs	Emergency repairs to the transmission mains.	\$1,000,000	S	WU	\$0	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1,000,000
17-31	Replacement	Transmission System Components Replacement	Replacement and repair of transmission components.	\$400,000	S	WU	\$0	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$400,000
17-33	Replacement	Disinfection Equipment Parts Replacement	Replacement of incidental equipment and parts associated with the disinfection system.	\$600,000	E	WU	\$0	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$600,000
17-34	Renewal	Supply System Computer Model Update	Annual update of the regional hydraulic model.	\$100,000	S	WU	\$0	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$100,000
19-16	Replacement	Dam Improvements	Items not covered by Dam Safety Reviews, but brought up in Dam Safety Inspections and Dam Safety Reviews	\$1,300,000	S	WU	\$0	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$1,250,000
19-22	Replacement	SCADA Repairs & Equipment Replacement	Items not covered by the SCADA Replacement and SCADA Master Plan, but integral in maintaining the SCADA System and revenue meter system.	\$750,000	E	WU	\$0	\$250,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$850,000
21-15	Replacement	Corrosion Protection	Replace corrosion protection assets, such as coatings, for the transmission system when identified.	\$250,000	S	WU	\$0	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
21-16	Replacement	Valve Chamber Upgrades	Replace failing valves and appurtenances along the RWS supply system.	\$1,000,000	S	WU	\$0	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1,000,000
21-17	Replacement	Water Quality Equipment Replacement	Replacement of water quality equipment for the water quality lab and water quality operations	\$250,000	E	WU	\$0	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
21-18	Renewal	LIMS support	Support for LIMS database	\$100,000	E	WU	\$0	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$100,000
Annual Provisional Sub-Total				\$7,825,000			\$0	\$1,655,000	\$1,555,000	\$1,555,000	\$1,555,000	\$1,555,000	\$1,555,000	\$7,875,000
CUSTOMER AND TECHNICAL SERVICES														
17-35	Replacement	Vehicle & Equipment Replacement (Funding from Replacement Fund)	This is for replacement of vehicles and equipment used by CRD Water Services for the day-to-day operation and maintenance of the supply system.	\$2,495,000	V	ERF	\$88,000	\$310,000	\$215,000	\$265,000	\$280,000	\$280,000	\$1,350,000	
20-22	New	Vehicle for the Dam Safety Program	New pick up	\$35,000	V	WU	\$35,000	\$35,000	\$0	\$0	\$0	\$0	\$35,000	
20-23	New	Vehicle for the CSE Support Program	New Transit Van	\$45,000	V	WU	\$45,000	\$45,000	\$0	\$0	\$0	\$0	\$45,000	
21-30	New	Vehicle for Warehouse Operations	New pick up	\$35,000	V	WU		\$35,000	\$0	\$0	\$0	\$0	\$35,000	
21-24	Replacement	ATV with Tracks (replace Gator)	Vehicle to access weather stations during snow conditions	\$20,000	V	WU	\$0	\$20,000	\$0	\$0	\$0	\$0	\$20,000	
21-25	Replacement	UV Plant Safety Audit and Equipment Replacement	Carry out an audit of the occupied office area of the UV Plant and carry out upgrades	\$75,000	V	WU	\$0	\$75,000	\$0	\$0	\$0	\$0	\$75,000	
Customer and Technical Services Sub-Total				\$2,705,000			\$168,000	\$520,000	\$215,000	\$265,000	\$280,000	\$280,000	\$1,560,000	
GRAND TOTAL				\$140,376,000				\$11,861,350	\$22,748,350	\$30,285,000	\$34,785,000	\$32,175,000	\$4,835,000	\$124,828,350

CAPITAL REGIONAL DISTRICT CAPITAL PLAN

CAPITAL BUDGET FORM
2021 & Forecast 2022 to 2025

Service #: 2.670/2.680

Service Name: Regional Water Supply & JDF Water Distribution Combo

Proj. No.
The first two digits represent first year the project was in the capital plan.

Capital Exp. Type
Study - Expenditure for feasibility and business case report.
New - Expenditure for new asset only
Renewal - Expenditure upgrades an existing asset and extends the service ability or enhances technology in delivering that service
Replacement - Expenditure replaces an existing asset

Funding Source Codes
Debt = Debenture Debt (new debt only)
ERF = Equipment Replacement Fund
Grant = Grants (Federal, Provincial)
Cap = Capital Funds on Hand
Other = Donations / Third Party Funding

Funding Source Codes (cont)
Res = Reserve Fund
STLoan = Short Term Loans
WU = Water Utility

Asset Class
L - Land
S - Engineering Structure
B - Buildings
V - Vehicles

Capital Project Title
Input Title of Project. For example "Asset Name - Roof Replacement", "Main Water Pipe Replacement".

Capital Project Description
Briefly describe project scope and service benefits.
For example: "Full Roof Replacement of a 40 year old roof above the swimming pool area; The new roofing system is built current energy standards, designed to minimize maintenance and have an expected service life of 35 years".

Total Project Budget
This column represents the total project budget not only within the 5-year window.

FIVE YEAR FINANCIAL PLAN

Proj. No.	Capital Exp.Type	Capital Project Title	Capital Project Description	Total Proj Budget	Asset Class	Funding Source	C/F from 2020	2021	2022	2023	2024	2025	5 - Year Total
SYSTEM REPLACEMENT AND UPGRADES THAT BENEFIT REGIONAL WATER SUPPLY AND JUAN DE FUCA DISTRIBUTION													\$0
16-01	Renewal	Upgrades to Buildings at 479 Island Highway	Maintenance and changes to buildings and office layouts.	\$400,000	B	WU	\$0	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$400,000
17-01	Renewal	Voice Radio Upgrade	Replacement of end of life voice radio system repeaters, office, vehicle and handheld radios.	\$1,560,000	E	WU	\$0	\$640,000	\$650,000	\$0	\$0	\$0	\$1,290,000
20-01	New	Portable Pump Station	Portable pump station to provide backup when a pump station is offline, in construction or to bypass a section of pipe.	\$500,000	E	WU	\$500,000	\$500,000	\$0	\$0	\$0	\$0	\$500,000
21-01	New	Storage Container for vehicle and equipment Tires	Tires removed from vehicles are stored on site outside of the Fleet office. They need to be stored in a more safe and secured area.	\$20,000	E	WU	\$0	\$20,000	\$0	\$0	\$0	\$0	\$20,000
Sub-Total System Replacement and Upgrades That Benefit Regional Water Supply and Juan de Fuca Distribution				\$2,480,000			\$500,000	\$1,240,000	\$730,000	\$80,000	\$80,000	\$80,000	\$2,210,000
ANNUAL PROVISIONAL CAPITAL ITEMS													
17-03	Replacement	Office Equipment, Upgrades and Replacements	Upgrade and replacement of office equipment as required.	\$225,000	E	WU	\$0	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$225,000
17-04	Replacement	Computer Upgrades	Annual upgrade and replacement program for computers, copiers, printers, network equipment as required.	\$850,000	E	WU	\$0	\$170,000	\$170,000	\$170,000	\$170,000	\$170,000	\$850,000
17-05	New	Development of the Maintenance Management Systems	Develop maintenance management system.	\$100,000	E	WU	\$0	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$100,000
17-06	Replacement	Small Equipment & Tool Replacement (Water Operations)	Replacement of tools and small equipment for Water Operations as required.	\$400,000	E	WU	\$0	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$400,000
17-07	Replacement	Small Equipment & Tool Replacement (Corporate Fleet)	Replacement of tools and small equipment for Fleet as required.	\$75,000	E	WU	\$0	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$75,000
Sub-Total for Annual Provisional Capital Items				\$ 1,650,000			\$ -	\$ 330,000	\$ 330,000	\$ 330,000	\$ 330,000	\$ 330,000	\$1,650,000
GRAND TOTAL				\$4,130,000			\$500,000	\$1,570,000	\$1,060,000	\$410,000	\$410,000	\$410,000	\$3,860,000

Service: 2.670		Regional Water Supply			
Proj. No.	17-01	Capital Project Title	Repair of Historic Goldstream Powerhouse Building	Capital Project Description	Repairs of historic Goldstream Powerhouse building
Asset Class	B	Board Priority Area	No Alignment	Corporate Priority Area	No Alignment
Project Rationale	Located near the Japan Gulch Treatment Plant and the Great Trail (Trans Canada Trail), is an 1897 brick hydroelectric powerplant that served Victoria (notably the streetcars) for approx. 60 years. The Powerhouse has its own Wikipedia entry: http://en.wikipedia.org/wiki/Lubbe_Powerhouse and has captured public interest as a unique structure in BC history. An engineering condition assessment including engineered drawings, site plan and approximate cost of repairs was conducted in 2017. A major repair in the masonry on the north side of the building was completed in 2018. Funds are required in 2019 (\$10,000) to repair a smaller hole in the masonry on the south side. Funds to repair the roof envelope (\$50,000) are planned for 2023. Grant funding opportunities to conserve the building and its history will continue to be sought.				

Proj. No.	17-04	Capital Project Title	Water Supply Area - Fish Stream Assessments	Capital Project Description	Inventory and assessment of fish, fish habitat, and stream channel stability in priority streams in the GVWSA.
Asset Class	L	Board Priority Area	No Alignment	Corporate Priority Area	Water
Project Rationale	Presence or absence of fish as well as fish habitat information has only been collected in the Water Supply Areas on an as-needed basis related to specific road projects. In order to adequately plan and manage for fish habitat and water quality a systematic inventory and assessment of fish habitat, stream channel stability, and the hydrological condition of stream corridors will be conducted over three field seasons. The funding for 2019 is insufficient to conduct fish stream assessments in the entire Leech Water Supply Area. An additional \$100,000 in 2020 will allow for fish stream surveys to be carried out in the western and northern portions of the Leech which cannot be completed in 2019.				

Proj. No.	18-01	Capital Project Title	Post-Wildfire Debris Flow Modelling	Capital Project Description	Site specific modelling of the potential impact to Sooke Lake Reservoir and infrastructure of a significant wildfire in the Sooke WSA.
Asset Class	L	Board Priority Area	No Alignment	Corporate Priority Area	Water
Project Rationale	Erosion and debris flows from areas burned by wildfire in the Greater Victoria Water Supply Area could pose a major threat to the quality of water in source reservoirs. A pilot project was completed in 2014-15 to model post-wildfire erosion and debris flow for two drainages close to the intake of Sooke Lake Reservoir. The results were then used to develop an emergency rehabilitation plan for these two drainages. A larger modelling project for all areas draining directly into Sooke Lake Reservoir is proposed for 2019 in order to develop further site specific emergency rehabilitation plans.				

Service: 2.670 Regional Water Supply			
Proj. No. 18-10	Capital Project Title Species-at-Risk Wildlife Habitat	Capital Project Description	An assessment (office and field) and plan for managing wildlife habitat, in particular species-at-risk habitat, in the GVWSA.
Asset Class L	Board Priority Area No Alignment	Corporate Priority Area	Water
Project Rationale <i>An assessment (office and field) and conservation plan for managing wildlife habitat, in particular species-at-risk habitat, in the GVWSA. Funds in 2018 (\$35,000) will be used for compilation of existing knowledge of species, distribution, habitat, research. Funds in 2019 and 2020 (\$50,000 each) will be used to field verify species, critical habitat and movement corridors. Funds added in 2021 (\$25,000) are to develop a GVWSA specific conservation plan based on the office and field investigations.</i>			
Proj. No. 19-30	Capital Project Title Leech WSA Lakes/Tributaries Assessment	Capital Project Description	An assessment of the physical, chemical and biological parameters of the lakes in the Leech WSA.
Asset Class L	Board Priority Area No Alignment	Corporate Priority Area	Water
Project Rationale <i>To assess restoration of the Leech Water Supply Area and prepare for use of Leech River water to supplement Sooke Lake Reservoir, baseline monitoring of the hydrological, physical, chemical and biological parameters of the main Leech WSA source waterbodies will be conducted. The work will be undertaken in conjunction with the Water Quality division. (Action from the 2017 Strategic Plan for Regional Water Supply). The funding for this project has been moved forward to balance staff resources.</i>			
Proj. No. 20-05	Capital Project Title Leech WSA Terrestrial Ecosystem Mapping & Wetland Classification/Mapping	Capital Project Description	Classification and mapping of terrestrial ecosystems and wetlands and integration with Sooke and Goldstream data.
Asset Class L	Board Priority Area No Alignment	Corporate Priority Area	Water
Project Rationale <i>The existing Leech WSA terrestrial ecosystem mapping received from the previous landowner is not consistent with that of Sooke and Goldstream WSAs. The project is to renew the ecosystem mapping to a standard that matches Sooke and Goldstream for consistent data and analysis. There has been no detailed mapping of Leech WSA wetlands. The project is to conduct detailed wetland mapping in the Leech WSA to a standard that matches Sooke and Goldstream for consistent data and analysis. The projects have been combined (ecosystem mapping (20-05) and wetland mapping (20-06) and moved forward from 2020 to 2021. The project has been further moved forward from 2021 to 2022.</i>			

Service: 2.670		Regional Water Supply	
Proj. No. 20-06	Capital Project Title Addressing mining in Leech WSA (impacts, agreements)	Capital Project Description Funding to support work to reduce the impact of mining claims in the Leech WSA	
Asset Class L	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale Assessment and/or studies to determine and mitigate impacts from mining activities in the Leech Water Supply Area.			
Proj. No. 20-27	Capital Project Title GVWSA Forest Resilience - wildfire/forest modelling and forest management field trials	Capital Project Description Modelling forest and wildfire risk under climate change scenarios & forest/fuel management field trials.	
Asset Class L	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale Projects to: a). model impact of climate change on forests, forest fuel types, and associated wildfire behavior and probability and potential effects of management options; and b). trial forest and fuel management treatments that reduce wildfire risk, such as prescribed fire and stand diversification, in the Leech WSA prior to considering those treatment options in Sooke or Goldstream WSAs.			
Proj. No. 20-28	Capital Project Title GVWSA Forest Resilience - Assessments of forest health and resilience	Capital Project Description Field assessments to better understand current forest health and resilience.	
Asset Class L	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale Field assessments to better understand current forest health and resilience including: increasing pine mortality, increase in bark beetle killed trees, existing advance regeneration in the understory, sedimentation sources from roads. The project funding for 2021 and 2022 is moved forward by one year to 2022 and 2023.			
Proj. No. 21-19	Capital Project Title Lakes Assessment Sooke and Goldstream WSAs	Capital Project Description An assessment of the physical, chemical and biological parameters of the natural lakes in Sooke and Goldstream WSAs	
Asset Class L	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale Small lakes in the Sooke and Goldstream WSAs influence both watershed hydrology and water quality in downstream creeks and supply reservoirs. While basic water quality sampling has been undertaken in some of these water bodies, there is a need to map the bathymetry, calculate water volumes, and conduct more comprehensive sampling of the chemical and biological parameters and aquatic vegetation of these lakes. This will facilitate comparisons of these parameters with lakes in the Leech WSA and water quality in existing and future water supply lands.			

Service: 2.670 Regional Water Supply			
Proj. No.	21-20	Capital Project Title	West Leech Road
Capital Project Description	Plan for future construction of a road to access the western portion of the Leech WSA.		
Asset Class	L	Board Priority Area	No Alignment
Corporate Priority Area	Water		
Project Rationale	A large portion of the western Leech WSA currently has overgrown unassessed roads. Brushing, upgrade, re-surfacing and some new road construction is required to provide access to this area for wildfire response, security patrols and forest management.		
Proj. No.	22-03	Capital Project Title	GVWSA Land Exchange/Acquisition
Capital Project Description	Land surveys, appraisals to support decisions regarding land exchange to increase catchment area or buffer water supply areas.		
Asset Class	L	Board Priority Area	No Alignment
Corporate Priority Area	Water		
Project Rationale	There are opportunities to increase the catchment area of Sooke, Goldstream and the Leech WSA by purchase or land exchange with surrounding land owners. Funds would be used to undertake appraisals, legal surveys, and legal fees for work to develop agreements to purchase or exchange lands.		
Proj. No.	23-02	Capital Project Title	GVWSA LiDAR Mapping
Capital Project Description	Detailed contour mapping of ground, vegetation and tree cover (3D scanning)		
Asset Class	L	Board Priority Area	No Alignment
Corporate Priority Area	Water		
Project Rationale	LiDAR (which stands for Light Detection and Ranging) uses light in the form of a pulsed laser to measure ranges (distances). LiDAR can be acquired when orthophotography or other data is collected from the air. LiDAR provides three-dimensional information about the forest stand structure which can be used by GIS (Geographic Information Systems).		

Service: 2.670		Regional Water Supply	
Proj. No. 09-01	Capital Project Title Leech River Watershed Restoration	Capital Project Description	A 17 year project to restore the Leech WSA lands for water supply.
Asset Class L	Board Priority Area No Alignment	Corporate Priority Area	Water
Project Rationale A 17 year project to 2025 to restore the Leech WSA lands for water supply. An update of projects completed and planned was provided in June 2019 (RWSC Report #19-13). Annual funding has been increased during this 5 year plan from \$150,000 to \$200,000 per year in order to match the overall project budget of \$5,756,000 in the last 7 years of the project. The proposed final year of funding in 2025 has been added to the plan.			
Proj. No. 16-01	Capital Project Title Replace Gatehouse at Goldstream Entrance	Capital Project Description	The GVWSA entry gatehouse at Goldstream is past end of life and is to be replaced with a purpose built structure with improved vehicle flow and security
Asset Class B	Board Priority Area No Alignment	Corporate Priority Area	Water
Project Rationale Enhanced security is required at the Goldstream entrance to the Water Supply Area. The existing gatehouse/first aid trailer has reached end of life and is unsuitable and located inside the secured area. A site design and purpose built facility with in/out roads, fencing and upgraded autogates (17-09) is planned requiring funding consistent with the project. The scope and scale of this project has increased since the current location is no longer considered feasible/advantageous for the upgrade.			
Proj. No. 16-06	Capital Project Title Goldstream IWS Field Office	Capital Project Description	Renewal of Water Quality field office, lab and equipment and supplies storage and Watershed Protection office, training, emergency response, storage and interpretation space at Goldstream entrance, replacing temporary trailers.
Asset Class B	Board Priority Area No Alignment	Corporate Priority Area	Water
Project Rationale Watershed Protection staff (26 FTE and 6 seasonal auxiliaries) are currently located in 2 trailers and a house at the Goldstream Gate entrance to the water supply area, and in office space at the Integrated Water Services office in View Royal. The ATCO trailers were considered temporary office space since their implementation over 10 years ago. The trailers are old, prone to leaks and a concern for mold. Water Quality field staff are located in another converted facility in the Goldstream area. The separation of staff between various Goldstream facilities and the View Royal location causes inefficiencies and organizational difficulties. In addition, there are insufficient facilities for training, equipment storage, emergency management and public education. An initial investment in 2016 was used to develop a needs assessment for the building and surrounding Goldstream entrance area. Funds in 2020 will be used to develop a design with building and site construction planned for 2021 and 2022. Funding has been moved forward by one year.			

Service: 2.670		Regional Water Supply	
Proj. No. 17-02	Capital Project Title Leech River HydroMet System	Capital Project Description	Installation of a network of hydrometeorological stations to collect water quantity and quality information for the Leech WSA.
Asset Class E	Board Priority Area No Alignment	Corporate Priority Area	Water
Project Rationale A 17 year \$ 5.756 M capital plan is being carried out to restore the Leech Water Supply Area (Project #09-01) to prepare for future water needs. Currently only one hydrological measuring station is capturing flow and turbidity measurements 3.8 km downstream of the future water intake on the Leech River. In order to understand and predict the effect of precipitation, storm events and various restoration management measures on Leech River water quality and quantity, a network of hydrological measuring stations is needed further upstream in the Leech River watershed. This capital project first funded a design study of the most effective and efficient monitoring system that could be implemented (\$10,000) prior to funding implementation beginning in 2018 (\$80,000). Additional funding requests of \$30,000 in 2020 (new total \$100,000) and \$10,000 in 2021 (new total \$25,000) to provide assistance in accessing and addressing safety issues at new weather and hydrology monitoring sites and installing the equipment. Funding requests reflect difficult terrain and access to reach monitoring locations.			
Proj. No. 17-06	Capital Project Title Weeks Lake Area Environmental Assessment and Remediation	Capital Project Description	Assessment and remediation of the Weeks Lake gravel pit (lead from firearms) and Weeks Lake (metals and hydrocarbons from dumping).
Asset Class L	Board Priority Area No Alignment	Corporate Priority Area	Water
Project Rationale Weeks Lake and the surrounding area are suspected to be contaminated by historic use of the area for unregulated public activities. An assessment for lead contamination in the Weeks Lake gravel pit from firearms use began in 2017 with remediation works planned for 2019. The assessment completed in 2018 found surficial soil contamination in the top 15 cm throughout most of the northern half of the gravel pit. A remediation plan (2019) estimated a cost of \$250,000 to remove and dispose of the contaminated soil (classified as hazardous waste). Additional funding of \$145,000 has been added to the original 2020 request to adequately fund the gravel pit remediation work. Funds in 2021 are estimated for further sampling and possible remediation of Weeks Lake which was found to have minor contamination in the lake sediment.			
Proj. No. 17-09	Capital Project Title Goldstream Gate Upgrade	Capital Project Description	The main entrance autogate in Goldstream is past end of life and requires replacement with lifting in/out gates along with project 16-01.
Asset Class S	Board Priority Area No Alignment	Corporate Priority Area	Water
Project Rationale The security autogates are past end of life and are to be replaced with more effective security infrastructure. This project has been delayed in order to coordinate with construction of a replacement Gatehouse at the Goldstream entrance (16-01).			

Service: 2.670		Regional Water Supply	
Proj. No. 18-05	Capital Project Title	GVWSA Forest Fuel Management/FireSmart Activities	Capital Project Description
			Implementation of forest fuel management and FireSmart actions in strategic locations for wildfire risk management in the GVWSA.
Asset Class L	Board Priority Area	No Alignment	Corporate Priority Area Water
Project Rationale Wildfire is the greatest threat to water quality in the GVWSA. In 2014 - 2018 CRD staff completed two new fuel reduction corridor projects. Funding to tender contract projects is required in order to complete priority fuel management projects over and above existing staff effort which will be focused on maintenance of existing fuel managed sites. A requested increase from \$75,000 to \$100,000 annually reflects costs experienced in the first year of tendering fuel management work. The need for fuel management to address priority areas will be ongoing and funding is required annually for the 5 year period. An additional year of funding is added in 2025.			
Proj. No. 18-11	Capital Project Title	Large Equipment Storage (Field Operations Centre)	Capital Project Description
			Two additional bays are to be added to the existing fire/spill equipment warehouse at the FOC to shelter large water supply infrastructure equipment.
Asset Class B	Board Priority Area	No Alignment	Corporate Priority Area Water
Project Rationale Increased protected storage is required for IWS equipment at the Field Operations Centre in Goldstream. The existing Fire and Spill Equipment Warehouse and adjacent covered storage is sound and fully utilised. Funds are for additional covered storage bays to accommodate additional large IWS equipment. The upgrade was recommended in the Building Needs Assessment for the Watershed Protection Operations Centre (16-06).			
Proj. No. 19-02	Capital Project Title	Whiskey Creek Bridge Replacement (Sooke WSA)	Capital Project Description
			Replacement of the existing undersized bridge with a longer and higher concrete structure.
Asset Class S	Board Priority Area	No Alignment	Corporate Priority Area Water
Project Rationale Whiskey Creek bridge is located on the Leechtown Main Road, one of the main access routes to Sooke Lake Dam and other critical IWS infrastructure. Whiskey Creek requires a larger bridge as it has been overtopped by storm events in the past and this poses water quality, environmental and safety risks. The project has been moved forward from 2022 to 2023 to allow higher priorities to be addressed first.			

Service: 2.670		Regional Water Supply	
Proj. No. 19-19	Capital Project Title Hydromet Upgrades Sooke and Goldstream	Capital Project Description Install additional hydrology monitoring sites on Sooke Lake Reservoir inflow streams and increase instrumentation on meteorological stations in Sooke and Goldstream watersheds.	
Asset Class E	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale Only the main tributary inflows into Sooke Lake Reservoir are monitored. To better understand the hydrology of the Sooke watershed, additional hydrology monitoring sites are required. The existing meteorological stations in Sooke and Goldstream watersheds have only basic instrumentation and would benefit from additional sensors and upgrades to improve the quality of the meteorological data. The proposed funds for 2020 have been increased by \$20,000 to cover the costs associated with site preparation, addressing site safety issues and assistance with station installation.			
Proj. No. 20-01	Capital Project Title Kapoor Main Mile 1 Bridge and Asphalt Upgrade	Capital Project Description Replacement of the existing undersized culvert with a large bridge as well as nearby asphalt repair or replacement.	
Asset Class S	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale The existing culvert at Mile 1 on Kapoor Main is undersized, has evidence of buried organics in the fill material and has oversteepened, unstable banks. The culvert will be removed and a bridge installed to improve water carrying capacity at peak flows, fish passage and bank stability. The asphalt section uphill of the bridge will also be repaired or replaced as a component of the project. The project has been moved forward from 2021 to 2022 to allow higher priorities to be addressed first.			
Proj. No. 20-29	Capital Project Title Gravel crushing 14G and 10S quarry (Sooke and Goldstream WSA)	Capital Project Description Production of gravel at existing quarries in Sooke and Goldstream WSAs.	
Asset Class S	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale The current supply of 19 mm road surfacing gravel needs to be replenished. A tender was let in 2020 to further develop both quarries. Based on the bids received, funds were only sufficient to proceed with one quarry and the 10S quarry was prioritized for gravel production. The additional funds requested in 2021 will allow gravel to be produced at 14G.			
Proj. No. 21-01	Capital Project Title 31N Bridge to Replace Undersized Culvert (Goldstream WSA)	Capital Project Description Replacement of the existing undersized and failing culvert with a bridge structure.	
Asset Class S	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale The undersized and failing culvert on the 31N Road in the Goldstream Water Supply Area requires replacement with a bridge structure in 2021. Funding has been increased to reflect an estimated cost for bridge supply and install of \$325,000.			

Service: 2.670		Regional Water Supply	
Proj. No. 21-26	Capital Project Title Road Deactivation/Rehabilitation in the GVWSA	Capital Project Description Deactivate or rehabilitate unneeded roads in the Sooke and Goldstream WSAs.	
Asset Class L	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale <i>A review was undertaken to identify roads in the Sooke and Goldstream WSAs that could be rehabilitated and removed from the road network without undue impact to operations, wildfire response and security. Funding is required over the 5 year period to make progress on the roads identified to be deactivated/rehabilitated.</i>			
Proj. No. 21-27	Capital Project Title Autogate Installations on Primary Access Routes	Capital Project Description Install autogates on the main access routes where the Sooke Hills Wilderness Trail and E&N rail line cross to improve	
Asset Class S	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale <i>Continued residential growth and corresponding increasing recreational pressure bring the public close to critical works (Goldstream Treatment Plant, and Ammonia Injection building). Recreational use of the Sooke Hills Wilderness Trail and Park also generate trespass into the GVWSA, and Drinking Water Protection Zone. The proposed autogates improve security by 24 hour recorded keycard access operation and improved location to increase security where the Sooke Hills Wilderness Trail crosses the primary GVWSA access road.</i>			
Proj. No. 21-28	Capital Project Title GVWSA Land Acquisition Priorities	Capital Project Description Acquisition of priority GVWSA catchment and buffer lands.	
Asset Class L	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale <i>Funding to support acquisition of priority GVWSA catchment and buffer lands to meet Regional Water Supply Strategic Plan goals.</i>			

Service: 2.670 Regional Water Supply			
Proj. No. 22-02	Capital Project Title	Muckpile Bridge Supply and Install (Deception)	Capital Project Description
Asset Class S	Board Priority Area	No Alignment	Corporate Priority Area
Project Rationale Replacement of undersized culverts with a concrete deck L100 bridge which will also improve fish passage and western toad migration.			
Proj. No. 23-03	Capital Project Title	Air curtain burner for fuel management	Capital Project Description
Asset Class E	Board Priority Area	Climate Action & Environmental	Corporate Priority Area
Project Rationale In order to prevent forest fuels from accumulating from clearing and forest fuel management projects, the woody debris is chipped and dispersed as possible, and the remainder is piled and burned. Opening burning of woody debris is restricted by the Open Burning Smoke Control Regulation, which restricts the days and conditions under which woody debris can be burned in order to reduce the amount and dispersion of smoke generated, especially near urban areas. This limits the timing of burning in the GVWSA to few opportunities and may not allow all required burning to be completed in a given year. An air curtain burner can be transported to a site, fed with woody debris, and very little if any smoke is generated as the fuel is burned quickly by feeding it with air and an "air curtain" contains the smoke within the burner. The project budget has been moved ahead to 2021 and reduced due to shared funding with CRD Regional Parks and Environmental Protection programs.			
Proj. No. 23-04	Capital Project Title	17S/Sooke Main Bridge Replacement	Capital Project Description
Asset Class S	Board Priority Area	No Alignment	Corporate Priority Area
Project Rationale The current structure (3 concrete culverts side-by-side with a concrete deck) does not allow adequate room to pass potential storm debris. The most recent engineering inspection stated this recycled structure is in fair shape, with spalling of the concrete. The structure is planned to be replaced with a free span concrete bridge. The project has been moved forward from 2023 to 2025 to allow higher priorities to be addressed first.			

Service: 2.670		Regional Water Supply			
Proj. No.	24-01	Capital Project Title	6M/Judge Creek Culvert Replacement (Sooke WSA)	Capital Project Description	Undersized culvert replacement
Asset Class	S	Board Priority Area	No Alignment	Corporate Priority Area	Water
Project Rationale	This culvert is very undersized on a slow moving section of creek, which seasonally can be overtopped and unpassable for vehicles. This culvert with be replaced with a larger, fish-friendly structure.				

Proj. No.	16-10	Capital Project Title	Post Disaster Emergency Water Supply	Capital Project Description	Identify and procure emergency systems for post disaster preparedness.
Asset Class	S	Board Priority Area	0	Corporate Priority Area	0
Project Rationale	In the event of a disaster, it is proposed to have in place the ability to source, treat (if required) and distribute drinking water during the initial and sustained response and recovery phases to the public. This item will see the study of the issue in 2016 and 2017 with the anticipated purchase of one or more emergency distribution systems in 2017. Initial investigation has highlighted areas, such as having hardened hydrants/standpipes that the CRD should be investing in. Additional funds are required to start implementing these additional works.				

Proj. No.	17-13	Capital Project Title	Asset Management Plan	Capital Project Description	Development of a plan to inform future areas of study and highlight critical infrastructure improvements.
Asset Class	S	Board Priority Area	0	Corporate Priority Area	0
Project Rationale	This plan will bring various components together from items 14-01, 16-07, 16-08, 16-09, 16-10 and 16-11 and form a strategic plan that will identify future study and construction requirements with capital replacement budgets and schedules. Additional funds are required to complete additional investigations highlighted in the 2017 study.				

Proj. No.	19-04	Capital Project Title	Seismic Assessment of Critical Facilities	Capital Project Description	Identified as a priority from Strategic Plan, a seismic assessment of critical facilities and a supply system resilience feasibility study will be undertaken.
Asset Class	S	Board Priority Area	0	Corporate Priority Area	0
Project Rationale	A Water Supply System Strategic Plan update occurred in 2017. Seismically assessing critical facilities and ensuring water supply is resilient has been highlighted as a priority to ensure a functioning water supply system after a seismic event. With the exception of dams, all critical facilities including the Japan Gulch and Sooke River Road Disinfection facility will be seismically assessed in a desktop study and confirmed through field inspections to determine if they meet current post-disaster requirements. Additionally, a feasibility study of critical infrastructure will identify and assess whether plans, procedures and necessary infrastructure are in place in the event key infrastructure fails. The results of the assessment will inform future investigation and capital improvements if required. Funds are required to retain a consultant to seismically asses critical facilities within the water supply system.				

Service: 2.670 Regional Water Supply			
Proj. No. 19-15	Capital Project Title Hydraulic Capacity Assessment and Transient Pressure Analysis	Capital Project Description Determine the existing level-of-service for the RWSC transmission system and conduct a transient pressure analysis	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The RWSC transmission is complex with all the connection points to it. Funding is required to determine the available pressures and flows throughout the transmission system and whether it is susceptible to transient pressure waves.			
Proj. No. 19-28	Capital Project Title Goldstream System Hydraulic Analysis	Capital Project Description Analysis and documentation of hydraulics of the Goldstream system.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale A study to quantify the volume and available flow rate from the Goldstream system is required to qualify the operational conditions in the event it is used as an emergency backup for the Sooke Lake system.			
Proj. No. 20-02	Capital Project Title Supply System Resilience Feasibility Study	Capital Project Description Identified as a priority from the Strategic Plan, a study of water supply system's resilience and high level measures to	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The RWSC currently has one primary water supply and one backup water supply with single feeds from each system. Funding is required to assess the water supply system's resilience and outline high level measures to make important assets resilient.			
Proj. No. 20-07	Capital Project Title Deep Northern Intake & Transmission Pipeline Study	Capital Project Description A technical and business case analysis will be carried out with possible expansion and filtration study upstream of the head tank - this is to replace 2016-09	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale A technical and business case analysis will be carried out on an additional intake from the deeper, northern area of the Sooke Lake Reservoir. Additionally, a filtration siting study will be undertaken due to the interconnectedness of the two works.			

Service: 2.670			Regional Water Supply		
Proj. No.	20-08	Capital Project Title	Regional Water DCC Program	Capital Project Description	Design of a Regional DCC Program
Asset Class	S	Board Priority Area	0	Corporate Priority Area	0
Project Rationale <i>The municipalities are developing and growing and may result in upgrades to maintain the level of service due to development. Funds are required to design a Regional Water Development Cost Charge program.</i>					
Proj. No.	20-10	Capital Project Title	Condition & Vulnerability Assessment	Capital Project Description	Conduct a condition assessment of critical supply infrastructure and assess its possibility of risk.
Asset Class	S	Board Priority Area	0	Corporate Priority Area	0
Project Rationale <i>The RWSC is a large system with infrastructure of various ages and condition. Funding is required to conduct a condition assessment of critical infrastructure, such as Humpback PRV, and assess their risk of failure and provide a high level timeline for replacement/renewal.</i>					
Proj. No.	20-11	Capital Project Title	Develop Master Plan	Capital Project Description	Develop a long term strategic plan to anticipate water demand, water treatment, and future siting of facilities.
Asset Class	S	Board Priority Area	0	Corporate Priority Area	0
Project Rationale <i>The RWSC is providing water to an increasing population in the CRD. Due to the size and complexity of the supply system, improvements to increase capacity has to be identified and planned out well in advance of the need for the additional water. Funding is required to assess water demand vs available</i>					
Proj. No.	21-05	Capital Project Title	Level of Service Agreement	Capital Project Description	From #19-15 & #20-11, develop level-of-service agreements for participating municipalities to address hydraulic capacity of infrastructure.
Asset Class	S	Board Priority Area	0	Corporate Priority Area	0
Project Rationale <i>The RWSC supplies water directly and indirectly to 12 municipalities. Based upon Capital Projects #19-15 and #20-11, level-of-service agreements for participating municipalities will be developed to address hydraulic capacity of infrastructure.</i>					

Service: 2.670		Regional Water Supply	
Proj. No. 15-03	Capital Project Title Sooke Intake Screens Condition Assessment & Replacement	Capital Project Description Renewal of the aging Sooke Intake Tower and equipment to maintain water supply.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale <i>The Intake Tower is an integral part of the Regional Water System and is the primary raw water feed to Japan Gulch and Sooke River Road Water Treatment Plants. Currently there is no redundancy within the structure in the event of mechanical failure. In 2016 Stantec Consulting Ltd. completed an assessment of the overall structure including major components consisting of: Travelling Screen, Sluice Gates/Actuators, and Electrical System. The assessment identified required remedial works to the major components that will be carried out over 2017 and 2018. In 2016 a Seismic Structural Analysis will be completed to assess the vulnerability of this structure and identify options of upgrades or replacement of the structure to meet current seismic codes. In 2017 Stantec had provided renewal and replacement options for the Intake Tower, additional funds are required to renew the Intake Tower to ensure proper functioning screens, sluice gates/actuators and electrical system.</i>			
Proj. No. 18-07	Capital Project Title Replacement of UV System	Capital Project Description Replacement of the UV system at the Goldstream Water Treatment Plant	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale <i>Two 24" UV disinfection units that were decommissioned from the old Charters Creek plant are required to be installed at the JG plant along with electrical and control connections. Inlet and outlet valves are in place, but require 24" stainless steel piping to insert units into place. Funding is required to relocate existing UV disinfection units to the JG plant and provide electrical & control and piping connections. Construction has been spread over two years to correspond with construction over the winter period.</i>			
Proj. No. 18-08	Capital Project Title Bulk Supply Meter Replacement Program	Capital Project Description Planned replacement of aging bulk meter replacement based upon a condition assessment and water audit.	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale <i>This item is to replace, upgrade and install new bulk water meters and related equipment that measure flow and volumes of water delivered to the wholesale customers. Many of the meter stations are in need of upgrading. Funding is required to replace the flow meter and appurtenances. Funding is required for Blue Ridge, Alderly, Holland and Maplewood replacements.</i>			

Service: 2.670		Regional Water Supply	
Proj. No. 18-15	Capital Project Title Corrosion Protection Program	Capital Project Description Study deficiencies in the current material protection and implement recommendations.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale <i>This item is to assess, design and implement cathodic protection for the various infrastructure, including steel pipes, that are susceptible to corrosion. The supply system has various implementations of cathodic protection ranging from interior/exterior coatings for pipe and passive anodes to impressed current systems with variable results and condition. Funding is required to retain a specialist to conduct a high level assessment of existing infrastructure with recommendations for additional investigation or areas that require immediate attention.</i>			
Proj. No. 18-18	Capital Project Title Main No.3 Segment Replacement	Capital Project Description Replacement of segments of Main No. 3 based upon previous studies.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale <i>The existing Main No. 3 is approximately 70 years old. Some section of the 22 km main are steel pipe in known potentially corrosive soils. It is proposed to eventually replace a segment of Main #3 on Wale Road, Island Hwy. and Adams Place in Colwood and View Royal. Conceptual design and options analysis will be undertaken in 2018 with detailed design and construction commencing in 2019 to 2022. Funding is required to retain a consultant to undertake design and to construct a replacement to Main No. 3.</i>			
Proj. No. 19-05	Capital Project Title Repairs - Kapoor Shutdown	Capital Project Description Repair items such as defects in the Kapoor tunnel, replacement of critical valves, intake exterior inspection and actuator replacement while the Kapoor tunnel is shutdown.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale <i>During the 2016 Kapoor Tunnel inspection numerous deficiencies were noted. Some of the repairs were made and inspected in 2017. Funds are required to complete remaining identified repairs as well as conduct other works, such as head tank valve maintenance, dive inspection of the Intake Tower, hydraulic actuator line replacement, that can only be conducted when the Kapoor Tunnel is offline.</i>			
Proj. No. 19-23	Capital Project Title Critical Spare Equipment Storage & Pipe Yard	Capital Project Description Plan, design and construct a critical equipment storage building.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale <i>Additional and accessible storage is required at the pipe yard for critical spare equipment such as repair bands and clamps. Funds are required to plan, design and construct an equipment storage building accessible by loading vehicles.</i>			

Service: 2.670 Regional Water Supply			
Proj. No.	20-13	Capital Project Title	Electrical Isolation Audit
Capital Project Description	Inspection audit of facilities to ensure that there is sufficient electrical separation and isolation for safety.		
Asset Class	S	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	The RWSC has numerous facilities with electrical and mechanical equipment within the same room. Funds are required to conduct and inspection of the facilities and ensure there is sufficient separation to reduce the risk of failure and for safety.		
Proj. No.	20-16	Capital Project Title	Cecelia Meter Replacement
Capital Project Description	Replacement of the Cecelia billing meter as well as its enclosure.		
Asset Class	S	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	The St Giles and Cecelia meters are aging and in hard to maintain locations. Funding is required to construct new meter sites and decommission and demolition the old sites.		
Proj. No.	20-17	Capital Project Title	Decommission Smith Hill Site
Capital Project Description	Plan and decommission the abandoned Smith Hill reservoir site.		
Asset Class	S	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	The Smith Hill reservoir has not been in operation for many years. Funds are required to plan for decommission the site in 2020 and then carry out decommissioning in 2023.		
Proj. No.	20-18	Capital Project Title	Goldstream Main #4 Replacement
Capital Project Description	Plan and replacement of the concrete pipe portion of Main #4.		
Asset Class	S	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	The Main #4 transmission main going through Goldstream Ave in Langford is concrete pipe and should be replaced. Funds are required to plan a new alignment and logistics of replacement in 2020 with actual replacement part of Project 21-11.		
Proj. No.	20-32	Capital Project Title	pH Adjustment Facility
Capital Project Description	Design and construct a pH adjustment facility based upon the results of the pH and corrosion study.		
Asset Class	S	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	From the 2019 Capital Project, pH and Corrosion Study, a new facility to adjust pH in the transmission system will be designed and constructed.		

Service: 2.670 Regional Water Supply			
Proj. No.	20-33	Capital Project Title	Sooke Intake Screens Replacement
Capital Project Description	Emergency replacement of the Sooke Intake screens.		
Asset Class	E	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	In January 2020 the Intake Screens failed, funds are required for the emergency replacement of the screens over the winter of 2020-2021.		
Proj. No.	21-06	Capital Project Title	Sooke Lake Dam Spillway Hoist Replacement
Capital Project Description	Replacement of the sluice gate spillway hoist at Sooke Lake Dam.		
Asset Class	E	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	The Sooke Lake Dam Spillway Hoist is at it's end of life and poses a risk of failure when required for use of lowering the high level gate barriers. Funds are required to replace the hoist.		
Proj. No.	21-07	Capital Project Title	Goldstream Water Treatment Plant Communications Upgrade
Capital Project Description	Increase reliability and resilience of data and voice communications between the UV Plant. Sodium Hypochlorite Building.		
Asset Class	S	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	The communications systems between the UV Plant, Sodium Hypochlorite Building and Ammonia Building operate on separate systems, requiring additional time and processes to access one from the other. Funds are required to optimize the communications system to increase reliability and resilience of data and voice communications between the facilities.		
Proj. No.	21-08	Capital Project Title	Goldstream Water Treatment Plant Emergency Automation
Capital Project Description	Installation of automatic valves and controls to safeguard chemicals in the event of dosing line breaks		
Asset Class	E	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	Funds are required to automate chemical dosing line isolation to ensure employee safety in the event of a chemical line break.		
Proj. No.	21-09	Capital Project Title	Goldstream Water Treatment Plant Demolition
Capital Project Description	Plan and construct provisions demolition.		
Asset Class	S	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	The Goldstream Water Treatment Plant has undergone numerous upgrades and updates, both large and small since its initial construction. There are numerous vestigial mechanical and electrical assets that require planned removal. Funds are required to plan and remove unused assets that affect maintenance of the system.		

Service: 2.670 Regional Water Supply			
Proj. No.	21-10	Capital Project Title	SCADA Upgrades
Asset Class	E	Board Priority Area	0
Capital Project Description	Update the SCADA Master Plan in conjunction with the Juan de Fuca Water Distribution. Saanich Peninsula Water		
Corporate Priority Area	0		
Project Rationale	The SCADA and radio system utilized by the RWS comprises of components ranging from 2-25 years in age. A planned replacement of assets, to be coordinated with the Juan de Fuca Water Distribution and Saanich Peninsula Water & Wastewater Systems is required to create a more resilient and cohesive communications system.		
Proj. No.	21-11	Capital Project Title	RWS Supply Main No. 4 Upgrade
Asset Class	S	Board Priority Area	0
Capital Project Description	Upgrade vulnerable sections of the RWS Supply Main No. 4 to a resilient system to better able to withstand a seismic event.		
Corporate Priority Area	0		
Project Rationale	Sections of RWS Supply Main No. 4 have been identified as being vulnerable due to age and material type during a seismic event. This project is part of a partially grant funded project partnered with the Saanich Peninsula Water System.		
Proj. No.	21-12	Capital Project Title	SRRDF Upgrade
Asset Class	E	Board Priority Area	0
Capital Project Description	Increased water flows in the Sooke region have resulted in an additional sodium hypochlorite dosing pump and		
Corporate Priority Area	0		
Project Rationale	Due to increased water flows in the Sooke region, an additional sodium hypochlorite dosing pump and automation is required. Funds are required to carry out the upgrades.		

Service: 2.670		Regional Water Supply	
Proj. No. 16-16	Capital Project Title Implications from Goldstream Dam Safety Review	Capital Project Description Conduct dam improvements at the Goldstream dams that resulted for the Dam Safety Review and routine inspections (refer to the Dam Safety Database).	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The Goldstream Dams Dam Safety Review was initiated in 2015 and delivered in 2016 and the review provided recommendations for dam safety improvements for the 11 dams in the Goldstream Watershed. The dam deficiencies and related projects are identified in the Dam Safety Database.			
Proj. No. 16-17	Capital Project Title Butchart Dam No. 5 Remediation	Capital Project Description Phase 1 Rehabilitation (grouting) of Butchart Dam No. 5 and planning for Phase 2.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Butchart Dam #5 was observed to have a sinkhole on the downstream slope. The earthfill dam was founded on limestone in the about 1905 and seepage issues have occurred since that time. A geotechnical investigation was conducted in 2016, and remediation has been recommended by geotechnical consultant. It is proposed to complete detailed design of remediation in 2018 and construction of repairs in 2019.			

Service: 2.670		Regional Water Supply	
Proj. No. 17-25	Capital Project Title Implications from Sooke Lake Dam Safety Review	Capital Project Description Conduct dam improvements at the Sooke Lake Dam that resulted from the Dam Safety Review and routine inspections (refer to the Dam Safety Database)	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The 2016 Dam Safety Review Audit was completed and provided a list of recommended improvements. Upcoming capital work to be completed is identified in the dam safety database.			
Proj. No. 18-19	Capital Project Title Sooke Lake Dam - Instrumentation System Improvements	Capital Project Description Complete dam performance instrumentation system/surveillance improvements for the Sooke Lake Dam.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
The 2016 Dam Safety Review identified and recommended various dam safety surveillance instrumentation improvements including piezometers, weirs, seismometers, etc. An Instrumentation system plan was completed and includes a prioritized list of improvement projects.			
Proj. No. 18-20	Capital Project Title Sooke Lake Dam - Breach Risk Reduction Measures	Capital Project Description Implement measures to reduce Sooke Lake Dam breach implications in the unlikely event of dam failure (refer to the	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
A Dam Breach Assessment and Inundation Zone Mapping project was completed in 2017 by an engineering consultant and risk mitigation measures included structural and non-structural measures to lower risk should a dam breach occur. The measures are captured in the Dam Safety Database.			

Service: 2.670		Regional Water Supply	
Proj. No. 19-07	Capital Project Title Integrate Dam Performance and Hydromet to SCADA	Capital Project Description Integrate the dam safety instrumentation/surveillance (i.e. piezometers and weirs) and Hydromet	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Based on capital project 18-19, dam performance piezometers and weirs and Hydromet/Dam Safety Instrumentation stations will be integrated through the SCADA system.			
Proj. No. 19-08	Capital Project Title Charters Dam Decommissioning	Capital Project Description Charters Dam has been retired from drinking water service, no other interested owners, plan to decommission.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The Charters Dam has been retired from drinking water service with no other interested owners. Funds are required to plan and implement decommissioning of the dam prior to the next legislated Dam Safety Review.			
Proj. No. 19-09	Capital Project Title Cabin Pond Dams Decommissioning	Capital Project Description The Cabin Pond Dams (x2) have been retired from drinking water service, plan to decommission.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The two Cabin Pond Dams has been retired from drinking water service with no other interested owners. Funds are required to plan and implement decommissioning of the dams.			
Proj. No. 19-12	Capital Project Title Goldstream Dams Instrumentation Improvements	Capital Project Description Conduct dam safety instrumentation/surveillance improvements (refer to report from Thurber Engineering).	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Thurber completed a study on the Goldstream Dam instrumentation and found numerous deficiencies with respect to dam safety. Funds are required to design and implement improvements to the Goldstream Dam instrumentation.			

Service: 2.670 Regional Water Supply			
Proj. No. 19-13	Capital Project Title Dam Safety Instrumentation - Hydromet	Capital Project Description The existing dam safety instrumentation/surveillance equipment is getting older and will need to be replaced/rehabilitated (does not include pending SCADA effort).	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Aging Hydromet/Dam Safety Instrumentation stations maintained by Infrastructure Engineering require replacement so that ongoing monitoring within the watersheds can be maintained. Funds are required for upgrades and replacement of existing Hydromet Stations.			
Proj. No. 20-19	Capital Project Title Goldstream System High Level Outlet Valve Replacements	Capital Project Description The Goldstream and Butchart high level outlet valves have been identified as requiring replacement.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Through dam safety inspections and routine operations, the Goldstream and Butchart high level outlet valves have been identified as requiring replacement. Funds are required to design and replace the valves.			
Proj. No. 20-20	Capital Project Title Saddle Dam Piezometer Installation	Capital Project Description Dam safety instrumentation/surveillance installations (i.e. piezometers) are required to monitor the Saddle Dam to monitor the performance of Saddle Dam and for future stability assessments.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale From the 2019 Capital Project, #19-10, recommendations were made for piezometer installation at Saddle Dam to meet regulatory requirements. Funds are required to design and implement piezometer installation.			
Proj. No. 21-03	Capital Project Title Deception Dam - Dam Safety Review 2021 & Improvements	Capital Project Description Conduct a Dam Safety Review and some improvements for the Deception Dam.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Deception Dam has a consequence classification of "very high" and a dam safety review is required to be completed every ten years under the current B.C. Dam Safety Regulation. The last dam safety review was completed in 2011. The dam safety review is anticipated to be an "audit-style" assessment of the physical condition of the dam, operations, maintenance, surveillance, identification of dam safety deficiencies and recommendations for dam safety improvements. Project includes budget for subsequent year to complete recommended dam safety improvements.			

Service: 2.670		Regional Water Supply	
Proj. No. 21-04	Capital Project Title Saddle Dam - Dam Safety Review 2021 & Improvements	Capital Project Description Conduct a Dam Safety Review and some improvements for the Saddle Dam.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Saddle Dam has a consequence classification of "very high" and a dam safety review is required to be completed every ten years under the current B.C. Dam Safety Regulation. The last dam safety review was completed in 2011. The dam safety review is anticipated to be and "audit-style" assessment of the physical condition of the dam, operations, maintenance, surveillance, identification of dam safety deficiencies and recommendations for dam safety improvements. Project includes budget for subsequent year to complete recommended dam safety improvements.			
Proj. No. 21-21	Capital Project Title Goldstream Dams - Gate Improvements	Capital Project Description logistics planning in 2021, installation in 2022	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Several of the water control gates related to the Goldstream dams are in need of repair and possibly replacement.			
Proj. No. 21-22	Capital Project Title Charters Dam - Dam Safety Review 2021	Capital Project Description Legislated obligation to conduct Dam Safety Review, contingent on outcome of the Decommissioning plan and DSO expectations (relates to Item 10.08)	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Charters Dam has a consequence classification of "high" and a dam safety review is required to be completed every ten years under the current B.C. Dam Safety Regulation. The last dam safety review was completed in 2011. The dam safety review is anticipated to be and "audit-style" assessment of the physical condition of the dam, operations, maintenance, surveillance, identification of dam safety deficiencies and recommendations for dam safety improvements. A dam decommissioning study is in progress and the DSR will only proceed if needed, as determined by the Dam Safety officer.			

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Service: 2.670		Regional Water Supply	
Proj. No. 22-08	Capital Project Title Deception Dam Surveillance Improvements	Capital Project Description Replace and supplement the Dam Safety Instrumentation at Deception Dam.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The latest engineering data review identified deficiencies with the existing piezometers and seepage weir. It is proposed to prepare a system improvement plan and thereafter complete repairs, improvmetn and install supplementary dam performance instrumentation.			
Proj. No. 23-01	Capital Project Title Sooke Lake Dam Update Seismic Assessment	Capital Project Description Conduct a seismic assessment of the Sooke Lake Dam as per the previous Dam Safety Reiviews.	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The Sooke Lake Dam requires periodic seismic assessment updates. Funds are required to retain a consultant to conduct an update to the Sooke Lake Dam Seismic Assessment.			
Proj. No. 23-07	Capital Project Title Sooke Lake Dam Seismic Retrofits	Capital Project Description Detail and construct seismic retrofits for the existing structures initially focusing on the spillway and gates structures.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The siesmic assessment completed in 2017 included recommendations for siesmic retrofits for Sooke Lake Dam including siesmic anchoring of the spillway, gate structure and the intake tower bridge..			

Service: 2.670		Regional Water Supply	
Proj. No. 23-08	Capital Project Title Regional Watershed Dams – Flood Forecasting System	Capital Project Description Update the existing flood forecasting system (WD4Cast) to a modern version including Standard Operating Procedures and training for staff.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The 2016 Dam Safety Review included a recommendation to improve the flood forecasting system, which is becoming more important with Climate Change. This item will update the existing flood forecasting system from WD4Cast to a modern version including Standard Operating Procedures and training for staff.			
Proj. No. 23-09	Capital Project Title Sooke Lake Dam - Dam Safety Review 2023	Capital Project Description Conduct a Dam Safety Review	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Sooke Lake Dam has a consequence classification of "extreme" and a dam safety review is required to be completed every seven years under the current B.C. Dam Safety Regulation. The last dam safety review was completed in 2016. The dam safety review is anticipated to be and "audit-style" assessment of the physical condition of the dam, operations, maintenance, surveillance, identification of dam safety deficiencies and recommendations for dam safety improvements. Project includes budget for subsequent years to complete recommended dam safety improvements.			
Proj. No. 25-01	Capital Project Title Goldstream Dams - Dam Safety Review 2025	Capital Project Description Conduct a Dam Safety Review	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The Goldstream Watershed Dams have a consequence classification of "low" to "high" and a dam safety review is required to be completed every ten years under the current B.C. Dam Safety Regulation. The last dam safety review was completed in 2015. The dam safety review is anticipated to be and "audit-style" assessment of the physical condition of the dam, operations, maintenance, surveillance, identification of dam safety deficiencies and recommendations for dam safety improvements. Project includes budget for subsequent years to complete recommended dam safety improvements.			

Service: 2.670 Regional Water Supply			
Proj. No. 25-02	Capital Project Title Probable Maximum Flood and Inflow Design Flood Updates	Capital Project Description Update the previous edition from 2015 (recommended 10 year review cycle).	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The various Dam Safety Reviews and Canadian Dam Safety Guideline recommend updating the reservoir inflow design flood and freeboard analysis every ten years.			
Proj. No. 19-09	Capital Project Title Leech River Water Quality Monitoring	Capital Project Description Monitor water quality from the Leech River for 2 years	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Prior to utilizing the Leech River as an additional drinking water source, water quality monitoring is required to determine if it is a suitable water source with the current treatment technology utilized. Funds are required to monitor and analyze the water quality from the Leech River.			
Proj. No. 20-03	Capital Project Title Leech River Watershed - Implications for Supply Management	Capital Project Description Review data of Leech Monitoring Project and report on implications of adding Leech to water supply	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale This item is to develop and implement a research program to evaluate the implications of adding Leech Watershed water supply to existing Sooke Reservoir when future demand exceeds current supply			
Proj. No. 20-04	Capital Project Title Sooke Lake HyDy Model Development	Capital Project Description Critical data collection, model building+calibration, model utilization for 3 different scenarios	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale This project consists of the following different phases: 2020/2021 Procurement/Rental of monitoring equipment to fill critical data gaps; 2022 Consulting contract to build the hydrodynamic lake model and calibrate it against existing data; 2022 Consulting contract to run the model for a North Basin intake scenario; 2023 Consulting Contract to run the model for investigating impacts of a diversion of Leech River water into Sooke Lake; 2024 Consulting Contract for investigating impacts of wind induced seiches in Sooke Lake.			

Service: 2.670

Regional Water Supply

Proj. No.	21-13	Capital Project Title	Flowcam Imaging System	Capital Project Description	Utilize semi-automated algal analysis to meet increased demands without increasing FTEs
Asset Class	E	Board Priority Area	0	Corporate Priority Area	0
Project Rationale	Demand for algal monitoring of the watershed areas has increased due to the monitoring of the Leech Watershed Area and overall increased monitoring due to the potential effects of climate change on the water supply for Greater Victoria. The Flowcam imaging system is a semiautomated flow cytometer imaging system that can increase sample analysis capacity substantially to meet the demand without increasing FTEs in an expert role. Water Quality also analyzes algal samples for CRD-operated local service area drinking water sources and recovers costs through internal charges back to RWS.				

Proj. No.	21-14	Capital Project Title	Sooke Lake Sampling Boat Repair	Capital Project Description	Refurbishment of structural boat parts (floor)
Asset Class	E	Board Priority Area	0	Corporate Priority Area	0
Project Rationale	The 1994 Sooke Lake Sampling Boat needs replacement of the wood-core floor and a few other smaller repairs to extend its structural life.				

Proj. No.	21-29	Capital Project Title	Microbiological plate pourer	Capital Project Description	Automation of manual process to increase capacity/worker safety
Asset Class	E	Board Priority Area	0	Corporate Priority Area	0
Project Rationale	Currently microbiological media is heated to melting on a hotplate and manually poured into Petri dishes, and sample workload has increased such that staff spend a significant amount of time on this potentially hazardous activity. This piece of equipment automates the process to eliminate the risk of burn injuries from handling hot, sterilized media in glassware.				

Service: 2.670			Regional Water Supply		
Proj. No.	22-05	Capital Project Title	WQ Lab Capital Improvements	Capital Project Description	Building improvements in the lab
Asset Class	B	Board Priority Area	0	Corporate Priority Area	0
Project Rationale Replacement of floor covering and wooden cabinetry original to the building due to deterioration/ wear and tear.					
Proj. No.	22-06	Capital Project Title	Sooke Lake Food Web Study	Capital Project Description	Assess the aquatic food web structure and create an inventory of fish and invertebrate species and distribution in Sooke Lake Reservoir to be used as
Asset Class	S	Board Priority Area	0	Corporate Priority Area	0
Project Rationale CRD has been using predominantly algal data as an indicator for stream health and condition assessment in the source waters. To gain a better understanding of the source water conditions and how they may change over time it is necessary to expand this indicator system for other trophic levels in the food web. Sooke Lake Reservoir is of particular interest as the primary and critical water source for the GVDWS and therefore a aquatic food web study will be commissioned on this lake.					
Proj. No.	22-07	Capital Project Title	Bulk-Water Connection Backflow Protection Study	Capital Project Description	Investigate all bulk-water connections to CRD or municipal systems and identify the need for backflow protection
Asset Class	S	Board Priority Area	0	Corporate Priority Area	0
Project Rationale While the CRD has a new policy requiring backflow considerations for the design of new connections to CRD supply mains, there are a number of existing connections that are unprotected or that are unknown if protected. Also, there are numerous bulk-water connections to municipal mains (Stratas, First Nation lands, federal lands) that may be unprotected. This study is to create an inventory of all bulk-water connections to public water systems in the GVDWS and to assess the risk of backflow.					

Service: 2.670		Regional Water Supply	
Proj. No. 23-05	Capital Project Title Renovation of Samplers Hut (2955 Sooke Lk Road)	Capital Project Description Building exterior paint, roof, gutters, flooring, bathroom	
Asset Class B	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The CRD Samplers Hut at 2955 Sooke Lake Road will require extensive building renovations in 2023 to be able to continue to serve as a safe and adequate working place for CRD staff.			
Proj. No. 23-06	Capital Project Title GVDWS Nitrification Study	Capital Project Description Investigate nitrification occurrence and potential impacts on drinking water quality	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale With the operation of the upgraded Goldstream disinfection process (liquid NH3 and hypo) the volatility of the residual products and potential for nitrification in the distribution systems needs to be studied to assess any potential impacts to the drinking water quality.			
Proj. No. 24-02	Capital Project Title Boat Motor Replacement with Electric Outboards (Sooke and Goldstream Boats)	Capital Project Description Pump and trip motor replacement due to age and water quality concerns, large electric outboards are already available from Torqeedo for instance	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale When the existing boat motors are due for replacement they shall be replaced with electric outboard motors to reduce emissions and to provide clean propulsion of CRD boats on the drinking water source lakes. This will reduce the risk of fuels spills and eliminate combustion exhausts entering the water.			

Service: 2.670		Regional Water Supply	
Proj. No. 17-27	Capital Project Title Watershed Bridge and Culvert Replacement	Capital Project Description Replacement of small culverts and bridges throughout the GVWSA.	
Asset Class S	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale <i>This provides annual funding for the replacement of culverts and bridges that have reached end of life and/or are undersized given present knowledge of potential peak water flows and anticipated climate change effects. With the completion of peak flow modelling of all major structures in the Sooke and Goldstream WSAs in 2017, additional funds are required beginning in 2018 to upgrade identified structures to current standards. Costs of upgrades have increased significantly in the last 5 years.</i>			
Proj. No. 17-28	Capital Project Title Watershed Security Infrastructure Upgrade and Replacement	Capital Project Description New, upgrade and replacement of security infrastructure in the GVWSA.	
Asset Class E	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale <i>The outer boundary of the Leech, Sooke and Goldstream Water Supply Areas is approximately 119 kilometers in length. Main access roads are gated and there are 11 kilometers of existing security fencing. A constant effort is needed to maintain a Closed Watershed Policy. Through monitoring, high incident areas are identified, security plans are developed, and security infrastructure (fencing, gates and signage) is installed or upgraded where required. The uplift in provisional funding requested in 2017 has been reduced given full integration of the Weeks Lake area within the GVWSA, completion of fencing and gates related to the Sooke Hills Wilderness Trail and with separate capital projects for autogates.</i>			
Proj. No. 17-29	Capital Project Title Water Supply Area Equipment Replacement	Capital Project Description Hydrometeorological, fireweather and wildfire suppression equipment replacement.	
Asset Class E	Board Priority Area No Alignment	Corporate Priority Area Water	
Project Rationale <i>This provides annual funding for the replacement or upgrading of equipment for wildfire suppression and spill response, fire weather stations, hydro-meteorological monitoring and water quality sampling and monitoring equipment. Given an expansion of the hydrology and meteorology network of stations and sensors, an additional \$50,000 per year is added in 2020 and going forward. In 2021 and going forward, funding is reduced by \$20,000 as water quality equipment will be funded under a separate line item (21-17).</i>			
Proj. No. 17-30	Capital Project Title Transmission Main Repairs	Capital Project Description Emergency repairs to the transmission mains.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale <i>Each year a visual inspection of this critical supply tunnel is carried out by CRD staff. This capital item allows for minor repairs that are discovered during these inspections. This also allows for annual funding for repair of emergency breaks on large diameter supply mains.</i>			

Service: 2.670		Regional Water Supply	
Proj. No. 17-31	Capital Project Title Transmission System Components Replacement	Capital Project Description Replacement and repair of transmission components.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale This is an annual allowance for the capital costs for the replacement and repair of supply system components that fail under normal operation and maintenance during the year.			
Proj. No. 17-33	Capital Project Title Disinfection Equipment Parts Replacement	Capital Project Description Replacement of incidental equipment and parts associated with the disinfection system.	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The annual work includes the replacement of the plastic gas feed piping that has become very brittle, installing air valves on the ammonia solution lines, installing and replacing shut off valves on the booster pumps supply piping, installing indicator stems on UV cooling water valves, relocating the UV cooling water feed pipes, improving the landscaping around the UV building to reduce dust and other minor upgrades.			
Proj. No. 17-34	Capital Project Title Supply System Computer Model Update	Capital Project Description Annual update of the regional hydraulic model.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale This item is to allow for staff and consultant time each year to keep the hydraulic computer model current.			
Proj. No. 19-16	Capital Project Title Dam Improvements	Capital Project Description Items not covered by Dam Safety Reviews, but brought up in Dam Safety Inspections and Dam Safety Reviews	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Dam Satey Inspections are carried out throughout the year and result in minor improvements at each dam annually. These improvements are minor in nature and are typically not covered in the Dam Safety Review. Funds are required to carry out the dam safety improvements resulting from Dam Safety Inspections.			

Service: 2.670 Regional Water Supply			
Proj. No. 19-22	Capital Project Title SCADA Repairs & Equipment Replacement	Capital Project Description Items not covered by the SCADA Replacement and SCADA Master Plan, but integral in maintaining the SCADA System and revenue meter system.	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale This item is to allow for unplanned SCADA repairs and equipment replacement not covered by the capital projects SCADA Replacement.			
Proj. No. 21-15	Capital Project Title Corrosion Protection	Capital Project Description Replace corrosion protection assets, such as coatings, for the transmission system when identified.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale There are numerous assets with varying levels of corrosion protection throughout the RWS system. Funds are required to ensure that corrosion protection assets are replaced or rehabilitated when identified.			
Proj. No. 21-16	Capital Project Title Valve Chamber Upgrades	Capital Project Description Replace failing valves and appurtenances along the RWS supply system.	
Asset Class S	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The RWS system has numerous isolation and air valves along the transmission system, usually in underground chambers. Funds are required for replacement of valves and chamber upgrades as they are identified.			
Proj. No. 21-17	Capital Project Title Water Quality Equipment Replacement	Capital Project Description Replacement of water quality equipment for the water quality lab and water quality operations	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale This provides annual funding for the replacement or upgrading of equipment for the water quality lab, sampling, and operations. Of this provisional budget, \$20,000 was previously included in item 17-29 (Water Supply Area annual provisional budget)			

Service: 2.670 Regional Water Supply			
Proj. No.	21-18	Capital Project Title	LIMS support
Capital Project Description	Support for LIMS database		
Asset Class	E	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	Provides for support for the laboratory information management system		
Proj. No.	17-35	Capital Project Title	Vehicle & Equipment Replacement (Funding from Replacement Fund)
Capital Project Description	This is for replacement of vehicles and equipment used by CRD Water Services for the day-to-day operation and maintenance of the supply system.		
Asset Class	V	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	This is for replacement of vehicles and equipment used by CRD Water Services for the day-to-day operation and maintenance of the supply system. The Equipment Replacement Fund is used to fund the expenditure.		
Proj. No.	20-22	Capital Project Title	Vehicle for the Dam Safety Program
Capital Project Description	New pick up		
Asset Class	V	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	An additional pick up is required for the dam safety program.		
Proj. No.	20-23	Capital Project Title	Vehicle for the CSE Support Program
Capital Project Description	New Transit Van		
Asset Class	V	Board Priority Area	0
Corporate Priority Area	0		
Project Rationale	A new Transit van is required to support the Confined Space Entry Support program.		

Service: 2.670			Regional Water Supply		
Proj. No. 21-30		Capital Project Title	Vehicle for Warehouse Operations	Capital Project Description	New pick up
Asset Class V		Board Priority Area	0	Corporate Priority Area	0
Project Rationale		For use of the warehouse worker to source supplies and materials in support of the remote sites.This warehouse worker will maintain wastewater stores and will travel and transport as required items between stores locations. A pickup truck will be required.			
Proj. No. 21-24		Capital Project Title	ATV with Tracks (replace Gator)	Capital Project Description	Vehicle to access weather stations during snow conditions
Asset Class V		Board Priority Area	0	Corporate Priority Area	0
Project Rationale		The replacement of the gator with an ATV with tracks will be used to access weather stations in the winter.			
Proj. No. 21-25		Capital Project Title	UV Plant Safety Audit and Equipment Replacement	Capital Project Description	Carry out an audit of the occupied office area of the UV Plant and carry out upgrades
Asset Class V		Board Priority Area	0	Corporate Priority Area	0
Project Rationale		The UV Plant serves as the main occupational space for the UV and Chloramination plant operators. Since construction in 2004 an audit and update of the occupied space has not been carried out to ensure the space meets the current needs. Funds are required to carry out the audit and carry out upgrades.			

Service: 2.670/2.680		Regional Water Supply & JdF Water Distribution Combo	
Proj. No. 16-01	Capital Project Title Upgrades to Buildings at 479 Island Highway	Capital Project Description Maintenance and changes to buildings and office layouts.	
Asset Class B	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The budget includes the following funds to upgrade and renew the buildings at 479 Island Highway: <ul style="list-style-type: none"> • Repairs, upgrades and changes to the buildings (provisional \$50,000) • Painting of the buildings. (provisional \$10,000 annually) • Repair and replacement of carpets, floors and walls. (provisional \$10,000 annually) • Repair, refurbishment and replacement of equipment and property. (provisional \$10,000 annually) 			
Proj. No. 17-01	Capital Project Title Voice Radio Upgrade	Capital Project Description Replacement of end of life voice radio system repeaters, office, vehicle and handheld radios.	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Service Life and projected replacement: <ul style="list-style-type: none"> • The service life of the mobile and portable units was forecast as 10 years at minimum, 15 years at maximum in 2005. • The present radio models used in the system have just been taken out of production by the manufacturer, there will be no new units available for purchase as of July 1, 2015. • Support for repairs and maintenance of the present radio will continue for the next 3 years at least. There are no pressing issues with equipment maintenance or repairs, present repair rates suggest we can maintain the system for the next few years, and perhaps reach a 12-15 year lifespan on the present equipment.			
Proj. No. 20-01	Capital Project Title Portable Pump Station	Capital Project Description Portable pump station to provide backup when a pump station is offline, in construction or to bypass a section of	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The RWS and JdF operation numerous water mains and pump stations. There are situations, when a pump station fails, construction of a pump station or bypassing a section of pipe, where a portable pump station is required to maintain the level of service. Funds will be used in 2020 to design and in 2021 to procure a portable pump station.			

Service: 2.670/2.680 Regional Water Supply & JDF Water Distribution Combo			
Proj. No. 21-01	Capital Project Title Storage Container for vehicle and equipment Tires	Capital Project Description Tires removed from vehicles are stored on site outside of the Fleet office. They need to be stored in a more safe and	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale The tires that are purchased for replacing and winter rotating are stored outside the fleet office on the mezzanine. These tires which include large truck and equipment tires are bulky and heavy. Lifting these tires onto the mezzanine has been identified as a safety hazzard and requires more than one person. A solution to this is to purchase a storage container that can be placed and locked in the yard at 479 for the storage of the tires. The container will be at ground level which means that the onsite forklift can be used to move the tires around.			
Proj. No. 17-03	Capital Project Title Office Equipment, Upgrades and Replacements	Capital Project Description Upgrade and replacement of office equipment as required.	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale Funds will be used for the replacement and upgrading of office equipment and furniture, as required.			
Proj. No. 17-04	Capital Project Title Computer Upgrades	Capital Project Description Annual upgrade and replacement program for computers, copiers, printers, network equipment as required.	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale This is an annual upgrading and replacement program of computers, photocopiers, network, monitoring and associated equipment, as required. This item has been increased from \$160,000 to \$175,000 annually to reflect actual costs.			
Capital Budget Network Switch Maintenance \$10,000 Additional Wireless Access Points and Maintenance \$15,000 Photocopier Replacement \$20,000 Additional Data Storage \$15,000 Replacement Computers \$75,000 Equipment Maintenance (contingency) \$23,000 Replace Access Control System - Gates/ Video Cameras \$12,000 Total Capital \$170 000			

Service: 2.670/2.680 Regional Water Supply & JDF Water Distribution Combo			
Proj. No. 17-05	Capital Project Title Development of the Maintenance Management Systems	Capital Project Description Develop maintenance management system.	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale <i>The maintenance management system needs further development to meet user needs and to facilitate reporting. It is proposed that funds be approved for the following IT related projects:-</i> <ul style="list-style-type: none"> • Develop a dashboard to display information. • Investigate standardization of SAP mobile platform. 			
Proj. No. 17-06	Capital Project Title Small Equipment & Tool Replacement (Water Operations)	Capital Project Description Replacement of tools and small equipment for Water Operations as required.	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale <i>Funds will be used for replacement of a variety of Operations and Welding equipment such as cutting saws, portable generators, gas detectors, Hilti drills, plasma cutter, wire welder, etc.</i>			
Proj. No. 17-07	Capital Project Title Small Equipment & Tool Replacement (Corporate Fleet)	Capital Project Description Replacement of tools and small equipment for Fleet as required.	
Asset Class E	Board Priority Area 0	Corporate Priority Area 0	
Project Rationale <i>Funds will be used for replacement of a variety of Fleet small equipment and tools as required. This includes provision to replace the Vehicle OBD reader for reading engine codes and the shop air compressor.</i>			

**2.670 Regional Water Supply
Asset/ Reserve Schedule
2021 - 2025 Financial Plan**

Asset Profile

Regional Water Supply

System assets include the lands, dams and source water reservoirs within the water supply areas, intake and source conduits, two water treatment plants, pressure regulating facilities, nine supply mains, three balancing reservoirs and revenue water meters in the water transmission system.

Equipment Replacement Reserve Schedule

Reserve Fund: 2.670 Regional Water Supply Equipment Replacement Reserve (covered by CRD-ERF Bylaw)

Fund: 1022 Fund Center: 101454

	Actual	Estimated	Budget				
	2019	2020	2021	2022	2023	2024	2025
Beginning Balance	2,510,919	2,031,817	2,049,161	2,158,001	2,278,742	2,363,053	2,440,804
Equipment purchases (Based on Capital Plan)	(914,681)	(367,000)	(222,000)	(215,000)	(265,000)	(280,000)	(280,000)
Transfer from Operating Budget	274,300	299,294	297,540	303,491	309,561	315,751	322,066
Proceeds on disposals	133,812	55,050	33,300	32,250	39,750	42,000	42,000
Interest Income*	27,467	30,000					
Ending Balance \$	2,031,817	2,049,161	2,158,001	2,278,742	2,363,053	2,440,804	2,524,870

General Comments:

Reserve Fund is used for the purpose of replacing fleet vehicles including heavy equipment and associated mobile components, as outlined in the capital plan. Proceeds from disposals are estimated at 15% of replacement equipment purchases. Note not all vehicles are sold within the year in which they are replaced.

* Interest should be included in determining the estimated ending balance for the current year. Interest in planning years nets against inflation which is not included.