Capital Regional District

625 Fisgard St.,
Victoria, BC V8W 1R7

Notice of Meeting and Meeting Agenda
Core Area Liquid Waste Management Committee

Wednesday, October 9, 2024 | **9:00 AM** | **6th Floor Boardroom, 625 Fisgard Street, Victoria, BC V8W 1R7**

Special

C. Coleman (Chair), D. Kobayashi (Vice Chair), M. Alto, S. Brice, J. Brownoff, J. Caradonna, Z. de Vries, B. Desjardins, S. Goodmanson, K. Murdoch, D. Murdock, C. Plant, L. Szpak, D. Thompson, S. Tobias

The Capital Regional District strives to be a place where inclusion is paramount and all people are treated with dignity. We pledge to make our meetings a place where all feel welcome and respected.

1. Territorial Acknowledgement

2. Approval of Agenda

3. Presentations/Delegations

The public are welcome to attend CRD Board meetings in-person.

Delegations will have the option to participate electronically. Please complete the online application at www.crd.bc.ca/address no later than 4:30 pm two days before the meeting and staff will respond with details.

Alternatively, you may email your comments on an agenda item to the CRD Board at crdboard@crd.bc.ca.

4. Special Meeting Matters

4.1. 24-941 Core Area Wastewater Service 2025 Operating and Capital Budget

Recommendation: The Core Area Liquid Waste Management Committee recommends the Committee of the Whole recommend to the Capital Regional District Board:
1. Approve the 2025 Core Area Wastewater Service operating and capital budgets as presented;
2. Direct staff to balance the 2024 actual revenue and expenses on the transfer to the operating reserve; and
3. Direct staff to update carry forward balances in the 2025 Capital Budget for changes after year end.

Attachments:
- Staff Report: Core Area Wastewater Service 2025 Budget
- Presentation: 2025 CALWM Budget Overview
- Appendix A: CAWW 2025 Budget - Combined View
- Appendix B: Debt – Core Area Wastewater Capital
- Appendix C: Core Area Wastewater Operations
- Appendix D: Initiative Business Case Summaries

4.2. 24-936 Liquid Waste Management Plan Engagement Plan

Recommendation: There is no recommendation. This report is for information only.

Attachments:
- Staff Report: Liquid Waste Management Plan Engagement Plan
- Appendix A: Report to TCAC (February 13, 2024)

4.3. 24-957 Core Area Wastewater Service Esquimalt Nation Capacity Allocation Request

Recommendation: There is no recommendation. This report is for information only.

Attachments:
- Staff Report: CAWW Service Esquimalt Nation Capacity Allocation Request
- Appendix A: Bylaw No. 2312
- Appendix B: Sample Letter

5. Adjournment

The next meeting is December 11, 2024 @ 9 am (Special).

To ensure quorum, please advise Jessica Dorman (jdorman@crd.bc.ca) if you or your alternate cannot attend.

Making a difference...together

IWS 24-05

REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF WEDNESDAY, OCTOBER 9, 2024

SUBJECT **Core Area Wastewater Service 2025 Operating and Capital Budget**

ISSUE SUMMARY

To provide an overview of the draft 2025 Core Area Wastewater Service budget, highlighting the changes from the 2024 budget and the proposed 2025 budget figures. The report generally follows the information provided in the attached draft budget document (Appendix A).

BACKGROUND

The 2025 Core Area Wastewater Service budget has been prepared for the Core Area Liquid Waste Management Committee's (the Committee) consideration. The Committee will make budget recommendations to the Capital Regional District (CRD) Board through the Committee of the Whole in October. The draft 2025 budget has been prepared considering the CRD Board's 2025 service and financial planning guidelines, which include identifying opportunities to realign or reallocate resources and seek potential efficiencies between departments and services, reviewing of service levels and adjustments related to regulatory compliance, and undertaking infrastructure improvements to maintain service levels across the service area. The following sets out the key components of the budget.

2024 Year End Financial Projections

The 2024 total operating budget of $34.19 million (M) is projected to be $34.98M resulting in $0.79M deficit, largely driven by $1M exceedance in biosolids disposal costs. The following table summarizes the estimated variance by driver:

Operating Budget Variance Drivers	Impact $ (B)/W
RTF Operations and Biotreatment and Disposal	$987,805
Repairs & Maintenance	-$129,873
Supplies - Chemicals & Other	$87,000
Electricity & Utilities	-$115,000
Other Costs	-$46,392
Total Variance	**$783,540**
Required Transfer from Reserve Fund	-$783,540

The estimated balance of the operating reserve fund after transferring and balancing the year end deficit will be $3.3M.

2025 Operating Budget

Conveyance and Treatment Operations

The 2025 conveyance and treatment operations budget is $36.4M which represents an 8.7% increase over the 2024 budget.

The most notable operating budget changes are as follows:

- Allocation Integrated Water Services (IWS) Operations: $0.57M total increase due to labour charge-out rate increases in line with the projected collective agreement ($0.336M), and the new 2025 Initiative Business Case (IBC) for a systems Maintenance Technologist (2b-2.3) ($0.082M). In addition, there is an increase in the asset management allocation of Corporate Services ($0.145M) due to the Corporate Enterprise Asset Management team being realigned from Financial Services to IWS. This is included in the CRD Evolves program as the focus the asset management team transitions from an overarching financial to an operating function. These resources will initially be focusing on supporting water and wastewater infrastructure, as the services with the largest percent of engineered assets. The funding for this division has been split among the water and wastewater services based on asset value and criticality. In 2026, asset management standards and programs will be expanded to all services across with engineered assets and funding will be realigned to reflect this focus.
- Allocation Standard Overhead: An increase of $0.238M based on the percentage of the prior year's budget and the budgeted cost for 2025.
- Allocation Other: an increase of $0.385M due to 2 new FTEs for the Innovative Projects Work Unit IBC 1b-4.2 ($0.202M) and Inflationary increases for Environmental Monitoring, Marine Protection, Infrastructure Engineering, and Facilities Management ($0.183M).
- Residuals Treatment Facility (RTF) Operations and Biotreatment and Disposal: a net decrease of $0.167M primarily due to a reduction from the previous year expense to align with the biosolids disposal strategy commitment. This reduction assumes Lafarge Richmond is successful at receiving 65% of the biosolids in 2025 while the remaining 35% will be diverted to an alternate Tier 2 location as defined in the Long-Term Strategy.
- Operating Other: a total of $0.92M. Of that, $0.57M increase is due to both one-time ($0.35M) and ongoing ($.015M) backwash tank cleaning costs, as well as ongoing annual host community impact charge ($0.07M) and $0.35M increase is due to higher insurance premiums and inflationary costs for equipment and contracted services. The backwash tank cleaning costs is an anticipated maintenance activity that only occurs every five years.
- Repairs and Maintenance: $0.44M increase due to additional cyclical maintenance costs including inspections, repairs, and equipment replacement.
- Supplies - Chemical and Other: a $0.48M overall increase over last year mainly due to 15% increase in the unit price of the process chemicals and the increase in consumption of carbon media used to reduce plant odours.

Further details of the rational for the IBC's listed above and the rational for the positions and service level drivers can be found in Appendix D, while the full 2025 Community Needs Summary will be presented at the Committee of the Whole on October 30, 2025.

Environmental Services Programs Operations

The Core Area Wastewater Service includes several environmental programs, provided through the Environmental Protection Division, as part of the requirements to achieving CRD's regulatory

commitments under the Core Area Liquid Waste Management Plan (LWMP). These programs are summarized below (including 2025 requisition impact):

- **Onsite Sewage System Management Program (24.4%)** – The program manages septic system maintenance through bylaw compliance monitoring and educational materials to reduce the impacts of failing septic systems on human health and the environment. The District of North Saanich has been added to the service for 2025.
- **Core Area Liquid Waste Management Plan Administration (8.2%)** – The program manages the LWMP and oversees implementation of the commitments. The program also conducts all reporting and plan amendment preparation for the service. Biosolids Advanced Thermal Demonstration pilot project has been added to the 2025-2029 budget, to be financed by Municipal Finance Authority borrowing and funded through requisition.
- **Harbours Studies Program (3.9%)** – The program provides for the CRD to work in partnership with other stakeholders, including communities, local governments, and senior governments, to protect and improve the environmental quality of Victoria and Esquimalt harbours.
- **Regional Source Control Program (3.4%)** – The program is aimed at reducing contaminants that industries, institutions, and households discharge into sanitary sewers. The program will be more important than ever in point-of-discharge contaminant reduction to protect the sewage collection and treatment systems, the quality of the treatment plant sludge and biosolids, the marine receiving environment, and public and worker health and safety.
- **Marine Monitoring Program (3.3%)** - The program provides for the marine environment sampling and testing and regulatory reporting related to the effluent discharges from CRD wastewater facilities. The program budget is funded through the conveyance and treatment budget.
- **Core Area Stormwater Quality Management Program (3.3%)** – Using an integrated watershed management approach, the program coordinates the management of stormwater quality, including investigations to assess shoreline discharges and contaminant sources, to protect the marine environment.
- **Inflow and Infiltration Enhancement Program (3.1%)** – The program is co-managed with IWS Engineering and provides for the CRD to engage with the participants to identify and reduce the amount of rain and ground water that enters the sanitary sewer systems. The program budget is funded through the conveyance and treatment budget.
- **Septage Disposal Program** – This program is funded by service fees and provides oversight for the contract between the CRD and SPL Wastewater Recovery Ltd. which provides septage receiving and processing services for the CRD.

2025 Capital Budget

Capital Plan

A five-year capital plan is presented for information (Appendix B). The plan includes projects that will replace infrastructure at end-of-service life to ensure the system continues to operate reliably without service interruptions or risk to property, public health or the environment. The plan also includes projects that add conveyance capacity ‘just in time’ to convey flows to 2045 and utilize the ultimate design capacity of existing conveyance facilities, such as pump stations, and the McLoughlin Point Wastewater Treatment Plant (MPWWTP).

The capital budget for 2025 is $30.6M and the total 2025-2029 capital budget is $78.3M. There are projects planned in each of the major asset categories including wastewater treatment plant upgrades, pump station upgrades, gravity sewer and manhole upgrades and replacements, pressure pipe upgrades, flow meter installations, replacements, system control and communications upgrades and outfall/overflow improvements.

Reserve Funding

There are currently four reserve funds established for this service. Reserves serve several specified purposes including stabilizing revenue requirements and funding capital renewal and replacement. The service has the following reserve funds (2024 estimated year-end balances):

- **Operating Maintenance (O&M) Reserve ($3.3M):** used to pay for significant O&M expenses that do not occur on an annual basis, including the overages related to the biosolids, chemicals, tipping fees in 2024. Based on the CRD Operating Reserve Guidelines the Operating Maintenance Reserve is currently under funded, therefore 2025 operating maintenance reserve fund contributions are set at $0.7M as a start to approach a reasonable target level of $4.0M per the guideline. It is planned that $0.8M will be utilized next year resulting in a slight decrease to the fund in 2025.
- **Equipment Replacement Reserve ($6M):** used to pay for 'minor' equipment replacement that typically has a service life of less than five years and/or a value of less than $25,000. In 2025 there will be a contribution of $100,000 to the equipment replacement reserve fund, with the intent to increase to $400,000 in 2026.
- **Core Area Wastewater Treatment Plant (CAWWTP) Debt Retirement Reserve ($18.6M):** used to accumulate funds sufficient to pay down the treatment program debt issuances, in full, as they hit their 10-year renewal option. The establishment of this fund aligns with the financing strategy approved by the CRD Board in 2019, which was designed to deliver the most cost-effective financing structure, with the lowest overall cost to the participants. The combined annual contribution to the Debt Retirement Reserve and the debt servicing costs for the CAWWTP financing totals $12M. Contribution to the Debt Retirement Reserve will continue to increase as debt on the CAWWTP is paid down. This strategy is aimed at achieving full repayment of the CAWWTP project debts at their first renewal in 10 years. After repayment, capacity will be used to reach capital reserve targets for the capital long range plan.
- **Capital Replacement Reserve ($17M):** used to pay for 'major' equipment and infrastructure replacement that has a service life of five to 25 years or more. The replacement and funding of other components of the wastewater system that have a service life of up to 75 years, such as gravity trunk sewers and forcemains, large pumps, electrical distribution systems, concrete tanks and superstructures and major building components, will be part of the long-term capital plan and largely funded through a combination of reserves and long-term financing. In an effort to minimize the impact on requisitions, the reserve contribution continues to be reduced, now set at $2.1M instead of the original $3.1M. In 2026, the contribution will be reinstated to $3.1M, with an additional $1M per year added in 2028 and 2029 to help offset the temporary reductions in 2024 and 2025. The reserve will be used to fund $6.3M of the 2025 capital plan including $1.63M carry-forward projects from 2024.

Requisition

The 2025 requisition is $58.23M after incorporating the requisition for capital, which includes debt servicing of the new and existing conveyance and treatment system works, and system operations. The 2025 requisition represents a 9.4% increase over the 2024 requisition. This increase is due to the additional cost of chemical increases, cyclical maintenance, higher insurance premiums, increased labour charges, and issuance of new long-term debt.

ALTERNATIVES

Alternative 1
The Core Area Liquid Waste Management Committee recommends the Committee of the Whole recommend to the Capital Regional District Board:
1. Approve the 2025 Core Area Wastewater Service operating and capital budgets as presented;
2. Direct staff to balance the 2024 actual revenue and expenses on the transfer to the operating reserve; and
3. Direct staff to update carry forward balances in the 2025 Capital Budget for changes after year end.

Alternative 2
The Core Area Liquid Waste Management Committee recommends the Committee of the Whole recommend to the Capital Regional District Board:
1. Approve the 2025 Core Area Wastewater Service operating and capital budgets as amended;
2. Direct staff to balance the 2024 actual revenue and expenses on the transfer to the operating reserve; and
3. Direct staff to update carry forward balances in the 2025 Capital Budget for changes after year end.

IMPLICATIONS

Financial Implications

The operating budget reflects costs by type required to support the wastewater treatment service level. The capital budget includes a five-year infrastructure investment to maintain the current system and required replacement of the aging conveyance lines. Together, with reserve contributions, the five-year plan sustains the service at the level required to ensure community needs are met. If the proposed budget is amended, the implications could vary depending on how the budget is amended and the impact on specific programs and initiatives, on-going operations, or the capital work program. One-time reductions in reserve fund contributions could be considered by the Committee to help mitigate the budget and rate increases but would result in higher longer-term costs and potential delays in critical infrastructure projects, potentially compromising service reliability and increasing future financial pressure.

CONCLUSION

This 2025 Core Area Wastewater Service budget is presented for the Core Area Liquid Waste Management Committee's (Committee) consideration. The Committee will make budget recommendations to the Capital Regional District (CRD) Board through the Committee of the Whole in October. The 2025 budget reflects the operating costs of the McLoughlin Point

Wastewater Treatment Plant (WWTP) and the conveyance system, as well as the existing and new capital costs and reserve fund contributions. The operating budget will continue to be refined as the operation of the WWTP is optimized as the CRD gains experience with the new operation. The CRD has resumed investment in the renewal of the conveyance system infrastructure that existed prior to the Core Area Wastewater Treatment Project, to ensure the system continues to operate reliably and without impacts on public health or the environment. The financial implications of the 2025 operating and capital budget vary by participant, depending on the operating and capital cost apportionments associated with annual flow and allocated treatment capacity.

RECOMMENDATION

The Core Area Liquid Waste Management Committee recommends the Committee of the Whole recommend to the Capital Regional District Board:

1. Approve the 2025 Core Area Wastewater Service operating and capital budgets as presented;
2. Direct staff to balance the 2024 actual revenue and expenses on the transfer to the operating reserve; and
3. Direct staff to update carry forward balances in the 2025 Capital Budget for changes after year end.

Submitted by:	Alicia Fraser, P. Eng., General Manager, Integrated Water Services
Concurrence:	Glenn Harris, Ph.D., R.P.Bio., Acting GM, Parks, Recreation & Environmental Services
Concurrence:	Nelson Chan, MBA, FCPA, FCMA, Chief Financial Officer, GM Finance & IT
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

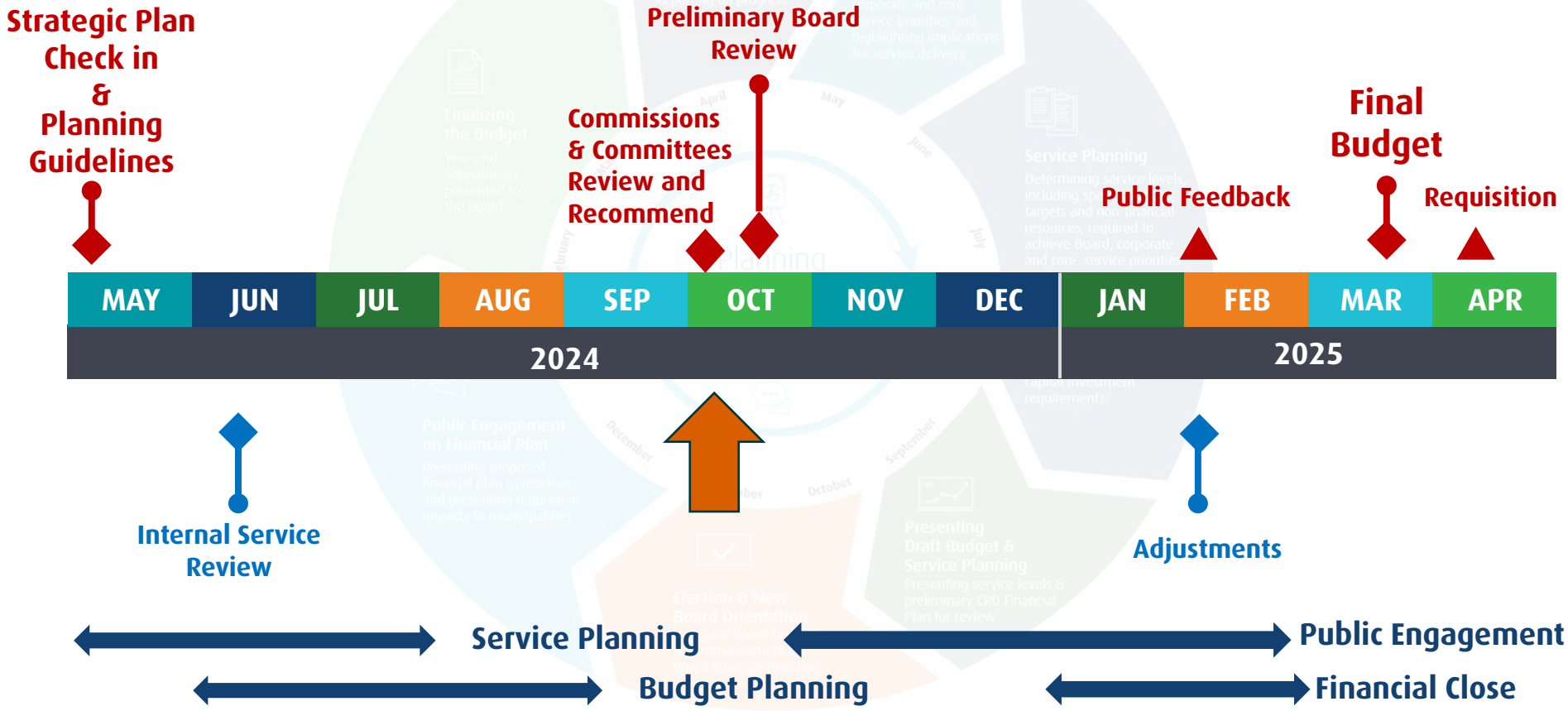
ATTACHMENTS

Presentation: Core Area Wastewater Service 2025 Budget Review
Appendix A: Core Area Wastewater - Combined View
Appendix B: Debt – Core Area Wastewater Capital
Appendix C: Core Area Wastewater Operations
Appendix D: Initiative Business Case Summaries

Core Area Liquid Waste Management 2025 Budget Overview

Core Area Liquid Waste Management Committee
October 9, 2024

Budget Process Overview



Current System Overview

Wastewater Treatment Conveyance and Biosolids Management

McLoughlin Treatment Plant

92 km Conveyance System

18 Pumping Stations

LWMP Programs

Residual Treatment Facility

Arbutus Attenuation Tank

2025 Budget Considerations

- 2024 Budget – year end budget projections
- Community Needs Summary
- Existing Asset Condition, Infrastructure Growth and Resiliency Needs
- Operating budget adjustments
- Capital funding & debt servicing
- Biosolids disposal alternatives and Board direction

2024 Year End Projections

Budget Item	Variance ($)
RTF Operations and Biotreatment and Disposal	$987,805
Repairs & Maintenance	-$129,873
Supplies - Chemicals & Other	$87,000
Electricity & Utilities	-$115,000
Other Costs	-$46,392
Total Operating Expenditures	$783,540
Total Revenue	$0
Reserve Fund Transfers	-$783,540

* The above noted deficit, resulting from the additional landfill tipping fees for biosolids and loss of revenue from the Residuals Treatment Facility (RTF), will be drawn from the Operating Reserve Fund at the end of 2024.

2025 Budget Overview –

Conveyance & Treatment Operating Costs

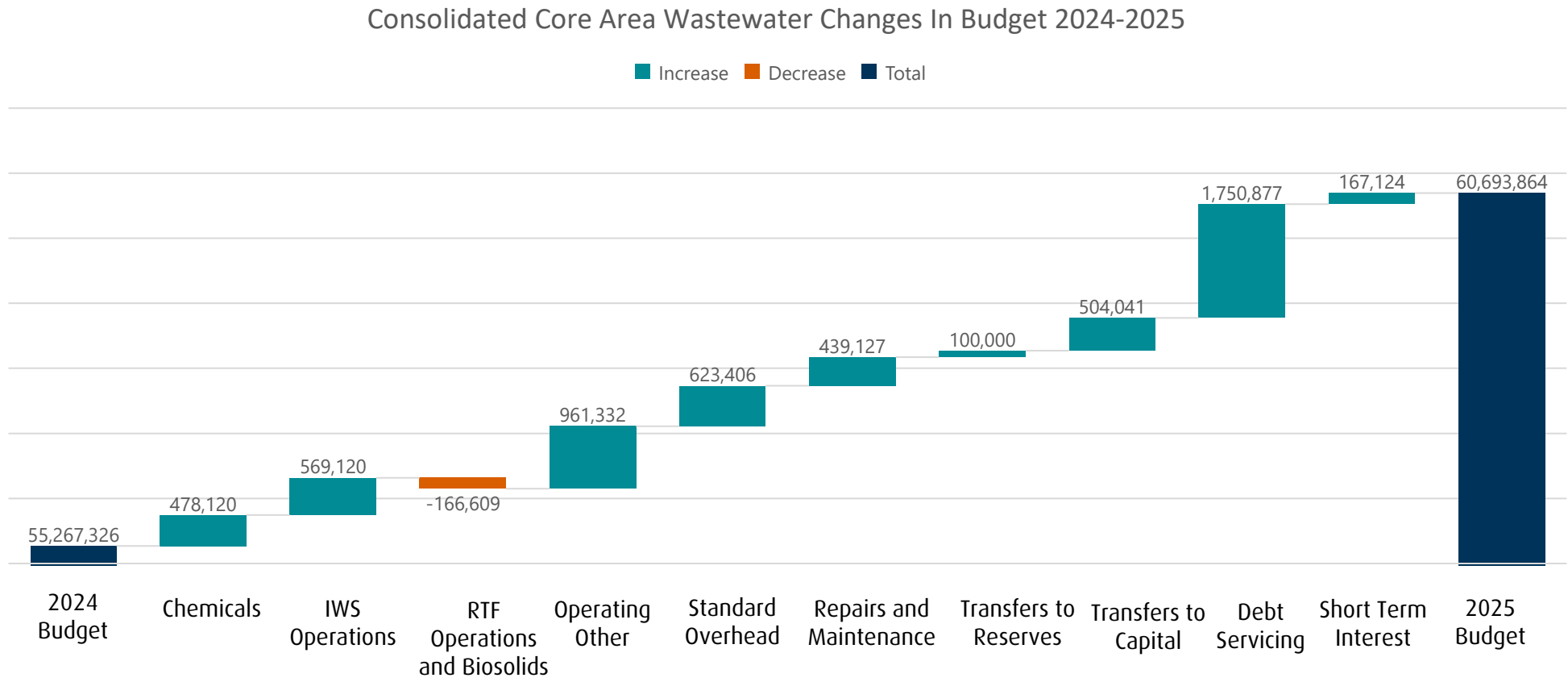
Overview:

Operations Costs: $36,396,627 (+8.67%)

Reserve/Capital Costs: $24,297,237 (+11.58%)

Highlights:

- Incorporates cost escalations in debt servicing as some debt-funded capital projects transition from the planning stage to the construction phase, as well as operating expenses including clearing backwash tanks and increasing insurance premiums.
- Innovative Work unit to support Biosolids MGT Strategy.



2025 Budget Overview

Wastewater Community Need Initiatives

Overview:

- Community Need Summary includes three new Initiative Business Cases
- The new positions result in ongoing additional budget request of $284,478 and a one-time expenditure of $5,406.

Initiative Reference	Program Area	Business Driver - Rational	Staff impacts (2025)	Funding source	Funding Allocation
1b-4.2	Innovative Projects Work Unit	Form a new team dedicated to planning and implementing innovative projects related to biosolids management, solid waste diversion, and the reduction of greenhouse gas emissions and carbon displacement.	2 New ongoing (Q1 start)	Requisition & Fee-for-service	50% Core Area 50% Solid Waste
2b-2.3	Systems Maintenance Electronics Technologist	To support the growing preventative maintenance and capital programs within the system, as well as support cyber security improvements	1 New ongoing (Q2 start)	Requisition, Reserves & Fee-for-service	50% Core Area 25% JdF, 25% RWS
2a-8.3	Laboratory Assistant	As the population grows, the demand for water and wastewater treatment increases, requiring additional capacity in the CRD's accredited internal laboratory to handle expanded testing	1 New ongoing (Q2 start)	Requisition & Fee-for-service	40% Core Area and 50% RWS

2025 Budget Overview –

Environmental Services Programs Operations

Core Area Wastewater Service supports CRD's commitments under the Liquid Waste Management Plan (LWMP) through participation in the following programs:

- Onsite Sewage System Management Program
- Core Area Liquid Waste Management Plan (LWMP) Administration
- Harbours Studies Program
- Regional Source Control Program
- Marine Monitoring Program
- Core Area Stormwater Quality Management Program
- Inflow and Infiltration Enhancement Program
- Septage Disposal Program

2025 Budget Overview

Capital Budget

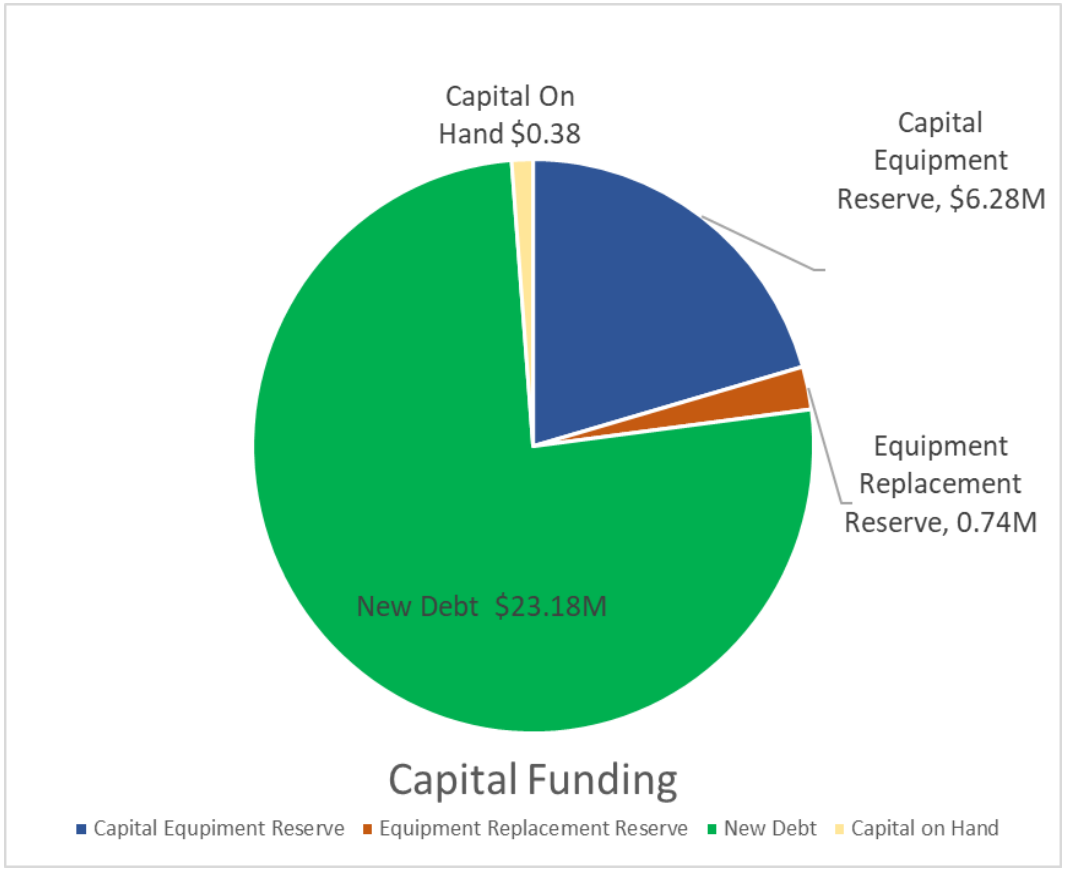
Overview	Core Capital (millions)
Projects in Progress	$10.40
2025 Capital Budget	$30.56
5-Year Capital Budget	$78.29

2025 Key Projects:

- Secondary Odour Collection System Upgrade
- Marigold/Currie/Lang Cove Pump Stations - Electrical Upgrades
- Harling Pump Station Replacement
- Gorge Siphon Inlet Chamber Upgrade
- On going Manhole Repairs and Replacement
- Optimization of Residual Treatment Facility Operations

Future Years

- Western/Shoreline Trunk Sewer Twinning and Craigflower Forcemain



2025 Budget Overview

RTF Capital and Reserve Funding

Overview:
Capital & Reserve: $13,869,024 (+5.1%)
RTF Capital: $5,529,745 (0%, contractual obligation)

Transfer to Reserves: $8,339,279

Highlights:

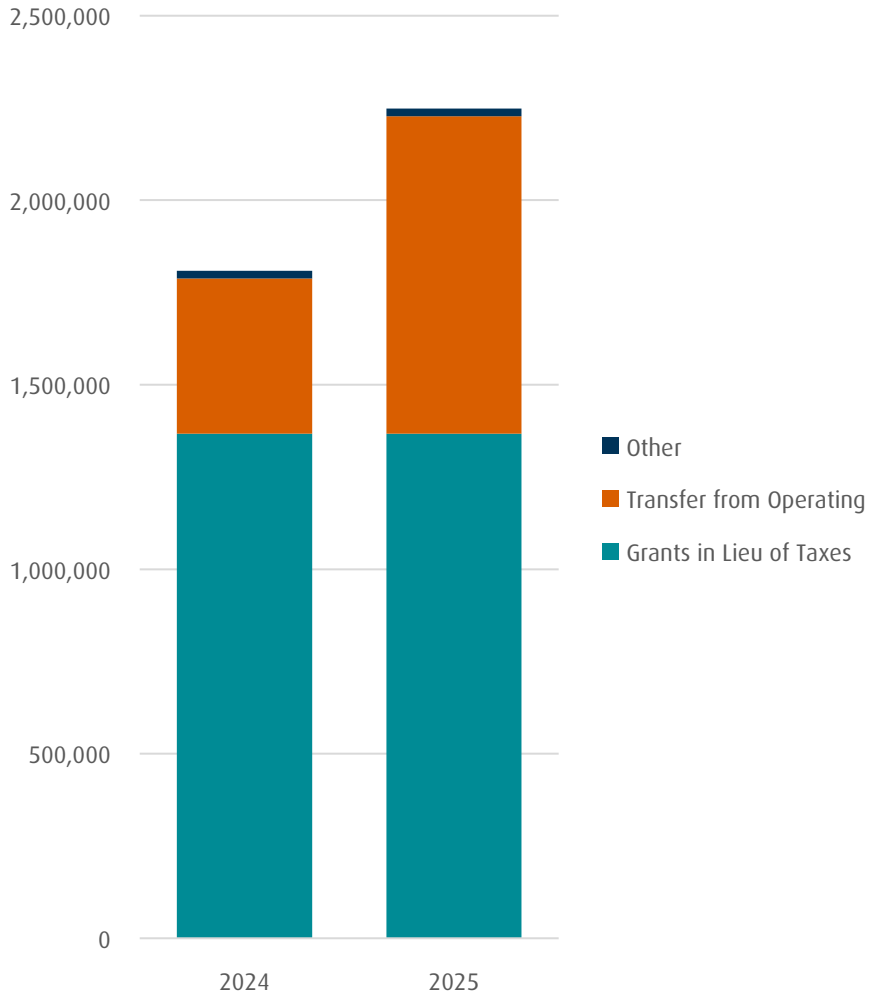
- Operating Maintenance Reserve is under funded* following the 2023 draw with a potential further drawdown in 2024
- Contributions to Capital Replacement and Equipment Reserves were reduced for both 2024 and 2025 to manage recent cost escalations and resulting requisitions

Reserve	2024 Estimated Year-End Balance	2025 Contribution	2025 Draw	Projected 2025 Year End
Operating Maintenance*	$3.34M**	$0.70M	$0.79M	$3.25M
Equipment Replacement	$6.02M	$0.10M	$0.50M	$5.62M
CAWTP Debt Retirement	$18.58M	$12.00M	$6.58M	$24.00M
Capital Replacement	$17.05M	$2.12M	$4.65M	$14.52M

* Based on the CRD Operating Reserve Guidelines target fund level is $4.0M
**This year end estimate considers the projected deficit.

2025 Budget Overview

Revenue



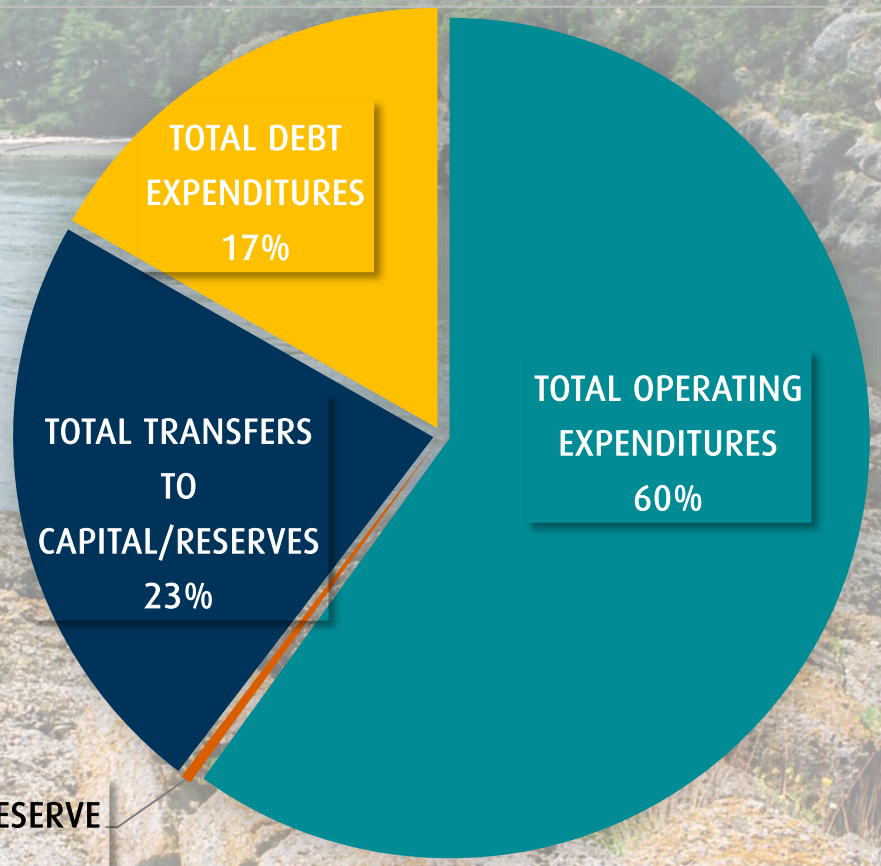
Non-Requisition Revenue: 2,248,293 (+24.3%)

- 2025 operating reserve transfer required to fund cyclical repairs and maintenance, clean backwash tank, and cover the annual host community impact

Requisition: $58,229,091 (9.36%)

2025 Budget Overview

Total Costs: $60,693,864 (9.82% increase)
Total Non-Requisition Revenue: $2,248,293 (24% increase)
Total 2025 Requisition: $58,229,091 (9.36% increase)

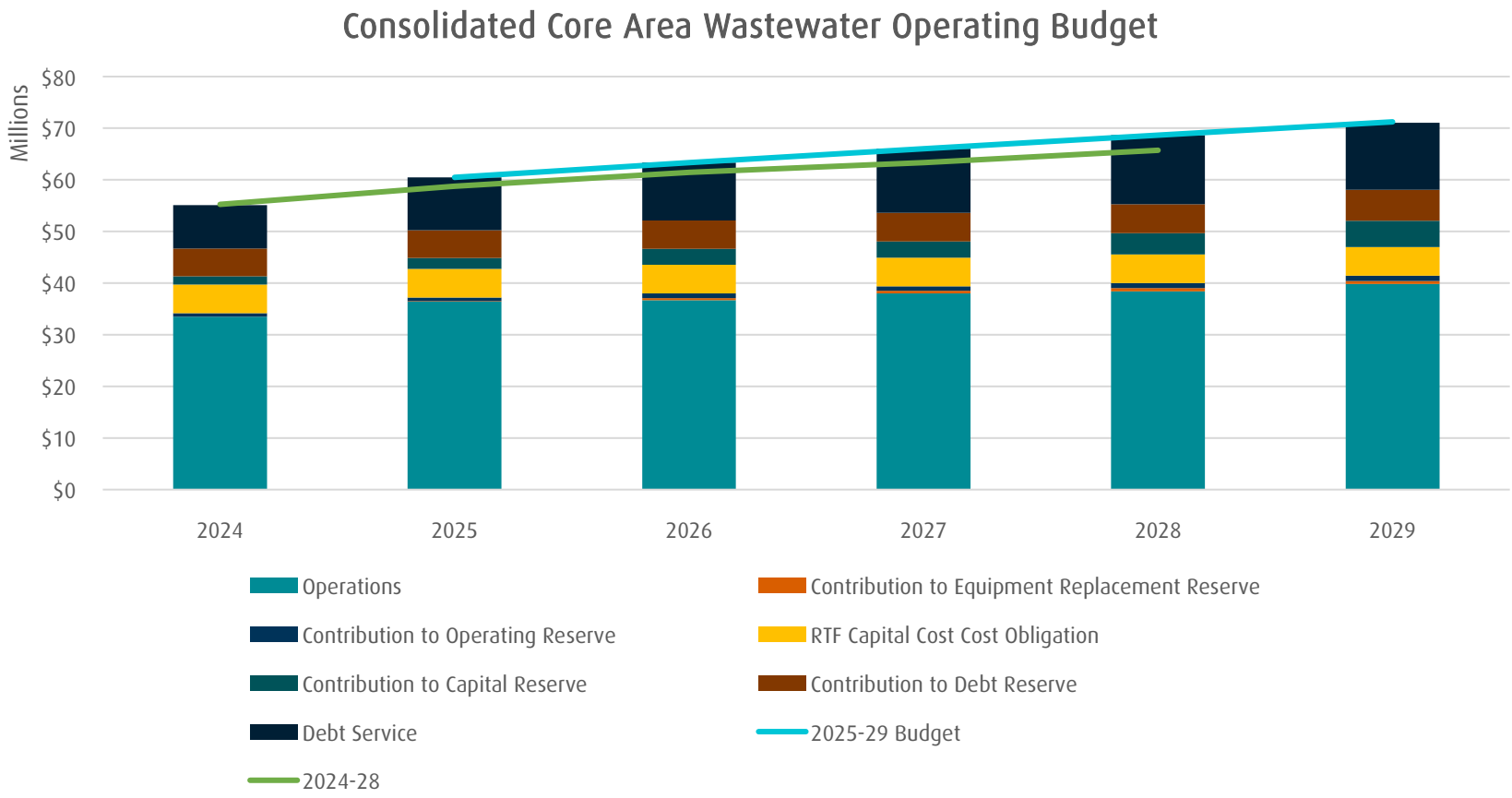


Breakdown of Costs

5 Year Budget Projection

Highlights:

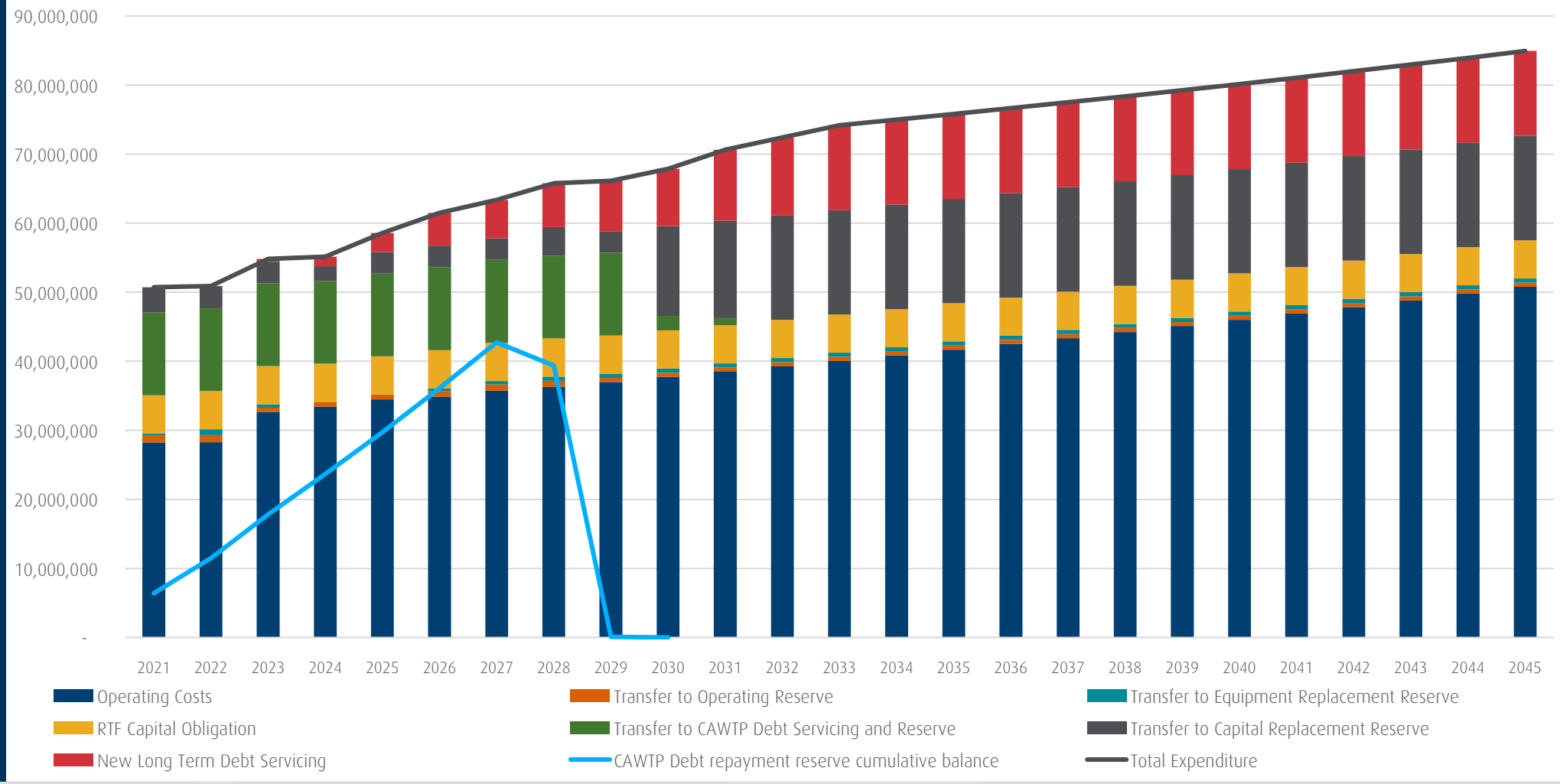
- Average annual increase of 4.43%, range between 3.00% and 6.21%
- 2025 projected costs are higher than 2024 due to increases sustained in chemical costs, maintenance activities and biosolids disposal costs
- Look to mitigate future year projection by improving resiliency of biosolids disposal
- Operating Maintenance Reserve is projected to be aligned with guidelines by 2027



Long Term Budget Overview

Highlights:

- CAWTP Debt will be repaid in 2031
- In 2030 contributions will be diverted to the Capital Replacement Reserve



Budget

Recommendations

1. Review and approve the 2025 Core Area Liquid Waste Management Service operating and capital budgets as presented; and

2. Direct staff to balance the 2024 actual revenue and expenses on the transfer to the operating, equipment, and capital replacement reserves; and

3. Direct staff to update carry forward balances in the 2025 Capital Budget for changes after year end.

Thank you

@crdvictoria

Capital Regional District

CRDVictoria

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CAPITAL REGIONAL DISTRICT

2025 BUDGET

Core Area Wastewater - Combined View

COMMITTEE REVIEW

OCTOBER 2024

Change in Budget 2024 to 2025 **Service: 3.717 & 3.798C Core Area Wastewater**	**Total Expenditure**	**Comments**
2024 Budget	**55,267,326**	
Operation Changes:		
Allocation - IWS Operations	335,974	Labour charge-out rate increased, primarily due to salary benefits increases resulting from a collective agreement
	145,262	Asset Management allocation transferred from Corporate to IWS
	82,478	2025 IBC 2b-2.3 Systems Maintenance Technologist
	5,406	SharePoint transition
Allocation - Standard Overhead	238,249	Allocation based on the percentage of the prior year's budget and the budgeted cost for 2025
Allocation - Other	202,000	2025 IBC 1b-4.2 Innovative Work Unit to support Biosolids Management Strategy
	183,157	Inflationary increases for Enviro Monitoring & Marine Protection, Infrastructure Engineering, Facilities Management
RTF Operations and Biotreatment and Disposal	300,000	Additional legal cost
	(640,759)	A significant reduction due to align with the biosolids strategy commitement
	174,150	Inflation increase
Operating - Other	500,000	One-time and ongoing cleaning backwash tank
	305,310	Recognize growing insurance premiums
	70,000	Annual host community impact to the Township of Esquimalt
	48,385	Inflationary increases for equipment contract services and other ongoing expenses
Repairs & Maintenance	439,127	Increase in cyclical maintenance cost due to inspection, maintenance and replacement of equipment
Electricity & Utilities	37,637	Inflationary increases
Supplies - Chemical & Other	478,120	A 15% increase on chemical increase
Reserve Transfers	100,000	Increasing annual capital reserve to partially restore to original plan
Capital/ Debt Changes:		
Transfer to Capital Reserve	504,041	Increasing annual capital reserve to partially restore to original plan
CAWW Debt	1,750,877	Increase debt servicing cost as some debt funded capital projects transition from planning stage to the construction phrase
Other	167,124	Interest expense and debt reserve contribution increase
Total Other Changes	5,426,538	
2025 Budget	**60,693,864**	
% expense increase from 2024:	***9.8%***	*Requisition funding is 96.3% of combined service revenue*
% Requisition increase from 2024 (if applicable):	***9.4%***	

Overall 2025 Budget Performance
(expected variance to budget and surplus treatment)

3.717 - Core Area Wastewater Operations
'A deficit of $800,000 (2.29%) is forecasted due to overspending on wastesludge disposal. The variance will be covered by Operating Reserve Fund

3.798C - Debt - Core Area Wastewater Capital
Breakeven

APPENDIX A

3.717 & 3.798C - Core Area Wastewater Combined Summary	2024 BOARD BUDGET	2024 ESTIMATED ACTUAL	BUDGET REQUEST 2025 CORE BUDGET	2025 ONGOING	2025 ONE-TIME	2025 TOTAL	FUTURE PROJECTIONS 2026	2027	2028	2029
3.717 - OPERATING COSTS:										
Allocation - IWS Operations	7,348,647	7,348,647	7,829,883	82,478	5,406	7,917,767	8,104,893	8,262,326	8,428,431	8,597,878
Allocation - Overhead	2,441,121	2,441,121	2,679,370	-	-	2,679,370	2,759,752	2,814,947	2,871,246	2,928,670
Allocation - EPRO, Engineer	4,711,501	4,711,501	4,894,658	202,000	-	5,096,658	5,204,906	5,314,665	5,426,692	5,541,052
RTF Operations and Biotreatment and Disposal	7,646,376	8,634,181	7,479,767	-	-	7,479,767	7,323,363	7,469,829	7,619,226	7,771,611
Operating - Other	2,284,275	2,237,883	2,637,970	220,000	350,000	3,207,970	3,340,459	3,482,429	3,634,712	3,798,347
Repairs & Maintenance	1,264,873	1,135,000	1,269,000	-	435,000	1,704,000	1,493,980	2,004,250	1,602,920	2,192,972
Electricity & Utilities	3,436,258	3,321,258	3,473,895	-	-	3,473,895	3,543,373	3,614,238	3,686,516	3,760,243
Supplies - Chemical & Other	4,359,080	4,446,080	4,837,200	-	-	4,837,200	4,933,940	5,032,620	5,133,280	5,235,940
TOTAL OPERATING COSTS	**33,492,131**	**34,275,671**	**35,101,743**	**504,478**	**790,406**	**36,396,627**	**36,704,666**	**37,995,304**	**38,403,024**	**39,826,713**
*Percentage Increase over prior year	29,635,016	2.34%	4.81%	1.51%	2.36%	8.67%	0.85%	3.52%	1.07%	3.71%
3.717 - RESERVE:										
Transfer to Operating Reserve	700,000	700,000	700,000	-	-	700,000	900,000	900,000	1,000,000	1,000,000
Transfer to Equipment Replacement Fund	-	-	100,000	-	-	100,000	400,000	500,000	600,000	600,000
3.798C - CAPITAL OBLIGATION										
Transfer to RTF Capital	5,529,745	5,529,745	5,529,745	-	-	5,529,745	5,529,745	5,529,745	5,529,745	5,529,745
3.798C - RESERVE:										
Transfer to Capital Replacement Reserve	1,617,078	1,617,078	2,121,119	-	-	2,121,119	3,121,119	3,121,119	4,121,119	5,521,119
Transfer to WTP Debt Retirement Reserve	5,346,360	5,346,360	5,418,160	-	-	5,418,160	5,489,960	5,561,760	5,633,560	5,994,778
TOTAL CAPITAL / RESERVES	**13,193,183**	**13,193,183**	**13,869,024**	**-**	**-**	**13,869,024**	**15,440,824**	**15,612,624**	**16,884,424**	**18,645,642**
CAWTP Debt	6,698,640	6,782,582	6,722,164	-	-	6,722,164	6,640,040	6,568,240	6,496,440	4,735,222
CAWW Debt	1,711,709	1,627,678	3,457,939	-	-	3,457,939	4,661,985	5,918,164	6,959,381	8,190,010
3.798C - Total Debt Expenditures	8,410,349	8,410,260	10,180,103	-	-	10,180,103	11,302,025	12,486,404	13,455,821	12,925,232
MFA Debt Reserve	171,663	171,663	248,110	-	-	248,110	104,860	135,110	149,360	60,860
Debt Repayment									10,283,553	41,134,212
TOTAL COSTS	**55,267,326**	**56,050,777**	**59,398,980**	**504,478**	**790,406**	**60,693,864**	**63,552,375**	**66,229,442**	**79,176,181**	**112,592,659**
*Percentage Increase over prior year		1.42%	7.48%	0.91%	1.43%	9.82%	4.71%	4.21%	19.55%	42.21%
Internal Recoveries	(212,240)	(212,240)	(216,480)	-	-	(216,480)	(216,480)	(220,810)	(225,226)	(229,731)
TOTAL COSTS LESS INTERNAL RECOVERIES	55,055,086	55,838,537	59,182,500	504,478	790,406	60,477,384	63,335,895	66,008,632	78,950,955	112,362,928
*Percentage Increase over prior year		1.42%								
FUNDING SOURCES (REVENUE)										
Surplus Balance carry forward	-	-	-	-	-	-	-	-	-	-
Transfer from Own funds	-	-	-	-	-	-	-	-	(10,283,553)	(41,134,212)
Grants in Lieu of Taxes	(1,367,105)	(1,367,016)	(1,367,017)	-	-	(1,367,017)	(1,318,010)	(1,318,010)	(1,318,010)	(1,318,010)
Transfer from Operating Reserve	(420,849)	(420,849)	-	(70,000)	(790,406)	(860,406)	(150,000)	(365,000)	(95,000)	(640,000)
Revenue - Other	(20,870)	(20,870)	(20,870)	-	-	(20,870)	(20,870)	(20,870)	(20,870)	(20,870)
TOTAL REVENUE	**(1,808,824)**	**(1,808,735)**	**(1,387,887)**	**(70,000)**	**(790,406)**	**(2,248,293)**	**(1,488,880)**	**(1,703,880)**	**(11,717,433)**	**(43,113,092)**
REQUISITION	**(53,246,262)**	**(54,029,802)**	**(57,794,613)**	**(434,478)**	**-**	**(58,229,091)**	**(61,847,015)**	**(64,304,752)**	**(67,233,523)**	**(69,249,836)**
*Percentage increase over prior year		1.47%	8.54%	0.82%	0.00%	9.36%	6.21%	3.97%	4.55%	3.00%
PARTICIPANTS: Victoria, Oak Bay, Esquimalt, Saanich, View Royal, Colwood, Langford										

CAPITAL REGIONAL DISTRICT

2025 BUDGET

Debt - Core Area Wastewater Capital

COMMITTEE REVIEW

October 2024

Service: 3.798C **Debt - Core Area Wastewater Capital** **Committee:** **Core Area Liquid Waste Management**

DEFINITION:

Infrastructure improvements and capital work to all wastewater functions of the Capital Regional District.

PARTICIPATION:

Cost apportionment is based on capacity allocated to each participant.

MAXIMUM LEVY:

N/A

MAXIMUM CAPITAL DEBT:

		Authorized	Borrowed	Remaining
Authorized:	LA Bylaw 3887	$ 100,000,000	$ 6,100,000	93,900,000
	LA Bylaw 4204	665,000,000	95,000,000	570,000,000
	LA Bylaw 4374	22,700,000	10,470,000	12,230,000
	LA Bylaw 4375	34,300,000	-	34,300,000
Remaining:		**$ 822,000,000**	**$ 111,570,000**	**$ 710,430,000**

CORE AREA WASTEWATER TREATMENT PLANT

COST SHARING ALLOCATION - DESIGN CAPACITY BENEFIT:

Location	Allocation of Debt Servicing Costs
Colwood	4.24%
Esquimalt	6.60%
Langford	12.63%
Oak Bay	6.39%
Saanich	30.34%
Victoria	35.95%
View Royal	3.18%
Songhees Nation	0.60%
Esquimalt Nation	0.07%
Total	**100.00%**

Bylaw 4304

FUNDING:

Requisition

Change in Budget 2024 to 2025 **Service: 3.798C Debt-Core Area Wastewater Capital**	**Total Expenditure**	**Comments**
2024 Budget	**21,075,195**	
Changes:		
Transfer to Capital Reserve	504,041	Increasing annual capital reserve to partially restore to original plan
CAWW Debt	1,750,877	Increase debt servicing cost as some debt funded capital projects transition from planning stage to the construction phrase
Other	167,124	Interest expense and debt reserve contribution increase
Total Other Changes	2,422,042	
2025 Budget	**23,497,237**	
Summary of % Expense Increase		
Capital Reserve Transfer	*2.4%*	
CAWW Debt	*8.3%*	
Other	*0.8%*	
% expense increase from 2024:	***11.5%***	
% Requisition increase from 2024 (if applicable):	***11.9%***	*Requisition funding is 97.3% of service revenue*

Overall 2024 Budget Performance
(expected variance to budget and surplus treatment)

Breakeven

3.798C - Debt - Core Area Wastewater Capital	2024 BOARD BUDGET	2024 ESTIMATED ACTUAL	BUDGET REQUEST 2025 CORE BUDGET	2025 ONGOING	2025 ONE-TIME	2025 TOTAL	FUTURE PROJECTIONS 2026	2027	2028	2029
CAPITAL / RESERVE										
Transfer to RTF Capital	5,529,745	5,529,745	5,529,745	-	-	5,529,745	5,529,745	5,529,745	5,529,745	5,529,745
Transfer to Capital Replacement Reserve	1,617,078	1,617,078	2,121,119	-	-	2,121,119	3,121,119	3,121,119	4,121,119	5,521,119
Transfer to WTP Debt Retirement Reserve	5,346,360	5,346,360	5,418,160	-	-	5,418,160	5,489,960	5,561,760	5,633,560	5,994,778
TOTAL CAPITAL / RESERVES	**12,493,183**	**12,493,183**	**13,069,024**	**-**	**-**	**13,069,024**	**14,140,824**	**14,212,624**	**15,284,424**	**17,045,642**
CAWTP Debt	6,698,640	6,782,582	6,722,164	-	-	6,722,164	6,640,040	6,568,240	6,496,440	4,735,222
CAWW Debt	1,711,709	1,627,678	3,457,939	-	-	3,457,939	4,661,985	5,918,164	6,959,381	8,190,010
Total Debt Expenditures	8,410,349	8,410,260	10,180,103	-	-	10,180,103	11,302,025	12,486,404	13,455,821	12,925,232
MFA Debt Reserve	171,663	171,663	248,110	-	-	248,110	104,860	135,110	149,360	60,860
Debt Repayment	-	-							10,283,553	41,134,212
TOTAL OPERATING COSTS	**21,075,195**	**21,075,106**	**23,497,237**	**-**	**-**	**23,497,237**	**25,547,709**	**26,834,138**	**39,173,158**	**71,165,946**
*Percentage Increase over prior year			11.49%			11.49%	8.73%	5.04%	45.98%	81.67%
FUNDING SOURCES (REVENUE)										
Surplus / (Deficit)										
Surplus Balance carry forward	-	-	-	-	-	-	-	-	-	-
Transfer from Own funds	-	-	-	-	-	-	-	-	-	-
Transfer from Reserve	-	-	-	-	-	-	-	-	(10,283,553)	(41,134,212)
Grants in Lieu of Taxes	(617,059)	(616,970)	(616,971)	-	-	(616,971)	(617,115)	(617,115)	(617,115)	(617,115)
Revenue - Interest and Debt Reserve	(20,870)	(20,870)	(20,870)	-	-	(20,870)	(20,870)	(20,870)	(20,870)	(20,870)
TOTAL REVENUE	**(637,929)**	**(637,840)**	**(637,841)**	**-**	**-**	**(637,841)**	**(637,985)**	**(637,985)**	**(10,921,538)**	**(41,772,197)**
REQUISITION	**(20,437,266)**	**(20,437,266)**	**(22,859,396)**	**-**	**-**	**(22,859,396)**	**(24,909,724)**	**(26,196,153)**	**(28,251,620)**	**(29,393,749)**
*Percentage increase over prior year			11.85%			11.85%	8.97%	5.16%	7.85%	4.04%
PARTICIPANTS: Victoria, Oak Bay, Esquimalt, Saanich View Royal, Colwood, Langford										

CAPITAL REGIONAL DISTRICT

FIVE YEAR CAPITAL EXPENDITURE PLAN SUMMARY - 2025 to 2029

Service No.	3.798C Debt - Core Area Wastewater Treati	Carry Forward from 2024	2025	2026	2027	2028	2029	TOTAL
EXPENDITURE								
Buildings		$0	$0	$0	$0	$0	$0	$0
Equipment		$0	$50,000	$250,000	$0	$0	$0	$300,000
Land		$0	$0	$0	$0	$0	$0	$0
Engineered Structures		$10,399,000	$30,511,000	$11,350,000	$14,175,000	$15,700,000	$6,250,000	$77,986,000
Vehicles		$0	$0	$0	$0	$0	$0	$0
		$10,399,000	**$30,561,000**	**$11,600,000**	**$14,175,000**	**$15,700,000**	**$6,250,000**	**$78,286,000**
SOURCE OF FUNDS								
Capital Funds on Hand		$375,000	$375,000	$0	$0	$0	$0	$375,000
Debenture Debt (New Debt Only)		$7,763,000	$23,175,000	$8,850,000	$11,875,000	$13,300,000	$4,450,000	$61,650,000
Equipment Replacement Fund		$636,000	$736,000	$800,000	$500,000	$600,000	$300,000	$2,936,000
Grants (Federal, Provincial)		$0	$0	$0	$0	$0	$0	$0
Donations / Third Party Funding		$0	$0	$0	$0	$0	$0	$0
Reserve Fund		$1,625,000	$6,275,000	$1,950,000	$1,800,000	$1,800,000	$1,500,000	$13,325,000
		$10,399,000	**$30,561,000**	**$11,600,000**	**$14,175,000**	**$15,700,000**	**$6,250,000**	**$78,286,000**

CAPITAL REGIONAL DISTRICT

5 YEAR CAPITAL PLAN

2025 - 2029

Service #: **3.798C**

Service Name: **Debt - Core Area Wastewater Treatment Program**

PROJECT DESCRIPTION				PROJECT BUDGET & SCHEDULE									
Project Number	Capital Expenditure Type	Capital Project Title	Capital Project Description	Total Project Budget	Asset Class	Funding Source	Carryforward from 2024	2025	2026	2027	2028	2029	5 - Year Total
MCLOUGHLIN WASTEWATER TREATMENT PLANT													
25-01	**New**	**Secondary Odour Collection System Upgrade - pre-filter**	**Replacement of existing pre-filter to further optimize odour treatment and extend the life of carbon treatment.**	**$ 750,000**	**S**	**Debt**	**$ -**	**$ 750,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 750,000**
													$ -
PUMP STATIONS													$ -
21-01	Renewal	Lang Cove Electrical and Building Upgrades	Renewals based upon Delcan's condition assessment and EIC inspections. Work includes electrical (replace PLC, SCADA pack, communications), and building upgrades.	$ 1,200,000	S	Res	$ 400,000	$ 900,000	$ -	$ -	$ -	$ -	$ 900,000
21-02	Renewal	Marigold Electrical and Building Upgrades	Renewals are based upon Delcan's condition assessment and EIC inspections. Work includes electrical (replace MCC, PLC, VFD's, 480v to 600v upgrade, etc), and building upgrades.	$ 5,850,000	S	Debt	$ 2,000,000	$ 2,000,000	$ -	$ -	$ -	$ -	$ 2,000,000
21-03	Renewal	Currie Major Electrical and Seismic Upgrades	Renewals based upon Delcan's condition assessment and EIC inspections. Work includes electrical (replace VFDs, PLC, SCADA pack, communications), seismic upgrades and driveway repairs.	$ 2,300,000	S	Debt	$ 1,000,000	$ 1,000,000	$ -	$ -	$ -	$ -	$ 1,000,000
21-05	Replacement	Harling PS - Complete Replacement	Based on Delcan's condition assessment and the age of this facility, replacement of Harling Point PS is required.	$ 2,500,000	S	Debt	$ 200,000	$ 2,290,000	$ -	$ -	$ -	$ -	$ 2,290,000
22-05	Replacement	Lang Cove Discharge Isolation Valves	Replace seized, direct buried isolation valves on at the Lang Cove pump station with new valves in a manhole.	$ 400,000	S	ERF	$ 400,000	$ -	$ 400,000	$ -	$ -	$ -	$ 400,000
25-04	**Renewal**	**Pump Station Mechanical and Electrical Renewal Program**	**Mechanical and electrical upgrades to multiple pump stations based on previous condition assessments and EIC inspections.**	**$ 5,500,000**	**S**	**Debt**	**$ -**	**$ 200,000**	**$ 1,500,000**	**$ 1,000,000**	**$ 2,100,000**	**$ 700,000**	**$ 5,500,000**
25-05	**New**	**Bioxide dosing system upgrade**	**Replacement of bioxide skids at multiple locations, which are at the end of their useful life. Piloting is underway and if successful trials are completed, implementation to follow.**	**$ 350,000**	**S**	**Debt**	**$ -**	**$ 350,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 350,000**
GRAVITY SEWERS AND MANHOLES													
21-06	Renewal	Shoreline Trunk Sewer Upgrade	The hydraulic model and capacity assessment of the system by KWL in 2018-19, has identified that the Shoreline Trunk must be twinned to prevent overflows into Portage Inlet during peak storm events.	**$ 3,400,000**	S	Debt	$ 340,000	$ 2,900,000	$ -	$ -	$ -	$ -	$ 2,900,000
21-07	New	Western Trunk Sewer Twinning	The hydraulic model and capacity assessment of the system by KWL in 2018-19, has identified that the Western Trunk Sewer must be twinned from Aldeane to Craigflower PS to prevent overflows upstream of Parson's siphon during peak storm events.	**$ 25,000,000**	S	Debt	$ 370,000	$ 370,000	$ -	$ -	$ -	$ -	$ 370,000
21-07	New	Western Trunk Sewer Twinning		**$ 400,000**	**S**	**Res**	**$ -**	**$ 400,000**	$ -	$ -	$ -	$ -	$ 400,000
21-09	Renewal	Bowker Sewer Rehabilitation Ph1	Based on results of CCTV inspection about 2,000m of sewer along Shelbourne, Kings and from Trent PS to Newport needs to be relined.	$ 8,600,000	S	Cap	$ 375,000	$ 375,000	$ -	$ -	$ -	$ -	$ 375,000
24-17	Renewal	Sewer Cleaning and Inspection	Core Area sewers should be cleaned and inspected on a 5-year cycle. This program will support that continued cycle.	$ 750,000	S	Debt	$ -	$ 150,000	$ 150,000	$ 150,000	$ -	$ -	$ 450,000
21-11	Renewal	Manhole Repairs and Replacement	Based upon CCTV and staff inspections on manholes, there are a number of deteriorated MH's that require repair or replacement.	**$ 3,600,000**	S	Debt	$ 750,000	$ 2,000,000	$ 600,000	$ 1,000,000	$ -	$ -	$ 3,600,000
23-01	Renewal	Cecelia Ravine Pipe Protection	Based on geotechnical review, a section of the exposed NWT in Cecelia Ravine should be covered & protected from falling rocks upslope from the pipe.	$ 1,000,000	S	Debt	$ -	$ 1,500,000	$ -	$ -	$ -	$ -	$ 1,500,000
24-10	Renewal	East Coast Interceptor and Bowker Sewer Rehabilitation Ph2	Based on results of CCTV inspection about 2,000m of sewer needs to be relined along Beach Dr (from Bowker toWindsor) and along Doncastor Dr., Shelbourne St. and Kings Rd.	$ 8,000,000	S	Debt	$ 150,000	$ 150,000	$ -	$ -	$ -	$ -	$ 150,000
24-11	Renewal	Western Trunk Grit Chamber Repairs	The Western Trunk (Island Highway) Grit Chamber is badly corroded and requires repairs before extensive structural damage occurs.	$ 2,500,000	S	Debt	$ 250,000	$ 1,250,000	$ 1,250,000	$ -	$ -	$ -	$ 2,500,000
26-01	Renewal	NWT Sewer Replacement at Alpha-Terrace	A 5m long section of old concrete pipe downstream of Boundary Transition Chamber is badly corroded and needs to be replaced with new PVC pipe.	$ 1,000,000	S	Debt	$ -	$ -	$ 100,000	$ 900,000	$ -	$ -	$ 1,000,000
PRESSURE PIPES AND APPURTENANCES													$ -
21-12	Renewal	Gorge Siphon Inlet Chamber Upgrade	The concrete chamber is badly corroded and the control gates are seized on this chamber and they need to be replaced so that the individual siphons can be isolated or activated.	$ 3,500,000	S	Res	$ 1,175,000	$ 3,425,000	$ -	$ -	$ -	**$ -**	**$ 3,425,000**
21-13	New	Craigflower Forcemain Twinning	The hydraulic model and capacity assessment of the system by KWL in 2018-19, has identified that the Craigflower Forcemain must be twinned to prevent overflows into Portage Inlet during peak storm events.	$ 13,655,000	S	Debt	$ 553,000	$ 450,000	$ -	$ 6,500,000	$ 6,500,000	$ -	$ 13,450,000
24-14	Renewal	Parsons Siphon/Bridge Connection Repairs	The siphon pipe support connections to the Parsons Brdige require repairs.	$ 500,000	S	Res	$ 50,000	$ 50,000	$ 450,000	$ -	$ -	$ -	$ 500,000
25-03	Renewal	Harriet Siphon Inlet Chamber Upgrade	Assess concrete corrosion and replace seized control gates.	$ 2,000,000	S	Debt	$ -	$ 1,000,000	$ 1,000,000	$ -	$ -	$ -	$ 2,000,000
27-01	**Study**	**Forcemain and Siphon Pipe Assessment Study**	**There are several forcemain pipes downstream from each pump station that have never been assessed. A study is proposed to investigate various technologies to evaluate the condition of the pipes.**	**$ 2,250,000**	**S**	**Debt**	**$ -**	**$ -**	**$ -**	**$ 250,000**	**$ 1,000,000**	**$ 1,000,000**	**$ 2,250,000**
FLOW METERS													$ -
21-16	New	Gorge & Chapman Meter	Based on KWL's 2018-19 Flow Meter Audit review, KWL recommended a new flodar meter to measure the unmetered Gorge and Champman catchments. Includes installation of new metering manhole.	$ 400,000	S	Debt	$ 100,000	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000
GENERAL													$ -
21-22	Study	Asset Management Plan Update	Previous condition assessment studies will be updated and incorporated into a long-term asset management plan to meet expected level-of-service requirements.	$ 250,000	S	Debt	$ -	$ 250,000	$ -	$ -	$ -	$ -	$ 250,000

APPENDIX B

Service #: 3.798C

Service Name: Debt - Core Area Wastewater Treatment Program

PROJECT DESCRIPTION				PROJECT BUDGET & SCHEDULE									
Project Number	Capital Expenditure Type	Capital Project Title	Capital Project Description	Total Project Budget	Asset Class	Funding Source	Carryforward from 2024	2025	2026	2027	2028	2029	5 - Year Total
21-23	Study	DCC Program Development	With the completion of CAWTP and amendment of the Service Establishment Bylaw, it was noted that a DCC Program would be established to fund future wastewater projects related to growth. This project is to create the program, consult with stakeholders and prepare a new DCC bylaw.	$ 400,000	S	Debt	$ -	$ 165,000	$ -	$ -	$ -	$ -	$ 165,000
21-24	Renewal	Record Drawing and Wastewater Agreement Updates	The old as-built drawings, connection points and wastewater agreements with the contributing municipalities has not been updated in many years. Updates are required to reflect changes in the system, identify clear demarcation points, and reflect updates in the LWMP.	$ 1,100,000	S	Debt	$ -	$ 250,000	$ 250,000	$ -	$ -	$ -	$ 500,000
21-25	Renewal	SCADA and Radio Assessment	Majority of the radio and SCADA equipment are nearing end of life, technological advances do not allow for straight replacements, funding is required for assessments of existing equipment and site requirements.	$ 3,900,000	S	Debt	$ 2,000,000	$ 750,000	$ 2,000,000	$ 750,000	$ 400,000	$ -	$ 3,900,000
22-03	Renewal	Acquisition of Outstanding Right-of-Ways	Some of the infrastructure is located on privately owned land that do not have rights-of-way. A plan is being developed to acquire SRW's for all infrastructure over time. Initial spending requires a study and plan prior to acquisition.	$ 1,200,000	S	Debt	$ -	$ 500,000	$ 500,000	$ -	$ -	$ -	$ 1,000,000
21-27	New	New Infrastructure Optimization	Unforeseen and unplanned optimization at a number of new facilities to improve operation and health and safety requirements.	$ 500,000	S	Debt	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000
22-04	New	Microwave Radio Upgrades	To provide a high bandwidth communications backbone to the CAWWT system, a microwave communications system will be installed.	**$ 700,000**	S	ERF	$ 236,000	$ 336,000	$ 100,000	$ 100,000	**$ 100,000**	$ -	$ 636,000
23-07	New	Enterprise Data Historian Management System	A data historian is required to store large amounts of data that is required for compliance reporting to regulators, operational performance reports, cost allocation, and engineering analysis.	$ 300,000	E	Debt	$ -	$ 50,000	$ 250,000	$ -	$ -	$ -	$ 300,000
28-01	Decommission	Marigold Surge Tank Deconstruction	**The old Mariogld Surge Tank has been abandond for many years, is becoming a safety concern for youth, a needs to be removed.**	$ 1,800,000	S	Debt	$ -	$ -	$ -	$ -	$ 300,000	$ 1,500,000	$ 1,800,000
24-15	Replacement	IT Core Infrastructure Replacement	**Replacement of Core IT infrastructure such as servers, network switches, UPS, etc for equipment end of life**	$ 455,000	S	ERF	$ -	$ 100,000	$ -	$ 100,000	$ 200,000	$ -	$ 400,000
27-03	Study	Westshore Wastewater Treatment Plant Siting Assessment	Capacity needs, technology review, siting requirements, conceptual layout, Environmental Impact Assessment and other planning efforts.	$ 600,000	S	Res	$ -	$ -	$ -	$ 300,000	$ 300,000	$ -	$ 600,000
ANNUAL PROVISIONAL													$ -
21-26	Replacement	Annual Provisional Emergency Repairs	Unforeseen and unplanned emergency repairs can occur which require immediate attention.	$ 7,500,000	S	Res	$ -	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 7,500,000
23-06	Replacement	Annual Provisional Equipment Replacement	Replacement of at end of service life, including valves, variable frequency drives, capacitors.	$ 1,500,000	S	ERF	$ -	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 1,500,000
23-08	New	Process & Mechanical Upgrades	Upgrades to the Core Area Wastewater Treatment and Conveyance infrastructure in order to optimize operations	$ 4,250,000	S	Debt	$ -	$ 850,000	$ 850,000	$ 850,000	$ 850,000	$ 850,000	$ 4,250,000
23-09	New	Safety & Security Upgrades	Upgrades to the Core Area Wastewater Treatment and Conveyance infrastructure to improve worker health and safety	$ 2,400,000	S	Debt	$ -	$ 600,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 2,200,000
													$ -
OUTFALLS / OVERFLOWS													$ -
24-08	Renewal	Clover Point Outfall Retrofit	The existing Clover outfall is no longer operated on a regular basis since wastewater is now conveyed to McLoughlin WWTP, but it must be ready for operation during peak storm events. As a result, the existing outfall will need to be assessed for best operational and maintenance practices based on limited use.	$ 500,000	S	Debt	$ -	$ -	$ -	$ -	$ 500,000	$ -	$ 500,000
25-02	Renewal	Macaulay Point Outfall Retrofit	A section of coating on the emergency short outfall has failed and the pipe is corroding, and the long outfall needs to be modified to suit reduced usage. This project is to repair the coating, provide shoreline protection, and prepare a plan to maintain the deep outfall based on limited use.	$ 750,000	S	Debt	$ -	$ -	$ -	$ -	$ 750,000	$ -	$ 750,000
27-02	Renewal	Broom Overflow Pipe Rehabilitation	Overflow pipe is cracked and severed in multiple locations and H_2S gases and odours are present.	$ 575,000	S	Debt	$ -	$ -	$ -	$ 75,000	$ 500,000	$ -	$ 575,000
RESIDUAL SOLIDS													$ -
24-16	New	Optimization of Residual Treatment Facility Operations	Installation of additional equipment to enhance beneficial use of biogas and support continued stable operations at the RTF	$ 3,250,000	S	Debt		$ 3,250,000					$ 3,250,000
DCC PROJECTS													$ -
													$ -
			GRAND TOTAL	**$ 127,335,000**			**$ 10,399,000**	**$ 30,561,000**	**$ 11,600,000**	**$ 14,175,000**	**$ 15,700,000**	**$ 6,250,000**	**$ 78,286,000**

Service:	3.798C	Debt - Core Area Wastewater Treatment Program

Project Number	25-01	**Capital Project Title**	Secondary Odour Collection System Upgrade - pre-filter	**Capital Project Description**	Replacement of existing pre-filter to further optimize odour treatment and extend the life of carbon treatment.
Project Rationale	This work will progress the intent to further optimize odour control for poitential benefits to public impacts and life cycle costs.				

Project Number	21-01	**Capital Project Title**	Lang Cove Electrical and Building Upgrades	**Capital Project Description**	Renewals based upon Delcan's condition assessment and EIC inspections. Work includes electrical (replace PLC, SCADA pack, communications), and building upgrades.
Project Rationale	Renewals based upon Delcan's 2013 condition assessments and revised inspections. Work includes electrical (replace PLC, SCADA pack, communications), and building upgrades.				

Project Number	21-02	**Capital Project Title**	Marigold Electrical and Building Upgrades	**Capital Project Description**	Renewals are based upon Delcan's condition assessment and EIC inspections. Work includes electrical (replace MCC, PLC, VFD's, 480v to 600v upgrade, etc), and building upgrades.
Project Rationale	Renewals are based upon Delcan's 2013 condition assessments and revised inspections. Work includes electrical (replace MCC, PLC, VFD's, 480v to 600v upgrade, etc), and building upgrades. Tendering was conducted in 2023, combined with Currie Major PS (21-03) works but the Marigold portion of the scope far exceeded available budget. Re-tendering will be conducted in 2024 with additional budget added.				

Project Number	21-03	**Capital Project Title**	Currie Major Electrical and Seismic Upgrades	**Capital Project Description**	Renewals based upon Delcan's condition assessment and EIC inspections. Work includes electrical (replace VFDs, PLC, SCADA pack, communications), seismic upgrades and driveway repairs.
Project Rationale	Renewals based upon Delcan's 2013 condition assessments and revised inspections. Work includes electrical (replace VFDs, PLC, SCADA pack, communications), seismic upgrades and driveway repairs. A tender was conducted in 2023, combined with Marigold PS (21-02) works but the Marigold component came in well over budget. Re-tendering will be conducted in 2024 with additional budget added for Marigold.				

Service:	3.798C	Debt - Core Area Wastewater Treatment Program

Project Number	21-05	**Capital Project Title**	Harling PS - Complete Replacement	**Capital Project Description**	Based on Delcan's condition assessment and the age of this facility, replacement of Harling Point PS is required.
Project Rationale	Replacement of Harling Point PS is based on Delcan's 2013 condition assessment. The preliminary design was completed in 2018. CRD has progressed a scope of work for a Consultant to provide detailed design and construction support services. Detailed design scope was awarded and initiated in 2024 with Construction expected to commence in 2025.				

Project Number	22-05	**Capital Project Title**	Lang Cove Discharge Isolation Valves	**Capital Project Description**	Replace seized, direct buried isolation valves on at the Lang Cove pump station with new valves in a manhole.
Project Rationale	An isolation valve on the discharge force main of the Lang Cove pump station has failed, with no way of isolating the pump station for maintenance or an emergency. Additionally, there currently is no way to bypass the force main. Funds are required to design a bypass outlet, plan valve replacement, bypass pump the failed valve and replace the valve.				

Project Number	25-04	**Capital Project Title**	Pump Station Mechanical and Electrical Renewal Program	**Capital Project Description**	Mechanical and electrical upgrades to multiple pump stations based on previous condition assessments and EIC inspections.
Project Rationale	Electrical, Mechanical and other ancillary upgrades are required at multiple facilities. Due to similarities in work, there is benefit in managing this work within a single program budget. Pump stations requiring this work include Trent, Hood, Currie Minor, Humber, Rutland and Penrhyn.				

Project Number	25-05	**Capital Project Title**	Bioxide dosing system upgrade	**Capital Project Description**	Replacement of bioxide skids at multiple locations, which are at the end of their useful life. Piloting is underway and if successful trials are completed, implementation to follow.
Project Rationale	Similar bioxide replacement work at multiple locations will benefit from being managed as a program. Some locations being prioritized include Marigold PS, Craigflower PS, Meaford Flow Meter, Highlands and Trent PS.				

Service:	3.798C	Debt - Core Area Wastewater Treatment Program

Project Number	21-06	**Capital Project Title**	Shoreline Trunk Sewer Upgrade	**Capital Project Description**	The hydraulic model and capacity assessment of the system by KWL in 2018-19, has identified that the Shoreline Trunk must be twinned to prevent overflows into Portage Inlet during peak storm events.
Project Rationale	The hydraulic model and capacity assessment of the system by KWL in 2018-19, has identified that the Shoreline Trunk must be twinned to prevent overflows into Portage Inlet.				

Project Number	21-07	**Capital Project Title**	Western Trunk Sewer Twinning	**Capital Project Description**	The hydraulic model and capacity assessment of the system by KWL in 2018-19, has identified that the Western Trunk Sewer must be twinned from Aldeane to Craigflower PS to prevent overflows upstream of Parson's siphon during peak storm events.
Project Rationale	The hydraulic model and capacity assessment of the system by KWL in 2018-19, has identified that the Western Trunk Sewer must be twinned from Aldeane to Craigflower PS to prevent overflows upstream of Parson's siphon. For 2025, approximately $400k will be allocated to twin a section of this main at the new Galloping Goose pedestrian overpass in partnership with the City of Colwood.				

Project Number	21-09	**Capital Project Title**	Bowker Sewer Rehabilitation Ph1	**Capital Project Description**	Based on results of CCTV inspection about 2,000m of sewer along Shelbourne, Kings and from Trent PS to Newport needs to be relined.
Project Rationale	Lining work on phase 1 completed in 2023. Warranty inspections to push into late 2024 and possibly 2025.				

Project Number	24-17	**Capital Project Title**	Sewer Cleaning and Inspection	**Capital Project Description**	Core Area sewers should be cleaned and inspected on a 5-year cycle. This program will support that continued cycle.
Project Rationale	Core Area sewers should be cleaned and inspected on a 5-year cycle. This program will support that continued cycle.				

Service: **3.798C** **Debt - Core Area Wastewater Treatment Program**

Project Number	21-11	**Capital Project Title**	Manhole Repairs and Replacement	**Capital Project Description**	Based upon CCTV and staff inspections on manholes, there are a number of deteriorated MH's that require repair or replacement.
Project Rationale	Based upon CCTV and staff inspections on manholes, high priority repairs and replacement of deteriorated MH's.				

Project Number	23-01	**Capital Project Title**	Cecelia Ravine Pipe Protection	**Capital Project Description**	Based on geotechnical review, a section of the exposed NWT in Cecelia Ravine should be covered & protected from falling rocks upslope from the pipe.
Project Rationale	Based on geotechnical review, a section of the exposed NWT in Cecelia Ravine should be covered & protected from falling rocks upslope from the pipe. This project is currently being delayed for future coordination with works that CRD Parks is expected to be doing on the Galloping Goose Trail.				

Project Number	24-10	**Capital Project Title**	East Coast Interceptor and Bowker Sewer Rehabilitation Ph2	**Capital Project Description**	Based on results of CCTV inspection about 2,000m of sewer needs to be relined along Beach Dr (from Bowker toWindsor) and along Doncastor Dr., Shelbourne St. and Kings Rd.
Project Rationale	Based on results of CCTV inspection about 2,000m of sewer along Beach Dr (from Bowker to Broom) and along Doncastor and Transit Roads needs to be relined. Lining work anticipated to be completed prior to end of 2024 but some warranty inspection work will carry into 2025.				

Project Number	24-11	**Capital Project Title**	Western Trunk Grit Chamber Repairs	**Capital Project Description**	The Western Trunk (Island Highway) Grit Chamber is badly corroded and requires repairs before extensive structural damage occurs.
Project Rationale	Repairs to Western Trunk Grit Chamber at Island Highway. Chamber is badly corroded and requires repair.				

Service:	3.798C	Debt - Core Area Wastewater Treatment Program

Project Number	26-01	**Capital Project Title**	NWT Sewer Replacement at Alpha-Terrace	**Capital Project Description**	A 5m long section of old concrete pipe downstream of Boundary Transition Chamber is badly corroded and needs to be replaced with new PVC pipe.
Project Rationale	Pipe segment replacement required prior to failure.				

Project Number	21-12	**Capital Project Title**	Gorge Siphon Inlet Chamber Upgrade	**Capital Project Description**	The concrete chamber is badly corroded and the control gates are seized on this chamber and they need to be replaced so that the individual siphons can be isolated or activated.
Project Rationale	The control gates are seized on this chamber and they need to be replaced so that the individual siphons can be isolated or activated.				

Project Number	21-13	**Capital Project Title**	Craigflower Forcemain Twinning	**Capital Project Description**	The hydraulic model and capacity assessment of the system by KWL in 2018-19, has identified that the Craigflower Forcemain must be twinned to prevent overflows into Portage Inlet during peak storm events.
Project Rationale	The hydraulic model and capacity assessment of the system by KWL in 2018-19, has identified that the Craigflower Forcemain must be twinned to prevent overflows into Portage Inlet.				

Project Number	24-14	**Capital Project Title**	Parsons Siphon/Bridge Connection Repairs	**Capital Project Description**	The siphon pipe support connections to the Parsons Brdige require repairs.
Project Rationale	The siphon pipe support connections to the Parsons Brdige require repairs.				

Project Number	25-03	**Capital Project Title**	Harriet Siphon Inlet Chamber Upgrade	**Capital Project Description**	Assess concrete corrosion and replace seized control gates.
Project Rationale	The concrete chamber is badly corroded and the control gates are seized on this chamber and they need to be replaced so that the individual siphons can be isolated or activated.				

Service:	3.798C	Debt - Core Area Wastewater Treatment Program

Project Number	27-01	**Capital Project Title**	Forcemain and Siphon Pipe Assessment Study	**Capital Project Description**	There are several forcemain pipes downstream from each pump station that have never been assessed. A study is proposed to investigate various technologies to evaluate the condition of the pipes.
Project Rationale	Repairs to Western Trunk Grit Chamber at Island Highway. Chamber is badly corroded and requires repair.				

Project Number	21-16	**Capital Project Title**	Gorge & Chapman Meter	**Capital Project Description**	Based on KWL's 2018-19 Flow Meter Audit review, KWL recommended a new flodar meter to measure the unmetered Gorge and Champman catchments. Includes installation of new metering manhole.
Project Rationale	Based on KWL's 2018-19 Flow Meter Audit review, KWL recommended a new flodar meter to measure the unmetered Gorge and Champman catchments. Includes installation of new metering manhole.				

Project Number	21-22	**Capital Project Title**	Asset Management Plan Update	**Capital Project Description**	Previous condition assessment studies will be updated and incorporated into a long-term asset management plan to meet expected level-of-service requirements.
Project Rationale	Previous condition assessment studies will be updated and incorporated into a long-term asset management plan to meet expected level-of-service requirements.				

Project Number	21-23	**Capital Project Title**	DCC Program Development	**Capital Project Description**	With the completion of CAWTP and amendment of the Service Establishment Bylaw, it was noted that a DCC Program would be established to fund future wastewater projects related to growth. This project is to create the program, consult with stakeholders and
Project Rationale	With the completion of CAWTP and amendment of the Service Establishment Bylaw, it was noted that a DCC Program would be established to fund future wastewater projects related to growth. This project is to create the program, consult with stakeholders and prepare a new DCC bylaw.				

Service:	3.798C	Debt - Core Area Wastewater Treatment Program

Project Number	21-24	**Capital Project Title**	Record Drawing and Wastewater Agreement Updates	**Capital Project Description**	The old as-built drawings, connection points and wastewater agreements with the contributing municipalities has not been updated in many years. Updates are required to reflect changes in the system, identify clear demarcation points, and reflect updates in the LWMP.
Project Rationale	The old as-built drawings, connection points and wastewater agreements with the contributing municipalities has not been updated in many years. Updates are required to reflect changes in the system, identify clear demarcation points, and reflect updates in the LWMP.				

Project Number	21-25	**Capital Project Title**	SCADA and Radio Assessment	**Capital Project Description**	Majority of the radio and SCADA equipment are nearing end of life, technological advances do not allow for straight replacements, funding is required for assessments of existing equipment and site requirements.
Project Rationale	Majority of the radio and SCADA equipment are nearing end of life, technological advances do not allow for straight replacements, funding is required for assessments of existing equipment and site requirements.				

Project Number	22-03	**Capital Project Title**	Acquisition of Outstanding Right-of-Ways	**Capital Project Description**	Some of the infrastructure is located on privately owned land that do not have rights-of-way. A plan is being developed to acquire SRW's for all infrastructure over time. Initial spending requires a study and plan prior to acquisition.
Project Rationale	Some of the infrastructure is located on privately owned land that do not have right-of-ways. A plan is being developed to acquire SRW's for all infrastructure over time. Initial spending requires a study and plan prior to acquisition.				

Project Number	21-27	**Capital Project Title**	New Infrastructure Optimization	**Capital Project Description**	Unforeseen and unplanned optimization at a number of new facilities to improve operation and health and safety requirements.
Project Rationale	Unforeseen and unplanned optimization at a number of new facilities to improve operation and health and safety requirements.				

Service:	3.798C	Debt - Core Area Wastewater Treatment Program

Project Number	22-04	**Capital Project Title**	Microwave Radio Upgrades	**Capital Project Description**	To provide a high bandwidth communications backbone to the CAWWT system, a microwave communications system will be installed.
Project Rationale	Multiple facilities throughout the CRD RWS system require additional bandwidth to allow for proper monitoring and control. This project will enable the initial design and preliminary installation of a high bandwidth microwave backbone that will be able to be leveraged by multiple CRD operational groups. The installation of this backbone will be coordinated with the other IWS service areas.				

Project Number	23-07	**Capital Project Title**	Enterprise Data Historian Management System	**Capital Project Description**	A data historian is required to store large amounts of data that is required for compliance reporting to regulators, operational performance reports, cost allocation, and engineering analysis.
Project Rationale	A data historian is required to store large amounts of data that is required for compliance reporting to regulators, operational performance reports, cost allocation, and engineering analysis.				

Project Number	28-01	**Capital Project Title**	Marigold Surge Tank Deconstruction	**Capital Project Description**	The old Mariogld Surge Tank has been abandond for many years, is becoming a safety concern for youth, a needs to be removed.
Project Rationale	Future assessment and decommissioning.				

Project Number	24-15	**Capital Project Title**	IT Core Infrastructure Replacement	**Capital Project Description**	Replacement of Core IT infrastructure such as servers, network switches, UPS, etc for equipment end of life
Project Rationale	CAWW portion of Core IT Infrastructure. Program to be managed by CRD IT.				

Project Number	27-03	**Capital Project Title**	Westshore Wastewater Treatment Plant Siting Assessment	**Capital Project Description**	Capacity needs, technology review, siting requirements, conceptual layout, Environmental Impact Assessment and other planning efforts.
Project Rationale	Capacity needs, technology review, siting requirements, conceptual layout, Environmental Impact Assessment and other planning efforts.				

Service: **3.798C** **Debt - Core Area Wastewater Treatment Program**

Project Number	21-26	**Capital Project Title**	Annual Provisional Emergency Repairs	**Capital Project Description**	Unforeseen and unplanned emergency repairs can occur which require immediate attention.
Project Rationale	Funds are required for unforeseen and unplanned emergency repairs can occur which require immediate attention.				

Project Number	23-06	**Capital Project Title**	Annual Provisional Equipment Replacement	**Capital Project Description**	Replacement of at end of service life, including valves, variable frequency drives, capacitors.
Project Rationale	Replacement of equipment at end of service life, including valves, variable frequency drives, capacitors.				

Project Number	23-08	**Capital Project Title**	Process & Mechanical Upgrades	**Capital Project Description**	Upgrades to the Core Area Wastewater Treatment and Conveyance infrastructure in order to optimize operations
Project Rationale	Annual Provisional account for upgrades to the Core Area Wastewater Treatment and Conveyance infrastructure in order to optimize operations in order to improve compliance with regulatory requirements, improve equipment and process efficiency, and reduce risk of pre-mature equipment failure.				

Project Number	23-09	**Capital Project Title**	Safety & Security Upgrades	**Capital Project Description**	Upgrades to the Core Area Wastewater Treatment and Conveyance infrastructure to improve worker health and safety
Project Rationale	Annual Provisional Account for upgrades to the Core Area Wastewater Treatment and Conveyance infrastructure to improve worker health and safety. This includes constructing safe access platforms to complete maintenance at equipment that present a fall from heights risk and other items that are flagged as health and safety concerns.				

Project Number	24-08	**Capital Project Title**	Clover Point Outfall Retrofit	**Capital Project Description**	The existing Clover outfall is no longer operated on a regular basis since wastewater is now conveyed to McLoughlin WWTP, but it must be ready for operation during peak storm events. As a result, the existing outfall will need to be assessed for best operational and maintenance practices based on limited use.
Project Rationale	The existing outfall will see a significant reduction in usage once the Clover Point Pump Station is commissioned and wastewater flows up to 3 times ADWF are redirected to the McLoughlin WWTP. As a result, the existing outfall will need to be assessed for best operational and maintenance practices based on expected limited use instead of current continuous use.				

Service:	3.798C	Debt - Core Area Wastewater Treatment Program

Project Number	25-02	**Capital Project Title**	Macaulay Point Outfall Retrofit	**Capital Project Description**	A section of coating on the emergency short outfall has failed and the pipe is corroding, and the long outfall needs to be modified to suit reduced usage. This project is to repair the coating, provide shoreline protection, and prepare a plan to maintain the deep outfall based on limited use.
Project Rationale	A section of coating the emergency short outfall has failed, the pipe is corroding, and the long outfall needs to be assessed/modified to suit reduced usage. This project is to repair the coating, provide shoreline protection, and modify the deep outfall.				

Project Number	27-02	**Capital Project Title**	Broom Overflow Pipe Rehabilitation	**Capital Project Description**	Overflow pipe is cracked and severed in multiple locations and H2S gases and odours are present.
Project Rationale	A section of coating the emergency short outfall has failed and the pipe is corroding, and the long outfall needs to be modified to suit reduced usage. This project is to repair the coating, provide shoreline protection, and modify the deep outfall.				

Project Number	24-16	**Capital Project Title**	Optimization of Residual Treatment Facility Operations	**Capital Project Description**	Installation of additional equipment to enhance beneficial use of biogas and support continued stable operations at the RTF
Project Rationale	Installation of additional equipment to enhance beneficial use of biogas and support continued stable operations at the RTF				

3.798C Debt - Core Area Wastewater Capital Asset and Reserve Summary
Summary Schedule
2025 - 2029 Financial Plan

Reserve Schedule Summary

Core Area Wastewater

The Wastewater Treatment Project (WTP) provides tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees Nations. The WTP is built to meet the provincial and federal regulations for treatment at December 31, 2020. The Project consists of three main elements: McLoughlin Point Wastewater Treatment Plant, Residuals Treatment Facility, and the Conveyance System

Reserve/Fund Summary

	Estimate	Budget				
	2024	2025	2026	2027	2028	2029
Capital Reserve Fund	17,048,652	14,519,771	15,690,890	17,012,009	19,333,128	23,354,247
Capital Reserve Fund-Western Community	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Debt Reserve Fund	18,584,720	24,652,880	30,892,840	37,404,600	33,954,607	15,173
Total	**37,633,372**	**41,172,651**	**48,583,730**	**56,416,609**	**55,287,735**	**25,369,420**

See attached reserve schedules for projected annual cash flows.

Capital Reserve Fund Schedule Core Area Wastewater

Bylaw 4378 - The capital reserve fund was established to provide funding for capital expenditures in respect of capital projects including but not limited to, land, machinery or equipment necessary for the replacement, extension or renewal of existing capital works and related debt servicing payments

Capital Reserve Schedule

Capital Reserve Fund						
Fund: 1092	**Estimate**	**Budget**				
Fund Centre: 102227	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Beginning Balance	17,884,574	17,048,652	14,519,771	15,690,890	17,012,009	19,333,128
Planned Purchase (Based on Capital Plan)	(3,103,000)	(4,650,000)	(1,950,000)	(1,800,000)	(1,800,000)	(1,500,000)
Transfer IN (from Ops Budget)	1,617,078	2,121,119	3,121,119	3,121,119	4,121,119	5,521,119
Transfer IN (North East Trunk CRF)						
Surplus/Deficit						
Interest Income*	650,000					
Ending Balance $	**17,048,652**	**14,519,771**	**15,690,890**	**17,012,009**	**19,333,128**	**23,354,247**

Assumptions/Background:

The funding strategy for the capital reserve fund is based upon the 25 year replacement plan as by Stantec during the construction of the Core Area Wastewater Treatment Project

* The planned purchase amount may differ from the five-year capital plan summary due to carryover from the previous year.

* 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.

Bylaw 4378 - The capital reserve fund was established to serve both the Core Area and Western Communities. The reserve schedule below is committed to advancing studies for a wastewater treatment proposal in Colwood.

Colwood Treatment Project -Capital Reserve Schedule

Capital Reserve Fund						
Fund: 1092	**Estimate**	**Budget**				
Fund Centre: 102277	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Beginning Balance	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Interest Income*						
Ending Balance $	**2,000,000**	**2,000,000**	**2,000,000**	**2,000,000**	**2,000,000**	**2,000,000**

Assumptions/Background:

Based on the Colwood news release, on December 15, 2016, CAWTP project board approved the transfer of $2 millions once the project is closed. The funds are to be set aside in a separate reserve fund center.

* 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. which is not included.

Debt Reserve Fund Schedule Core Area Wastewater

Bylaw 4377 - The debt reserve fund was established for the specified purpose of funding future debt servicing payments or debt retirements. Monies in the debt repayment reserve will fund debt servicing and early repayment of debts issued to fund the Core Area Wastewater Treatment Project

Debt Reserve Schedule

Debt Reserve Fund **Fund: 1093** **Fund Center: 102228**	**Estimate** **2024**	**Budget** **2025**	**2026**	**2027**	**2028**	**2029**
Beginning Balance	12,738,360	18,584,720	24,652,880	30,892,840	37,404,600	33,954,607
Debt Payment		-	-	-	(10,283,553)	(41,134,212)
Transfer from Ops Budget	5,346,360	5,418,160	5,489,960	5,561,760	5,633,560	5,994,778
Interest Income*	500,000	650,000	750,000	950,000	1,200,000	1,200,000
Ending Balance $	**18,584,720**	**24,652,880**	**30,892,840**	**37,404,600**	**33,954,607**	**15,173**

Assumptions/Background:

The funding strategy for the debt reserve fund is based upon the project's financing plan as approved during the construction of the Core Area Wastewater Treatment Project. Repayment anticipated by 2031.

* 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.

CAPITAL REGIONAL DISTRICT

2025 BUDGET

Core Area Wastewater Operations

COMMITTEE REVIEW

October 2024

Service: 3.717 Core Area Wastewater Operations **Committee: Core Area Liquid Waste Management**

DEFINITION:

Provision of sewage treatment and disposal through treatment plant facilities and outfalls for member participants.

SERVICE DESCRIPTION:

This program is for the provision of sub-regional wastewater collection and treatment in the Core Area and Western Communities. Although the largest component of the program budget is for the operation and maintenance of the McLoughlin Point Wastewater Treatment and Residuals Treatment Plants and conveyance systems, many other key programs are funded through and support these budgets including engineering (capital projects), odour control, and marine monitoring and protection.

PARTICIPATION:

Operating costs to be recovered by requisition to all participating members based on measured flow from previous year.

MAXIMUM LEVY:

N/A

MAXIMUM CAPITAL DEBT:

See Debt Budget 3.798C

FUNDING:

Requisition

RESERVE FUND:

Operating Reserve Fund
Equipment Replacement Reserve Fund

APPENDIX C

Service: 3.717 Core Area Wastewater Operations **Committee: Core Area Liquid Waste Management**

COST SHARING ALLOCATION - ANNUAL WASTEWATER FLOWS

	2021	2022	2023	2024	2025
Colwood	3.72%	3.38%	3.30%	3.74%	
Esquimalt	6.64%	6.75%	6.71%	6.36%	
Langford	8.65%	9.61%	10.10%	11.63%	
Oak Bay	9.24%	8.83%	9.91%	8.30%	
Saanich	29.11%	29.57%	28.06%	28.62%	
Victoria	38.88%	38.39%	38.40%	37.50%	
View Royal	2.61%	2.36%	2.30%	2.61%	
Esquimalt Nation	0.08%	0.08%	0.08%	0.08%	
Songhees Nation	0.67%	0.70%	0.74%	0.74%	
D.N.D.	0.40%	0.33%	0.40%	0.42%	
	100%	**100%**	**100%**	**100%**	**0%**

Change in Budget 2024 to 2025 **Service: 3.717 Core Area Wastewater Operations**	**Total Expenditure**	**Comments**
2024 Budget	**34,192,131**	
Operating Changes:		
Allocation - IWS Operations	335,974	Labour charge-out rate increased, primarily due to salary benefits increases resulting from a collective agreement
	145,262	Asset Management allocation transferred from Corporate to IWS
	82,478	2025 IBC 2b-2.3 Systems Maintenance Technologist
	5,406	SharePoint transition
Allocation - Standard Overhead	238,249	Allocation based on the percentage of the prior year's budget and the budgeted cost for 2025
Allocation - Other	202,000	2025 IBC 1b-4.2 Innovative Work Unit to support Biosolids Management Strategy
	183,157	Inflationary increases for Enviro Monitoring & Marine Protection, Infrastructure Engineering, Facilities Management
RTF Operations and Biotreatment and Disposal	300,000	Additional legal cost
	(640,759)	A significant reduction due to align with the biosolids strategy commitement
	174,150	Inflation increase
Operating - Other	500,000	One-time and ongoing cleaning backwash tank
	305,310	Recognize growing insurance premiums
	70,000	Annual host community impact to the Township of Esquimalt
	48,385	Inflationary increases for equipment contract services and other ongoing expenses
Repairs & Maintenance	439,127	Increase in cyclical maintenance cost due to inspection, maintenance and replacement of equipment
Electricity & Utilities	37,637	Inflationary increases
Supplies - Chemical & Other	478,120	A 15% increase on chemical increase
Reserve Transfers	100,000	Gradually increasing ERF contribution amount
Total Other Changes	3,004,496	
2025 Budget	**37,196,627**	

Summary of % Expense Increase	
2025 IBC Expense	0.8%
Increase reserve transfers	0.3%
Support services	0.7%
Operational expense	8.8%
Balance of increase	0.0%
% expense increase from 2023:	**8.8%**
% Requisition increase from 2024 (if applicable):	***7.8%***

Requisition funding is 95.6% of service revenue

Overall 2024 Budget Performance
(expected variance to budget and surplus treatment)

A deficit of $800,000 (2.29%) is forecasted due to overspending on wastesludge disposal. The variance will be covered by Operating Reserve Fund

3.717 - Core Area Wastewater Operations	2024 BOARD BUDGET	2024 ESTIMATED ACTUAL	BUDGET REQUEST 2025 CORE BUDGET	BUDGET REQUEST 2025 ONGOING	BUDGET REQUEST 2025 ONE-TIME	BUDGET REQUEST 2025 TOTAL	FUTURE PROJECTIONS 2026	FUTURE PROJECTIONS 2027	FUTURE PROJECTIONS 2028	FUTURE PROJECTIONS 2029
OPERATING COSTS:										
Allocation - IWS Operations	7,348,647	7,348,647	7,829,883	82,478	5,406	7,917,767	8,104,893	8,262,326	8,428,431	8,597,878
Allocation - Standard Overhead	2,441,121	2,441,121	2,679,370	-	-	2,679,370	2,759,752	2,814,947	2,871,246	2,928,670
Allocation - Other	4,711,501	4,711,501	4,894,658	202,000	-	5,096,658	5,204,906	5,314,665	5,426,692	5,541,052
RTF Operations and Biotreatment and Disposal	7,646,376	8,634,181	7,479,767	-	-	7,479,767	7,323,363	7,469,829	7,619,226	7,771,611
Operating - Other	2,284,275	2,237,883	2,637,970	220,000	350,000	3,207,970	3,340,459	3,482,429	3,634,712	3,798,347
Repairs & Maintenance	1,264,873	1,135,000	1,269,000	-	435,000	1,704,000	1,493,980	2,004,250	1,602,920	2,192,972
Electricity & Utilities	3,436,258	3,321,258	3,473,895	-	-	3,473,895	3,543,373	3,614,238	3,686,516	3,760,243
Supplies - Chemical & Other	4,359,080	4,446,080	4,837,200	-	-	4,837,200	4,933,940	5,032,620	5,133,280	5,235,940
TOTAL OPERATING COSTS	**33,492,131**	**34,275,671**	**35,101,743**	**504,478**	**790,406**	**36,396,627**	**36,704,666**	**37,995,304**	**38,403,024**	**39,826,713**
*Percentage Increase over prior year		2.34%	4.81%	1.51%	2.36%	8.67%	0.85%	3.52%	1.07%	3.71%
RESERVE:										
Transfer to Operating Reserve	700,000	700,000	700,000	-	-	700,000	900,000	900,000	1,000,000	1,000,000
Transfer to Equipment Replacement Fund	-	-	100,000	-	-	100,000	400,000	500,000	600,000	600,000
TOTAL RESERVES	**700,000**	**700,000**	**800,000**	**-**	**-**	**800,000**	**1,300,000**	**1,400,000**	**1,600,000**	**1,600,000**
TOTAL COSTS	34,192,131	34,975,671	35,901,743	504,478	790,406	37,196,627	38,004,666	39,395,304	40,003,024	41,426,713
*Percentage Increase over prior year		2.29%	5.00%	1.48%	2.31%	8.79%	2.17%	3.66%	1.54%	3.56%
Internal Recoveries	(212,240)	(212,240)	(216,480)	-	-	(216,480)	(216,480)	(220,810)	(225,226)	(229,731)
OPERATING COSTS LESS INTERNAL RECOVERIES	33,979,891	34,763,431	35,685,263	504,478	790,406	36,980,147	37,788,186	39,174,494	39,777,798	41,196,982
*Percentage Increase over prior year		2.31%	5.02%	1.48%	2.33%	8.83%	2.19%	3.67%	1.54%	3.57%
REVENUE;										
Balance C/F from 2023 to 2024	-	-	-	-	-	-	-	-	-	-
Estimated Balance C/F from 2024 to 2025	-	(783,540)	(0)	-	-	(0)	(0)	0	(0)	0
Grants in Lieu of Taxes	(750,046)	(750,046)	(750,046)	-	-	(750,046)	(700,895)	(700,895)	(700,895)	(700,895)
Transfer from Operating Reserve	(420,849)	(420,849)	-	(70,000)	(790,406)	(860,406)	(150,000)	(365,000)	(95,000)	(640,000)
TOTAL REVENUE	**(1,170,895)**	**(1,954,435)**	**(750,046)**	**(70,000)**	**(790,406)**	**(1,610,452)**	**(850,895)**	**(1,065,895)**	**(795,895)**	**(1,340,895)**
REQUISITION	**(32,808,996)**	**(32,808,996)**	**(34,935,216)**	**(434,478)**	**-**	**(35,369,694)**	**(36,937,291)**	**(38,108,600)**	**(38,981,902)**	**(39,856,087)**
*Percentage increase over prior year		0.00%	6.48%	1.32%	0.00%	7.80%	4.43%	3.17%	2.29%	2.24%
PARTICIPANTS: Victoria, Oak Bay, Esquimalt, Saanich, View Royal, Colwood, Langford										

3.717 Core Area Wastewater Operations Asset and Reserve Summary
Summary Schedule
2025 - 2029 Financial Plan

Asset Profile

Core Area Wastewater Operations

Construction of the Core Area Wastewater Treatment Plant, Residuals Treatment Plant, pump stations and conveyance systems will be completed in 2021. The treatment plants, pump stations and conveyance systems provide tertiary wastewater treatment to the Core Area and Westshore Communities.

Summary

CAWW Reserve/Fund Summary	Estimate	Budget				
Projected year end balance	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Core Area Operating Reserve Fund	3,336,624	3,246,218	3,996,218	4,531,218	5,436,218	5,796,218
RTF & EPRO Operating Reserve Fund	5,833,571	5,871,880	5,910,188	5,948,497	5,986,806	6,025,115
Host Community Impact Fee till 2045 -Closing CAWTP project	1,463,175	1,393,175	1,323,175	1,253,175	1,183,175	1,113,175
Equipment Replacement Fund	6,019,311	5,619,311	5,619,311	5,619,311	5,619,311	5,919,311
Total	**16,652,681**	**16,130,584**	**16,848,893**	**17,352,202**	**18,225,510**	**18,853,819**

See attached reserve schedules for projected annual cash flows.

Profile

Core Area Wastewater Operations

Bylaw 4144 - Starting in 2021, the operating reserve account is established for operating and maintenance activities that typically do not occur annually. These maintenance activities are large expenses and to avoid large swings in the operating budget, funds are set aside annually to undertake this maintenance.

Operating Reserve Schedule

Operating Reserve Schedule Fund: 1500 Fund Center: 105543	Estimate 2024	Budget 2025	 2026	 2027	 2028	 2029
Core Area Beginning Balance	3,667,473	3,336,624	3,246,218	3,996,218	4,531,218	5,436,218
Planned Purchase	(350,849)	(790,406)	(150,000)	(365,000)	(95,000)	(640,000)
Transfer from Ops Budget	700,000	700,000	900,000	900,000	1,000,000	1,000,000
Interest Income	120,000					
Deficit/surplus YE	(800,000)					
Year End Balance	**3,336,624**	**3,246,218**	**3,996,218**	**4,531,218**	**5,436,218**	**5,796,218**
Host Community Impact Fee till 2045 -transfer YE 2023	**1,463,175**	1,393,175	1,323,175	1,253,175	1,183,175	1,113,175
RTF & EPRO Beginning Balance	5,633,571	5,833,571	5,871,880	5,910,188	5,948,497	5,986,806
Planned Purchase	-	-	-	-	-	-
Interest Income	200,000	38,309	38,309	38,309	38,309	38,309
Year End Balance	**5,833,571**	**5,871,880**	**5,910,188**	**5,948,497**	**5,986,806**	**6,025,115**
Total projected year end balance	**10,633,370**	**10,511,273**	**11,229,581**	**11,732,890**	**12,606,199**	**12,934,508**

Assumptions/Background:

Cyclical maintenance reserve account with funding for Outfall Inspection, Heat Recovery Exchange System Cleaning, other major non-annual maintenance expenditures. The Operating Reserve fund also includes contributions from Environmental Services and the Residual Treatment Facility

* 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.

ERF Reserve Fund Schedule

ERF: CAWW Fund for Equipment Replacement

In 2021, all remaining funds from old legacy trunk budgets were transferred into the amalgamated Core Area Wastewater service equipment reserve fund.

Equipment Replacement Fund Fund: 1022 Fund Center: 102229	Estimate	Budget				
	2024	2025	2026	2027	2028	2029
Beginning Balance	6,674,311	6,019,311	5,619,311	5,619,311	5,619,311	5,619,311
Planned Purchase (Based on Capital Plan)	(705,000)	(500,000)	(400,000)	(500,000)	(600,000)	(300,000)
Transfer IN (from Ops Budget)	-	100,000	400,000	500,000	600,000	600,000
Interest Income*	50,000					
Ending Balance $	**6,019,311**	**5,619,311**	**5,619,311**	**5,619,311**	**5,619,311**	**5,919,311**

Assumptions/Background:

ERF Reserve to fund replacement of equipment that lasts less than 15 years in the CAWW System. Example motors, pumps etc.

* The planned purchase amount may differ from the five-year capital plan summary due to carryover from the previous year.

* Interest in planning years nets against inflation which is not included.

Initiative Business Case (IBC) Summaries

1b-4.2 Innovative Projects Work Unit

The department needs to establish an organizational structure to implement bold, innovative pieces of the Parks, Recreation and Environmental Services portfolio to deliver on the Board's priorities that require innovation. Primarily, the Long-Term Biosolids Management Strategy, the climate action strategy, and other longer-term, technology-focused projects supporting resource recovery and climate action goals.

This initiative aims to form a new team dedicated to planning and implementing innovative projects related to biosolids management, solid waste diversion, and the reduction of greenhouse gas emissions and carbon displacement. Funding for this initiative will come from requisition and fee-for-service.

2b-2.3 Systems Maintenance Electronics Technologist

Population growth in the region has increased demand, putting pressure on the water and wastewater systems. Preventative maintenance and new capital projects are crucial for ensuring reliable infrastructure, improving efficiency by reducing after-hours and emergency repairs, and optimizing equipment performance. These efforts also extend the lifespan of assets, decrease unplanned downtime, and build resilience to climate change impacts. Currently, the demand for preventative maintenance and project support exceeds the staffing in the Wastewater Infrastructure Operations division.

The Systems Maintenance team: in 2023, the team had approximately 910 hours of unfinished preventative maintenance work and a backlog of 1,750 hours for capital project support, equivalent to more than a full-time employee's workload. To maintain critical systems for which we forecast an increased workload in 2024, this initiative seeks to create a new regular full-time electronics technician position. Funding for this initiative will come from requisition and fee-for-service, with operating reserves used for one-time equipment purchases.

2a-8.3 Laboratory Assistant

Increased lab support services for both drinking water and wastewater, driven by regulatory and operational requirements, require additional in-house support. The CRD monitors the Greater Victoria drinking water system to meet provincial regulatory requirements and uphold our commitment to providing high-quality and safe drinking water to the region. As the population grows, the demand for water increases; requiring additional capacity in the CRD's accredited internal laboratory to handle expanded testing. Additional sampling and analysis are also required for the Core Area Wastewater service and the new treatment facility to meet both regulatory requirements and support accountability to the public. This initiative seeks to create a new full-time position focused on non-analytical duties in the integrated labs within the Environmental Protection division, which provides support to several services. This strategy provides more efficiency by freeing up senior lab staff to take on more analytical responsibilities. Funding for this initiative will come from requisition and fee-for-service.

Making a difference...together

EEP 24-58

REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF WEDNESDAY, OCTOBER 9, 2024

SUBJECT **Liquid Waste Management Plan Engagement Plan**

ISSUE SUMMARY

Capital Regional District (CRD) staff are ready to proceed with an engagement plan to solicit comments on an amendment to the Core Area Liquid Waste Management Plan (CALWMP) Section 5 - Management of Infiltration and Inflow (I&I) and Control of Wastewater Overflows. This report provides an update on work to date and the next steps.

BACKGROUND

Liquid Waste Management plans allow the CRD and local governments to develop community-specific solutions for the management of liquid waste, stormwater and environmental protection in accordance with the BC *Environmental Management Act*. The current Plan was originally approved by the Minister of Environment in 2003 and was last updated with Amendment 12 in 2018.

The CRD is updating components of the Plan and formed a Technical and Community Advisory Committee (TCAC) in October 2023 to assist the Core Area Liquid Waste Management Committee (CALWMC), and the CRD Board, regarding amendments to the CALWMP. As part of the TCAC process, Kerr Wood Leidal Associates Ltd. (KWL) reviewed options regarding amendments to Section 5 and has worked with staff and the TCAC to make recommendations in a report.

At the February 13, 2024 meeting, the TCAC reviewed and provided final comments on the proposed new Section 5 of the CALWMP and the KWL report, expressing their support for both (the staff report to the TCAC is attached as Appendix A). The agenda and minutes from that meeting were subsequently received for information by the CALWMC at their June 26, 2024 meeting.

On May 14, 2024, Esquimalt Nation and Songhees Nation were contacted and offered an opportunity to review and comment on this material (in their roles as participants in the CALWMP) and staff are awaiting their response.

Staff are now ready to begin engagement before finalizing Amendment 13 as follows:

- receiving public comment through the CRD's Get Involved website
- referring to municipal engineering staff for internal discussions at the municipal level
- inviting comment from the First Nations listed in the Province of British Columbia First Nation Consultation Areas database where there may be a duty to consult

The results of this engagement will be incorporated as needed into an Amendment 13 package which will come back to the CALWMC and the CRD Board in early 2025 for recommendation and then submitted to the provincial regulator. This amendment will satisfy a regulatory requirement as a condition of the provincial approval of Amendment 12.

CONCLUSION

Staff are ready to proceed with an engagement plan to solicit comments on an amendment to the Core Area Liquid Waste Management Plan (CALWMP) Section 5 - Management of Infiltration and Inflow and Control of Wastewater Overflows. This process will include invitations to comment from the public, municipal engineering staff and the First Nations listed in the Province of British Columbia First Nation Consultation Areas database.

RECOMMENDATION

There is no recommendation. This report is for information only.

Submitted by:	Glenn Harris, Ph.D., R.P.Bio., Senior Manager, Environmental Protection
Concurrence:	Russ Smith, Acting General Manager, Parks, Recreation & Environmental Services
Concurrence:	Alicia Fraser, P. Eng., General Manager, Integrated Water Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENT

Appendix A: Report to Technical and Community Advisory Committee (February 13, 2024)

Making a difference...together

REPORT TO TECHNICAL AND COMMUNITY ADVISORY COMMITTEE
MEETING OF TUESDAY, FEBRUARY 13, 2024

SUBJECT **Amendment 13 - Core Area Liquid Waste Management Plan**

ISSUE SUMMARY

Capital Regional District (CRD) staff are seeking final comments from the Technical and Community Advisory Committee (TCAC) regarding the update to Section 5 of the Core Area Liquid Waste Management Plan (the Plan) and supporting technical report so that staff can forward information to the Core Area Liquid Waste Management Committee (CALWMC) for consideration.

BACKGROUND

Liquid Waste Management plans allow the CRD and local governments to develop community-specific solutions for the management of liquid waste, stormwater and environmental protection in accordance with the BC *Environmental Management Act*. The current Plan was originally approved by the Minister of Environment in 2003 and was last updated with Amendment 12 in 2018. The CRD is updating components of the Plan and has formed a Technical and Community Advisory Committee to assist the CALWMC in making appropriate recommendations to the CRD Board in the areas of:

- Inflow and infiltration (I&I)
- Sanitary sewer overflows
- Biosolids management and beneficial use

The first two items will be addressed in an updated Section 5 (Management of Infiltration and Inflow and Control of Wastewater Overflows) of the Plan (Amendment 13) with biosolids planning anticipated to be a separate amendment.

The TCAC has met four times since October 2023 to discuss I&I items including:

- reviewing the background for the need of an update of Section 5
- receiving presentations from CRD staff and Kerr Wood Leidal
- discussing options for managing I&I in the region
- receiving a report from Kerr Wood Leidal summarizing recommendations for updating Section 5
- hearing the municipal approach to asset management for I&I

CRD staff now seek TCAC's final comments and support for the proposed new Section 5 and the Kerr Wood Leidal report which will be submitted as part of an Amendment 13 package to the CALWMC prior to an eventual submission to Ministry of Environment and Climate Change Strategy.

IMPLICATIONS

Climate Action Implications

Since the last meeting of TCAC, CRD staff and Kerr Wood Leidal have made minor changes to the updated Section 5 to incorporate climate change adaptation language to recognize that

climate change is an important consideration for I&I and management of wastewater overflows.

Environmental Implications

The Municipal Wastewater Regulation stipulates that overflows must not occur, unless during a storm with a greater than five-year return period. The Clover Point outfall is the only remaining location that does not meet this requirement, excluding Oak Bay combined sewers, which are being managed separately. Currently, Clover Point overflows are predicted to occur for approximately 60 hours per year during the eight largest winter storm events. These overflows consist of highly dilute sewage mixed with rainwater, are generally short in duration, and are predicted to represent a very low risk to the marine receiving environment.

The goal of updating the CRD and municipal commitments in the Plan is to clarify efforts to reduce sub-five-year return period overflows on an appropriate timeline. The proposed approach of reducing and eliminating overflows during sub-five-year storm events is intended to be a practical solution that meets regulatory requirements while ensuring long-term environmental protection.

Intergovernmental Implications

An amendment to the CALWMP to address management of I&I will satisfy a provincial regulatory requirement as a condition of the provincial approval of Amendment 12.

When the TCAC review of the updated Section 5 and supporting report is complete, this information will be forwarded to the CALWMC for consideration. The CALWMC would then approve a package to be referred to all service participants for review and comment. Public consultation will be required since this is an amendment to the Liquid Waste Management Plan. After receiving all comments, the information will be brought back to the CALWMC and CRD Board to be finalized and submitted to the provincial regulator.

CONCLUSION

The TCAC has considered an updated Section 5 of the Core Area Liquid Waste Management Plan and a report from Kerr Wood Leidal summarizing recommendations for updating Section 5. To move forward with Amendment 13 to the Plan, CRD staff must forward the proposed Section 5 and supporting report to the CALWMC as a next step.

RECOMMENDATION

Staff recommend that the TCAC provide final comments and support for the proposed new Section 5 and Kerr Wood Leidal report so that staff can forward to the CALWMC.

ATTACHMENTS

Appendix A: Proposed update of Section 5 of the Core Area Liquid Waste Management Plan
Appendix B: Review of Core Area LWMP Section 5: Management of I&I and Control of Wastewater Overflows, Kerr Wood Leidal

Submitted by:	Peter Kickham, Manager, Regulatory Services, M.E.T., R.P.Bio.
Concurrence:	Glenn Harris, Ph.D., R.P.Bio., Senior Manager, Environmental Protection

SECTION 5
MANAGEMENT OF INFILTRATION AND INFLOW AND CONTROL OF WASTEWATER OVERFLOWS

REGULATORY REQUIREMENT

The Municipal Wastewater Regulation (MWR), ***Part 3, Division 2 – Overflows, and Inflow and Infiltration Requirements,*** sets out the conditions for overflows and inflow and infiltration.

With respect to Overflows, MWR Article 42 (1) (a) states: "A discharger must ensure that an overflow does not occur during storm or snowmelt events with a less than 5-year return period, unless the person responsible for the municipal wastewater collection system develops and implements, as part of a liquid waste management plan, measures to eliminate overflows" .

And with respect to Inflow and Infiltration, MWR Article 44 (1) (a), states that: "a discharger must ensure that inflow and infiltration does not occur such that the maximum daily flow exceeds 2 times the ADWF at the treatment plant during storm or snowmelt events with a less than 5-year return period, unless the person responsible for the municipal wastewater collection system addresses, as part of a liquid waste management plan, how inflow and infiltration can be reduced".

On March 24, 2022 The CRD was directed to "complete the separation of combined sewers in the Humber Catchment area by December 31, 2025" and to propose a new timeline for the separation of the Rutland Catchment that is "in line with the overarching commitment to reduce inflow and infiltration to below four times average dry weather by 2030."

GOAL

The goal of the Core Area Liquid Waste Management Plan is to meet the intent of the MWR by preparing Inflow, Infiltration and Overflow Management Plans to achieve the following:

The primary objective is to reduce inflow and infiltration to eliminate overflows for storm events with less than a 5-year return period from all CRD facilities by 2030, except the Clover Point Long outfall. The next key objective would be to eliminate overflows for storm events with less than a 5-year return period from all CRD facilities including the Clover Point Long outfall by year 2045.

COMMITMENTS

To achieve the goals and objectives noted above, the CRD and participants discharging into the CRD wastewater system commit to the following actions:

CRD Commitments:

1. Monitoring municipal sewer flows into the core area trunk sewer system and assessing compliance with the peak flow allocations in CRD Bylaw 4304 (Table 1).

2. Analyzing available flow data for I&I on a periodic basis including flow data from the CRD cost sharing meters and municipal pump stations (when suitable).

3. Completing a study assessing the impacts of storm event overflows from the Clover Long outfall including: climate change implications, environmental impacts, social impacts, budget estimates to eliminate 5-year overflows, and impact on taxpayers.

4. Establishing an education program for homeowners and key stakeholders (i.e. home inspectors, realtors, plumbers) that promotes repair and maintenance of private property sewer laterals.

5. Assisting municipalities with catchment specific studies designed to address high I&I and/or overflows (as budget allows).

6. Assessing storage and treatment options to reduce overflows caused by I&I at the Clover Point Long outfall.

7. Reviewing and updating, if appropriate, the CRD model bylaw for private sewer lateral laterals (2015) for municipalities to consider adopting or incorporating into existing bylaws.

8. Creating a mass balance model/tool to assess, document, and improve the effectiveness of the municipal asset management plans and CRD I&I Management Plan for eliminating overflows at the Clover Long Outfall by 2045.

9. Submitting 5-year updates of the I&I Management Plan to the Province.

The Participants who discharge into the CRD wastewater system commit to the following actions:

1. Performing detailed catchment investigations and preparing compliance plans for participant area inputs to the core area sewer system that both (1) exceeds their sewer allocations and (2) contribute to sub 5-year overflows.

2. Preparing asset management plans identifying sewer asset life span, when sewer assets will be replaced, the level of funding required, and how that will help to reduce inflow and infiltration over time as infrastructure is renewed.

3. Preparing drainage improvement plans for those areas where building foundation drains are unable to connect to the storm drainage system.

4. Applying for grants targeted specifically to address catchment areas contributing to overflows less than a 5-year return period.

5. Carrying out additional flow monitoring in catchments with elevated I&I, as appropriate.

6. Carry out the recommendations outlined in the I&I Management Plan that relate to their specific participant area or collection system.

7. If sanitary municipal sewer flows exceed allotted flows from Bylaw 4304, consider implementing a private sewer lateral replacement bylaw to replace laterals that have exceeded their service life and separate combined storm and sanitary connections.

Table 1: Allocated Sewer Flows from Bylaw 4304

Allocation Point	Allocated Average Dry Weather Flow (ML/day)	Allocated Peak Daily Flow (ML/day)
COLWOOD		
Total (Parson's minus Meaford)	**4.70**	**18.8**
ESQUIMALT		
Esquimalt Panhandle	0.12	0.48
Lang Cove Pump Station	1.28	5.12
Dockyard	1.01	4.04
Kinver	0.44	1.76
Pooley Place	0.06	0.24
Devonshire	1.85	7.40
Wilson	0.37	1.48
Head	1.68	6.72
Anson	0.24	0.97
Total	**7.09**	**28.36**
LANGFORD		
Total *(Meaford)*	**14.12**	**56.48**
OAK BAY		
Windsor	2.92	11.68
Humber *(combined sewers)*	0.60	2.40
Rutland *(combined sewers)*	0.37	1.48
Currie Net	0.97	3.88
Currie Lift Station	1.62	6.48
Harling Point Pump Station	0.20	0.79
Total	**6.62**	**26.48**
SAANICH		
Marigold PS	13.19	52.76
City Boundary	5.88	23.52
Harriet	3.27	13.08
Townley	0.61	2.44
Haultain	0.57	2.27
Arbutus	7.08	28.31
Haro	0.79	3.17
Penrhyn Lift Station	0.93	3.73
Total	**32.89**	**131.56**
VICTORIA		
Cecelia	3.14	12.57
Chapman & Gorge	0.35	1.40
Selkirk	0.28	1.11
Langford - Vic West	0.19	0.77

Allocation Point	Allocated Average Dry Weather Flow (ML/day)	Allocated Peak Daily Flow (ML/day)
Hereward	1.91	7.65
Sea Terrace	0.33	1.32
Trent Net	7.33	29.32
Hollywood	0.54	2.16
Olive	23.06	92.24
Clover Net	1.50	6.01
Total	**38.30**	**153.19**
VIEW ROYAL		
Craigflower Pump Station	3.54	14.16
Shoreline Trunk	0.14	0.55
Total	**3.54**	**14.16**
ESQUIMALT NATION		
Total	0.07	0.28
SONGHEES NATION		
Songhees Nation	0.59	2.36
Maplebank	0.010	0.04
Total	**0.63**	**2.52**

KERR WOOD LEIDAL
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Review of Core Area LWMP Section 5

Management of I&I and Control of Wastewater Overflows

Final Report Version 1
February 6, 2024
KWL Project No. 0283.481-300

Prepared for:
Capital Regional District

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1. Review of Core Area LWMP Section 5

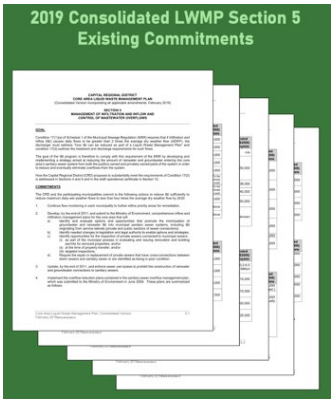
1.1 Background

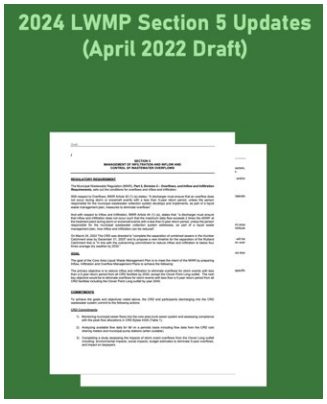
The purpose of this report is to review the options for the Capital Regional District (CRD) and member municipalities regarding the CRD's proposed amendments to *Section 5: Management of Infiltration and Inflow and Control of Wastewater Overflows* of the *Core Area Liquid Waste Management Plan* (LWMP). Specifically, this report reviews the CRD's proposed amendments developed by a CRD Technical Working Group in April 2022.

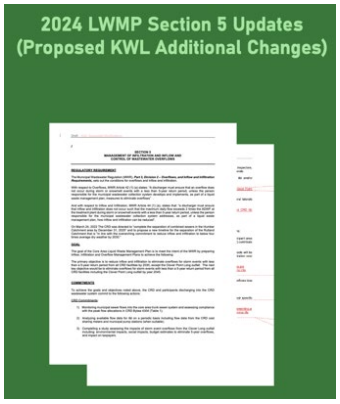
Section 1 of this report reviews the current commitments, develops a strategy on how they may be improved, and recommends some changes for consideration. Sections 2 through 6 provide further detail and clarity regarding the proposed changes.

1.2 Previous and Updated Changes to LWMP Section 5 Commitments

There are three versions of Section 5 discussed in this section, namely the original commitments, the CRD's proposed changes developed in 2022, and suggested changes for consideration put forward by KWL.







2019 LWMP Section 5 Commitments

The current commitments of Section 5 of the LWMP are presented as Appendix A and were consolidated in 2019. There are four commitments focusing on the following: developing I&I management plans, continued flow monitoring, enforcement of sewer use bylaws, and a commitment to undertake specific capital programs.

Proposed 2022 Section 5 Commitments Update

The CRD formed a Technical Working Group (consisting of Core Area municipal engineers and CRD staff) in early 2022 as part of a project to update the LWMP. The group's first task was to develop an update to Section 5. The proposed update was developed in April 2022 and is included as Appendix B.

The proposed changes adopted in 2022 are included as Appendix B. The proposed changes re-commit the municipalities to I&I management and SSO reduction with the following objectives:

> *The primary objective is to reduce inflow and infiltration to eliminate overflows for storm events with less than a 5-year return period from all CRD facilities by 2030, except the Clover Point Long outfall. The next key objective would be to eliminate overflows for storm events with less than a 5-year return period from all CRD facilities including the Clover Point Long outfall by year 2045.*

The changes also commit the CRD to eight commitments ranging from monitoring and flow analysis to assisting municipalities in I&I management programs and reporting to the province. Further, there are five commitments for participants that discharge wastewater into the CRD's conveyance system ranging from conducting I&I investigations to development of asset management plans and funding levels.

Proposed Recommendations to the 2024 Commitments Update

The CRD and the member municipalities dramatically reduced sanitary sewer overflows (SSOs) over the past 25-years such that there is only one location (Clover Point) where SSOs occur less than a 5-year return period. As a result of this achievement, the new commitments reflect a combination of managing existing I&I in younger collection systems and further reducing I&I in older systems, particularly in areas tributary to Clover Point. However, there is a deadline extension request of fifteen years to allow more time for member municipalities to lower I&I flows. The deadline originally proposed by the CRD and granted by the Province was 2030. The new requested deadline is 2045. For the Province to accept this request, it is likely that a number of conditions will be required.

KWL's recommended changes to the proposed 2024 Section 5 Commitments are discussed in Section 1.3 below.

1.3 Approach to 2024 Review

The strategy adopted in this review focusses on four points:

1. **Understanding the rationale for the proposed timeline extension**: Considerable work has been performed by the CRD and member municipalities on understanding the extent of I&I response since the mid 1990s. Significant lessons have been learned on the amount of I&I reduction required to complete the next phase including understanding the scale of partially separated service connections. The CRD should strive to develop an 'auditable' I&I reduction strategy that shows how the SSO elimination target of 2045 can be met. Dealing with the partially separated service connections and implementing a private service renewal bylaw will take additional time. This should be the basis for the request of an extension;
2. **Linking existing asset management plans and life-expectancy infrastructure planning to funding levels.** This establishes the funding that can be put into place to rehabilitate sewer systems. It is an important step to establishing the scope of I&I reduction programs. Showing how these rehabilitation programs will achieve the I&I reduction needed to meet the 2045 deadline will be an important step in demonstrating proof;
3. **Establishing a date when a private sewer lateral renewal bylaw can be implemented.** Since private property I&I levels can range from 50% to 80% of total I&I, establishing a date when services can be renewed/replaced is important; and
4. **Develop drainage plans to properly service areas with partially separated sewer laterals**. Laterals from partially separated lots cannot be separated without a proper drainage system. A sewer lateral renewal bylaw cannot be enforced without providing a homeowner with a proper connection.
5. **Evaluate the impact of a changing climate on the 5-year return period.** Rainfall patterns are changing. Storms are becoming less frequent but more intense. The current 5-year return period analysis is based on historical rainfall records. It is important for the CRD to review the current analysis and adjust for future climate trends.

1.4 Proposed Additional Commitments

Based on the strategy above, the following additional commitments are recommended to be included in the 2024 Section 5 update.

Additional/Modified CRD Commitments

1. *Complete a study assessing the impacts of storm event overflows from the Clover Long outfall including climate change implications, environmental impacts, social impacts, budget estimates to eliminate 5-year overflows, and impact on taxpayers.*
2. *Assess storage and treatment options to reduce overflows caused by I&I at the Clover Point Long outfall.*
3. *Create a mass balance model/tool to assess, document, and improve the effectiveness of the municipal asset management plans and CRD I&I Management Plan for eliminating overflows at the Clover Long Outfall by 2045.*

The first additional commitment provides an order of magnitude cost to accommodate the current flows and eliminate SSOs at Clover Point. It is important to know this number, and understand the consequence of not reducing I&I.

The second additional commitment creates a tool that when coupled with a proper asset management plan and funding levels can predict how the 2045 deadline will be achieved.

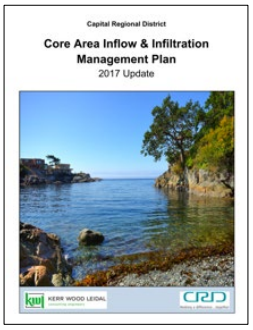
Additional Participants (municipalities) Commitments

1. *Prepare drainage improvement plans for those areas where building foundation drains are unable to connect to the storm drainage system.*
2. *If sanitary municipal sewer flows exceed allotted flows from Bylaw 4304, consider implementing a private sewer lateral replacement bylaw to replace laterals that have exceeded their service life and separate combined storm and sanitary connections.*

The first additional participant commitment recognizes the increased effort to resolve and correct partially separated sewer laterals. In some cases, the solution will involve the rebuilding of the local storm sewer system.

The second additional commitment recognizes that I&I originating from private sewer laterals can range from 50 to 80% of all I&I. Therefore, if a participant is close to or exceeding their allotted flows, that participant should consider implementing a bylaw that renews service laterals.

2. I&I Management



The CRD and the member municipalities began their I&I reduction programs in the 1990 through a program of pilot studies. Those pilot programs continued through to 2020. In 2017, the CRD issued the Core Area I&I Management Plan. The plan laid out a common approach to I&I reduction and how it was to be measured, reported, and compared between municipalities. It also set in place the basis of how I&I reduction programs were to be undertaken.

2.1 Current Trends in CRD I&I Reduction

As previously mentioned, considerable effort and expense has been expended on I&I reduction and sanitary collection system expansion in the Core area since 2000. Table 2-1 shows the progress that has been achieved in the Core Area.

Table 2-1: Storm Related Overflows: 1995 to 2023 (Sub 5-year Return Period)

	Location	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
SSOs	Western Trunk (sensitive)	13	4	3	3	7	1	0	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSOs	Eastern Trunk (sensitive)	8	10	13	11	15	5	7	4	12	8	11	12	11	4	0	2	0	0	1	0	0	0	0	0	0	2	0	0	0
SSOs	West/East Trunks (other)	21	28	32	30	50	7	9	19	45	9	18	30	38	13	52	36	25	14	10	6	21	2	10	21	8	10	11	9	1
CSOs	Uplands Combined Sewer	11	20	26	22	25	8	14	7	24	14	21	21	19	6	26	17	14	19	17	20	23	7	6	19	10	19	24	13	7
	Total*	52	62	74	66	97	21	30	30	86	31	50	63	70	23	78	53	39	33	28	26	44	9	16	40	18	31	35	22	8

SSOs up to a 5-year return period only occur at the Clover Point Long Outfall now as of 2023

*All waters including Macaulay, McMicking, Clover, Finnerty

Completion of the Marigold Storm Tank and Macaulay o/f Improvements (2004)

Completion of the Trent Street Pump Station (2009)

Completion of the Arbutus Storm Tank, Macaulay P.S., Clover P.S., Trent Forcemain Extension, and McLoughlin WWTP (2022)

Significant projects include the following:

1. Completion of the Marigold Storm Tank and Macaulay Emergency Overflow improvements in 2004;
2. Completion of the Trent Street Pump Station in 2009; and
3. Completion of the Arbutus Storm Tank, Macaulay P.S., Clover P.S., Trent Forcemain Extension, and McLoughlin WWTP in 2022.

Concurrently, the member municipalities have all formalized their I&I reduction programs and have made progress either by reducing I&I response or not allowing I&I to increase further.

Table 2-2 shows the trend in I&I levels throughout the core area.

Table 2-2: I&I Reduction Trends

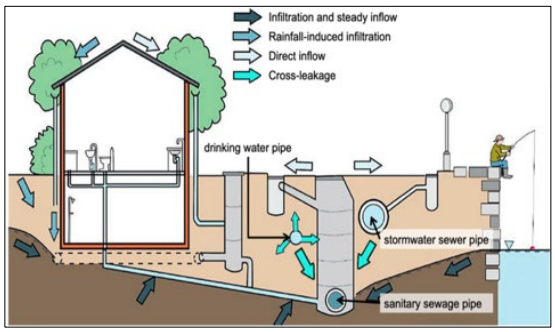
	2010	2012	2014	2016	2019	Trend
Colwood	10,309	8,540	7,965	8,777	8,777	↓
Esquimalt	52,412	52,599	48,727	51,471	48,786	↓
Langford	11,023	9,364	9,222	10,606	8,587	↓
Oak Bay	51,873	48,133	46,600	55,686	56,123	→
Saanich	15,514	13,613	15,427	15,223	14,369	→
Victoria	96,734	94,281	84,650	76,026	73,490	↓
View Royal	12,322	12,294	13,216	14,525	11,541	→

Based on 5-year, 24-hour, volume L/ha/day I&I response

As a result of both the I&I reduction programs and system improvements, sanitary sewer overflows (SSOs) have been reduced substantially such that they only occur at the long overflow at Clover Point for rainfall events less than a 5-year return period. SSOs have been reduced to less than 80 hours annually. The Clover Long Overflow is 1.2 km long and discharges into the Juan de Fuca Straight at a depth of 65 m. The overflow, along with the Macaulay long overflow, were the original outfalls used to discharge screened, raw sewage from the 1970s to the commissioning of the McLoughlin WWTP in 2022.

2.2 Identification of Partially Separated Service Laterals

One of the discoveries of multiple pilot studies has been the identification of partially separated service laterals. These laterals are still a combined storm and sanitary service. Their existence is usually due to the absence of a public storm sewer or storm sewer with sufficient depth for connection. They could also be a result of older homes constructed prior to a public storm sewer, and not separated after the storm sewer was installed.



Shallow storm sewers were constructed as a result of ditch enclosure projects. Ditches were enclosed with storm sewers to provide drainage for street surfaces. However, it was never the intention to connect the houses.

Shallow storm sewers are at an elevation higher than the elevation of the building foundation drains. As a result, the lots in these areas cannot separate their sanitary and storm sewer connections without public-side drainage improvements (See Section 2.3).

Partially separated service laterals (also known as semi-combined service laterals in some parts of North America) are also found in other parts of Canada as well. The consequence of this finding will result in significantly more expensive I&I reduction programs in those areas.

2.3 Need for Drainage System Improvements

To rectify the partially separated laterals, a proper drainage path will need to be created. Possible proper drainage service paths include the following:

- Identification of older, partially connected services that can be separated and connected to newer storm sewers (i.e., for older services that were never connected to new storm sewers);
- Extending existing storm sewers to service lots that do not have adequate drainage alternatives then separating partially separated sanitary services;
- Construction of a new storm sewer system at a lower elevation to connect both the roof and foundation drains;
- Disconnection of roof leaders to drain to pervious areas and construction of foundation drain sump-pump systems to connect to the existing shallow storm sewer system;
- Disconnection of roof leaders and replacement of storm sewer system with bio-infiltration (rain garden) systems with low elevation groundwater collection pipe systems to drain foundation drains; or,
- Rain barrel collection system for roof leaders with directed releases to pervious areas, road-side bio infiltration facilities, and deep perforated drains picking up only foundation piping and trench groundwater.

Depending on the characteristics of each area, different solutions are also possible including rainwater harvesting options. However, existing master drainage plans should be modified to incorporate these changes and implemented over time to provide a proper outlet. The timing of implementation will be a factor of existing storm sewer condition, elevation of downstream connection point, and available budget.

2.4 Impact of Re-Diverting I&I to the Storm Sewer System

Concern was raised at a fall 2023 Technical Advisory Committee (TAC) meeting regarding the impact of diverting I&I to storm sewers and what the resultant impact would be on pipe flows. From an ideological point of view, rainwater and groundwater should not be conveyed in sanitary sewer systems as it is expensive to treat, and it has more beneficial uses elsewhere such as augmenting creek systems for aquatic habitat and recharging local, seasonal groundwater aquifers. Diverting the I&I from rehabilitated sanitary sewers will increase stormwater flows but only marginally.

The amount of water re-diverted into the storm sewer system can be calculated as follows:

Table 2-3: Estimation of Re-Diverted I&I to Storm Sewer System

Component	Volume (L/ha/d)
5-year, 24-hour Rainfall (64.2 mm) [1]	624,000
Average Victoria I&I Rate (from Table 2-2)	73,490
Difference	550,510
I&I Expressed as a % of Total Rainfall	11.8%
Estimated Percentage Split between the I&I Groundwater/ Interflow Components (GWI/RII-Slow) and Faster Runoff Components (SWI/RII-Fast) [2]	50/50
Resulting impact to peak flows in stormwater system	**5.9%**

1. Based on the updated 2020 Gonzales IDF Curves and multiplied by one representative hectare.
2. Assumes that once I&I is removed from the sanitary sewer, only the stormwater inflow (SWI) and rainfall-induced infiltration-fast (RII-Fast) components contribute to stormwater peak flows.

In other words, stormwater flows can be expected to increase approximately 6% (a maximum amount assuming all runoff I&I components are diverted). These increases can be lessened through roof leader disconnection strategies and green infrastructure implementation such as bio-infiltration facilities and rain gardens.

3. Asset Management Programs

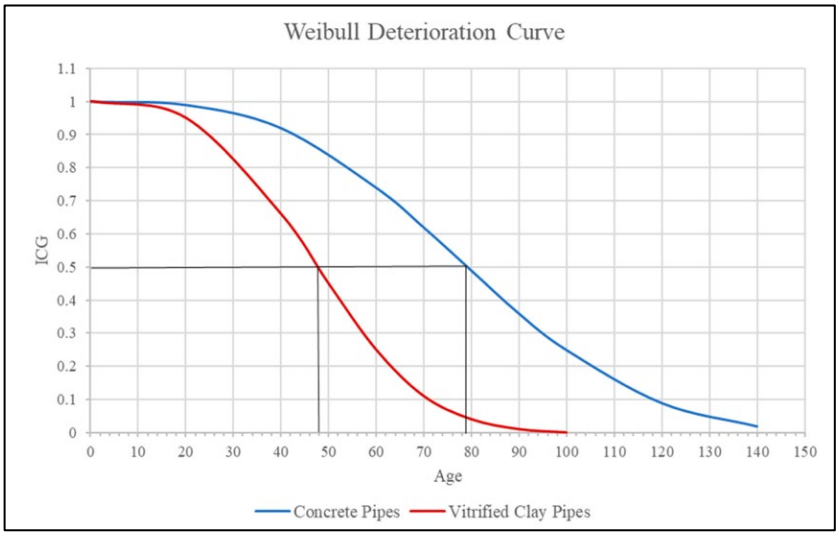
3.1 Background

Most municipalities have development of asset management plans either underway or completed. However, many plans are under-funded as the utility fees charged do not cover the expected asset replacement costs in a timeline that matches the expected service life of the piping systems. Further, there are insufficient funds to also cover interim rehabilitation costs to repair the collection system from structural and I&I related defects (i.e., prior to its ultimate replacement).

For these reasons, many municipalities find it difficult to predict future I&I reduction levels without the certainty of future funding levels. If the Province is being asked to grant an extension to the existing 2030 deadline, the CRD will likely be asked to provide some form of certainty that the 2045 extension is achievable. The decision to balance the funds collected versus the funds required to maintain and replace an asset is political and requires public support.

3.2 Identification of Service Life

All assets will eventually deteriorate to the point of failure or loss of function. It is important that municipalities assign reasonable service lives to their assets then develop financing plans to fund their replacement. Figure 3-1 shows an example of an expected Internal Condition Grade (ICG) probability based on an assumed service life of 60 years for VC pipe and 100 years for concrete pipe. Actual condition assessment data from CCTV inspections can help establish reasonable service lives.



(ICG score out of 5 is divided by 5 to obtain a probability fraction)

Figure 3-1: Internal Condition Grading (ICG) Example [1]

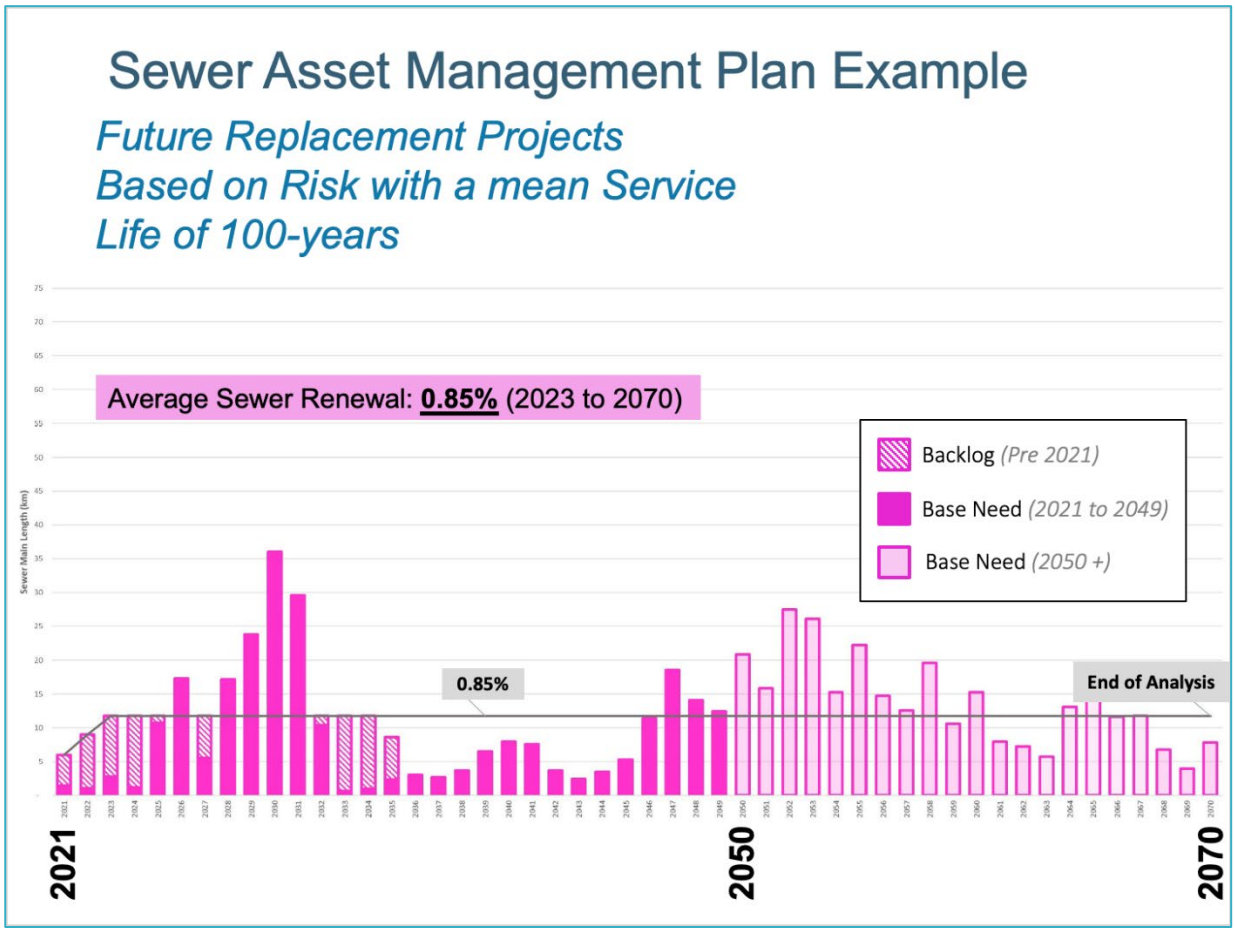
Determining expected service lives of sanitary sewer piping systems, allows the establishment of proper capital replacement levels. Adding inspection/maintenance and interim repair components to the capital replacement levels, yields recommended funding budgets.

[1] *A Deterioration Model for Sewer Pipes Using CCTV and Artificial Intelligence* by Comfort Salihu 1, Saeed Reza Mohandes 2, Ahmed Farouk Kineber 3ORCID, M. Reza Hosseini 4,*ORCID, Faris Elghaish 5 and Tarek Zayed 1

3.3 Example of Funding Plan

Figure 3-2 shows a simplified example of the cashflows associated with an asset management plan. In this example, the service life of the piping systems was established at 100-years. The figure shows a common scenario where the base needs in the earlier years (2021 to 2035) exceeds the recommended renewal funding as a considerable portion of the pipes were installed in the 1920s and 1930s. Compensating for this, a backlog was established to assist in balancing the replacement schedule.

Figure 3-2: Sewer Asset Management Plan Cashflows



In this example, it was determined that an average sewer renewal of 0.85% of total asset value would be sufficient in the 2021-2070 time horizon to maintain the replacement component of the plan. An additional funding component would then be added to the 0.85% to allow for the interim repair and maintenance components. The cost of the interim repair component can be estimated from I&I management plans identifying I&I levels not representative of their age, and CCTV inspections showing defects needing attention.

4. I&I Reduction Accounting

4.1 Background

The current CRD *I&I Management Plan* shows basic trending of I&I by sewer catchment (See Section 2). Future I&I reduction can be predicted knowing the proposed future programs for rehabilitation and replacement based on adopted funding levels. It is likely that the Province will require some level of re-assurance that the anticipated reductions will meet the new 2045 target. Once the funding levels and I&I reduction programs are established, I&I reduction predictions can be estimated.

4.2 Need for Mass Balance Model/Tool

It is possible to predict the level of I&I reduction based on the specific programs and implementation rates adopted by a municipality. A sub-basin can be split into four components:

1. Rate of replacement of private service laterals due to age and condition;
2. Rate of replacement of partially separated service laterals;
3. Scope and rate of interim rehabilitation projects on the public sewer components (i.e., I&I rates not acting their age); and
4. Rate of replacement projects when public sewers reach the end of their service lives.

The CRD has broken down the Core Area into over 108 sub-catchments. The CRD I&I management plan assigns archetypes of the interim rehabilitation and monitoring programs required in each sub-basin. In most basins, only monitoring and inspection are required. However, in older sub-basins some level of investigation and repair may be required if the sub-basin is not acting its age (see Section 5 of the *Core Area I&I Management Plan* and Figure 4-1 below). Ultimately though, once the sub-basin pipe components reach the end of their service lives, replacement is required.

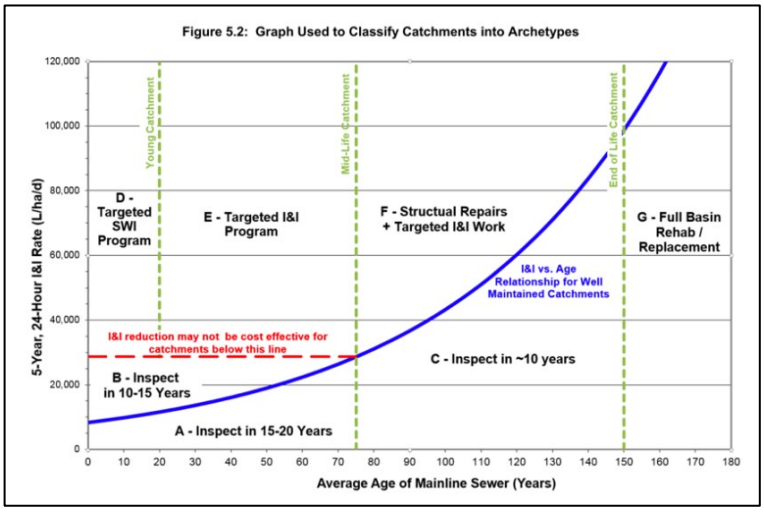


Figure 4-1: CRD I&I Archetypes (from I&I Management Plan)

Using the above four components, an estimate of annual I&I reduction can be predicted for each sub-basin. Reductions in the sub-basins tributary to Clover Point can then be used to show how SSO elimination in 2045 will be achievable.

5. Private Sewer Lateral Replacement Bylaw

5.1 Background

Private sewer laterals include portions of the system not owned by the public utility. Most of the private sewer connections in the CRD are detached residential buildings and are relatively simple systems. Multiple-family residential, residential strata and non-residential buildings may involve more complex systems.

Private sewer laterals generally include the pipe connection from a building sewer to the property line or in Oak Bay's case, the private lateral continues to the mainline connection point.

The private sewer lateral should be considered as part of the system from an I&I perspective. As such, municipalities should adopt a structured private sewer renewal program with proper inspections. Ideally this is a program that can be integrated into standard operating procedures with minimal oversight.

5.2 Possible Options

The CRD and Metro Vancouver have conducted extensive reviews of private sewer lateral programs throughout North America since 2008. [2] This included both regulatory and incentive approaches.

Regulatory Approaches

- Municipal Bylaw – may require that private sewers be kept in good condition and specifies enforcement measures and fees. These are municipal sewer bylaws that forbid cross connections. Orders can/are issued requiring homeowner to correct and bring connection into compliance with the bylaw.
- Provincial Regulation – would be needed to create new powers for local governments to regulate sewer laterals, for instance at point of sale.
- Expropriate Laterals – would involve expropriating all sewer laterals and the municipality assuming responsibilities for maintenance and replacement. Would involve large expense and increase to utility fees.
- Insurance Program – typically focused on covering sewer backup costs and would not reduce I&I on a widespread basis.
- Lateral Condition Certification – would be implemented through bylaw structures and require that a sewer lateral condition certificate be obtained.

[2] Private Sewer Lateral Programs: A Study of Approaches and Legal Authority for Metro Vancouver Municipalities, 2008, The Sheltair Group and West Coast Environmental Law.

Private Property Inflow & Infiltration Management Options for the CRD Core Area (2011, updated in 2014 and 2022). The Sheltair Group

Incentive Approaches

- Subsidies (Rebates and Loans) – similarly to other municipal rebate programs (e.g., low-volume water fixtures), property owners could be incentivized to maintain and replace sewer laterals by accessing rebates or loans from the municipality.
- Property Tax Exemption – property taxes or utility fees could be discounted for qualifying properties, likely requiring some form of certification.
- Provincial Tax Exemption – this could involve a reduction in property transfer taxes or other provincially-administered tax at the time of a property sale for qualifying properties, likely requiring some form of certification.

Some of the above measures have been considered for implementation in several BC municipalities. The City of Vancouver and City of Surrey, for example, have mandatory requirements in place for sewer lateral replacement based on building permit value. The Municipality of Esquimalt recently amended their existing Subdivision and Development Bylaw to achieve the same objective (December 2023).

Potential impediments to successful implementation (other than the City of Vancouver, Surrey, and Esquimalt examples) have included:

- lack of political support for point-of-sale trigger mechanisms;
- provincially regulated issues such as building code may require changes to provincial acts and powers available to local governments; and
- organizational burden to administer any or all of the above measures.

Given the foregoing, the Metro Vancouver municipalities have adopted the approaches outlined in Sections 5.3 and 5.4 below. It is recommended that one of the following two private lateral replacement measures be adopted as part of an I&I Management strategy for CRD municipalities with the older service connections (see Section 5.5).

5.3 Lateral Replacement – New Construction and Building Permit Trigger

As mentioned above, Esquimalt, Surrey, and Vancouver have adopted this approach. The approach is based on a trigger based on a certain building permit dollar amount. A set of conditions and actions are required to ensure that the service is either operating within reasonable limits or it is replaced.

Table 5-2 highlights the basic attributes of Surrey and Vancouver bylaws.

Information on Esquimalt's modifications to their *Subdivision and Development Bylaw* can be found here:

https://www.esquimalt.ca/sites/default/files/docs/municipal-hall/bylaws/3128_-_Subdivision_and_Development_Servicing_Bylaw_3128_2023.pdf

The staff report supporting the proposed change, can be found here:

https://esquimalt.ca.legistar.com/ViewReport.ashx?M=R&N=Text&GID=5&ID=31032&GUID=317567EC-AF19-4C1B-A9EA-3983DDF26E7E&Title=Legislation+Text

5.4 Lateral Replacement – Certification Method

Based on the noted challenges in implementing a universally applicable sewer lateral certification and replacement program, the following practices are recommended:

1. Incentive-based method with certifications required, which would involve inspection and testing as described in Section 5.2;
2. Base utility rate for non-certified sewer laterals or expired certifications, which could be stepped up over time once a program is in place and property owners have been given time to comply;
3. Utility rate discount for certified sewer laterals. Provide automatic certification for PVC services less than 30-years old;
4. Premiums added to utility rate if City determines private lateral to be in bad condition due to side shot CCTV inspection or observation port inspection;
5. Enhanced premiums added to utility bill for combined connections provided a functional storm sewer is available. Rebates are offered for separation; and
6. Consider working with home insurance companies to provide additional incentives for certified laterals.

Determining an appropriate premium and discount structure would need to be done by each municipality.

5.5 Private Lateral Renewal Bylaw

Since I&I on private sewer laterals can represent 50 to 80% of all I&I, a renewal program will be required on private property to reduce I&I rates. The pipe material will eventually fail. Municipal Renewal Bylaws are considered to be the best practice available.

However, the urgency to implement such a bylaw is not equally shared across all municipalities. The younger sewerage areas will have more time to implement such a bylaw.

Suggested additional LWMP Section 5 commitment:

> *If sanitary municipal sewer flows exceed allocated flows from Bylaw 4304, consider implementing a private sewer lateral replacement bylaw to replace laterals that have exceeded their service life and separate combined storm and sanitary connections.* [3]

Based on the above and referring to Table 5-1 below, the communities of Esquimalt, Oak Bay, and Victoria should consider implementing a private sewer lateral renewal bylaw.

Table 5-1: Actual Flows Versus Allocated Flows by Municipality

Municipality	Allocated Peak Daily Flow (ML/d)	Peak 24-hr Flow		Status
		5-yr Rainfall Event (ML/d)	% of Allocated Capacity	
Colwood	18.80	7.70	41%	✓
Esquimalt	28.36	30.16	106%	✗
Langford	56.48	17.01	30%	✓
Oak Bay	26.48	37.96	143%	✗
Saanich	131.56	83.52	63%	✓
Victoria	153.19	150.64	98%	−
View Royal	14.17	7.10	50%	✓

[3] CRD Bylaw 4304 outlines the maximum flow contribution by each municipality to the regional trunk sewer system and McLoughlin WWTP.

5.6 Key Actions Needed

Municipalities close to or exceeding their sewer capacity allotment should consider adopting a private lateral replacement bylaw and determine what methods and resources will be used to inspect the new service.

Municipalities with partially separated services should also develop public-side stormwater servicing strategies as the bylaw cannot be enforced without a proper drainage connection.

The following actions are required to implement the program described above:

1. Adopt a Lateral Replacement Bylaw: either the Building Permit Trigger Method or the Certification Method in municipalities exceeding or near allocated flows;
2. Determine what methods and resources will be used to inspect the new services;
3. For cities with significant Vitrified Clay (VC) laterals and partially separated connections, consider the Certification Method and/or other tools available to municipalities as laterals may be replaced on a timelier basis; and
4. Develop public-side stormwater servicing plans to address areas with partially separated private sewer-laterals.

Table 5-2: Private Lateral Replacement Bylaws Based on Building Permit Triggers

Excerpts from the City of Vancouver Program

2.2 NEW PUBLIC SEWER CONNECTION FOR CONSTRUCTION - Subject to Section 2.9, a new public sewer connection is required whenever:

(a) **a new house** or building is constructed, or

(b) an existing house or building is renovated, and the estimated construction value is more than:

(i) **100% of the latest building assessment (from the BC Assessment Authority), or**
(ii) **$95,000, whichever is the greater,** and the work involves:
(iii) extensive excavation work,
(iv) enlargement of the plumbing system by adding two or more fixtures,
(v) an increase in the number of bedrooms, or
(vi) a resulting increased demand upon the existing sewer system after renovations are complete.

Excerpts from the City of Surrey Program

39. When there is an application to redevelop a parcel, the following shall apply to the service connection and the building sanitary sewer:

a) If the service connection or the building sanitary sewer is **less than 30 years old**, the owner must provide **a video inspection** from a pipe **assessment certification program (PACP)** certified contractor and recommendation for the City to review. The owner shall repair or replace the service connection or the building sanitary sewer, or both, if the City determines that: it contains defects or deficiencies, including excessive damage; is not in adequate condition for service; does not meet the City's Design and Construction Standards; or is made of materials other than PVC;

b) If the service connection or the building sanitary sewer **is 30 years old or older and is made of materials other than PVC, a replacement or new service connection or building sanitary sewer, or both, is required**;

c) If the service connection or the building sanitary sewer is **30 years old or older and is made of PVC**, the owner must provide **a video inspection from a PACP** certified contractor and recommendation for the City to review. The owner shall repair or replace the service connection or the building sanitary sewer or both, if the City determines that it: contains defects or deficiencies, including excessive damage; is not in adequate condition for service; or does not meet the City's Design and Construction Standards;

d) **Despite Sections 39(a), (b) and (c), all no-corrode, asbestos, cement, clay or otherwise non-standard material pipes of any age or condition shall be replaced with PVC** or an alternate pipe material approved by the City;

e) Despite Sections 39(g) and (h), renovations to an existing building on a parcel **where the combined building value is less than or equal to $120,000 are exempt from the requirements of this Section 39;**

6. Recommendations

6.1 Recommendations

Additional Actions for CRD

1. Comple a study assessing the impacts of storm event overflows from the Clover Long outfall including climate change implications, environmental impacts, social impacts, budget estimates to eliminate 5-year overflows, and impact on taxpayers.
2. Assess storage and treatment options to reduce overflows caused by I&I at the Clover Point Long outfall.
3. Create a mass balance model/tool to assess, document, and improve the effectiveness of municipal asset management plans and CRD I&I Management Plan for eliminating overflows at the Clover Long Outfall by 2045.

Actions for Younger Sewer Collection Systems

1. Continue the investigations as outlined in the CRD Core Area I&I Management Plan.
2. Update Asset Management Plans to show how cashflows support sewer pipe service life selection. (May mean modifying future cashflows)

Actions for Older Sewer Collection Systems

1. Identify partially separated service areas and develop long-term plans for drainage upgrades to these.
2. Update Asset Management Plans to incorporate predicted sewer lifetimes (will result in funding levels to match sewer service lives).
3. Consider implementing/updating a private sewer lateral bylaw if 5-year storm exceeds allocated flows.

7. Report Submission

Prepared by:

KERR WOOD LEIDAL ASSOCIATES LTD.

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Reviewed by:

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Statement of Limitations

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Revision History

Revision #	Date	Status	Revision	Author
A	January 12, 2024	For Review by CRD	Draft No.1	CJ
0	February 6, 2024	Final Version 1		CJ

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Appendix A

2019 Consolidated LWMP Section 5 Existing Commitments

CAPITAL REGIONAL DISTRICT
CORE AREA LIQUID WASTE MANAGEMENT PLAN
(Consolidated Version incorporating all applicable amendments, February 2019)

SECTION 5
MANAGEMENT OF INFILTRATION AND INFLOW AND CONTROL OF WASTEWATER OVERFLOWS

GOAL

Condition 17(1)(a) of Schedule 1 of the Municipal Sewage Regulation (MSR) requires that if infiltration and inflow (I&I) causes daily flows to be greater than 2 times the average dry weather flow (ADWF), the discharger must address "how I&I can be reduced as part of a Liquid Waste Management Plan" and condition 17(2) outlines the treatment and discharge requirements for such flows.

The goal of the I&I program is therefore to comply with this requirement of the MSR by developing and implementing a strategy aimed at reducing the amount of rainwater and groundwater entering the core area's sanitary sewer system from both the publicly owned and privately owned parts of the system in order to reduce and eventually eliminate overflows from the system.

How the Capital Regional District (CRD) proposes to substantially meet the requirements of Condition 17(2) is addressed in Sections 4 and 6 and in the draft operational certificate in Section 12.

COMMITMENTS

The CRD and the participating municipalities commit to the following actions to reduce I&I sufficiently to reduce maximum daily wet weather flows to less than four times the average dry weather flow by 2030:

1. Continue flow monitoring in each municipality to further refine priority areas for remediation.

2. Develop, by the end of 2011, and submit to the Ministry of Environment, comprehensive inflow and infiltration management plans for the core area that will:
   a) Identify and evaluate options and opportunities that promote the minimization of groundwater and rainwater I&I into municipal sanitary sewer systems, including I&I originating from service laterals (private and public sections of sewer connections).
   b) Identify needed changes to legislation and legal authority to enable options and strategies.
   c) Identify opportunities for the inspection of private sewers connected to municipal sewers:
      (i) as part of the municipal process in evaluating and issuing renovation and building permits for serviced properties; and/or
      (ii) at the time of property transfer; and/or
      (iii) targeted inspections.
   d) Require the repair or replacement of private sewers that have cross-connections between storm sewers and sanitary sewer or are identified as being in poor condition.

3. Update, by the end of 2011, and enforce sewer use bylaws to prohibit the construction of rainwater and groundwater connections to sanitary sewers.

4. Implement the overflow reduction plans contained in the sanitary sewer overflow management plan, which was submitted to the Ministry of Environment in June 2008. These plans are summarized as follows:

Table 5.1
Prioritized Order of CRD Overflow Reduction Plan
(Updated based on current information)

Priority No.	O/F Name	Action Plan	Estimated Year of Completion	Estimated Cost ($2008) to Complete
1.	Monterey Avenue MH0130	Complete and commission Trent pump station	2008 (Complete)	$500,000
2.	Macaulay Point Pump Station	Complete installation of standby power	2008 (Complete)	$800,000
3.	Harling Pump Station	Install a screen on the overflow pipe	2008 (Complete)	$10,000
4.	Shoreline Drive MH0340	Commence with capacity deficiency study and identify upgrade options	2010	$50,000
5.	Penrhyn Lift Station	Investigate pump and genset capacity	2010	$600,000
6.	Humber Combined Sewers	Oak Bay plans to separate the sewers in the Uplands area	2015	To be determined (Oak Bay cost)
7.	Rutland Combined Sewers	Oak Bay plans to separate the sewers in the Uplands area	2015	To be determined (Oak Bay cost)
8.	Head Street MH0040	Twin the NWT from Macaulay Point to MH0055	2015	$20,000,000
9.	Sea Terrace MH0055	Twin the NWT from Macaulay Point to MH0055	2015	as above
10.	Broom Road	Extend Trent forcemain down to Clover Point	2017	as above

Table 5.2
Prioritized Order of Colwood Overflow Reduction Plan

Item No.	Work Name	Description	Estimated Year of Completion	Estimated Cost ($2008) to Complete
1.	SCADA Upgrade	Upgrade the SCADA system to collect flow data from all pump stations.	2008 (Complete)	$10,000
2.	CCTV Inspection	Continue to inspect all new sewers that are installed to ensure they are well constructed	Annually	$15,000
3.	Sewer System Maintenance	Continue to clean all mains and manholes, and repair as necessary.	Annually	$50,000
4.	Lift Station Maintenance	Continue to maintain all lift station components to ensure that they run efficiently.	Annually	$72,500

Table 5.3
Prioritized Order of Esquimalt Overflow Reduction Plan

Item No.	Work Name	Description	Estimated Year of Completion	Estimated Cost ($2008) to Complete
1.	Sewer Relining	Relining and repairs to sewer mains rated poor and poorest	Completed	n/a
2.	Combination Manhole Separation	• 148 manholes remain to be separated • 29 manholes to be separated in 2008 • Five manholes separated per year from 2009 to 2025	2025	$950,000
3.	Grafton Pump Station Upgrade	New electrical power supply, kiosk and controls	2008 (Complete)	$38,000
4.	Grafton Pump Station Upgrade	Pump replacement	2012	$40,000
5.	Sewer Main Replacement	Replacement of undersize sewer main on Craigflower Road between Tillicum Road and Lampson Street	2009 (Complete)	$250,000
6.	Municipal Wide Smoke and Dye Testing	Smoke and dye testing underway to identify cross connections in attempts to reduce I&I in the future. The full scope of the project has not yet been determined.	2010	unknown

Table 5.4
Prioritized Order of Langford Overflow Reduction Plan

Item No.	Work Name	Description	Estimated Year of Completion	Estimated Cost ($2008) to Complete
1.	Sewer Master Plan Upgrades	Continue with infrastructure upgrades as identified in the Sewer Master Plan.	Ongoing	$0.2-0.5 Million
2.	CCTV Inspection	Continue to video inspect all new sewers that are installed to ensure that they are well constructed.	Annually	$15,000
3.	Manhole Inspection	Continue to visually inspect manholes to ensure that they do not leak.	Annually	$15,000
4.	Pump Station Maintenance	Continue to maintain all pump station components to ensure that they run efficiently.	Annually	$200,000
5.	Sewer System Maintenance	Continue to keep the sewers clean and free from defects.	Annually	$25,000

Table 5.5
Prioritized Order of Oak Bay Overflow Reduction Plan

Item No.	Work Name	Description	Estimated Year of Completion	Estimated Cost ($2008) to Complete
1a.	Uplands Sewer Separation Humber Catchment	Construction of new storm sewer	To be confirmed by December 31/2019	$5,285,000
1b.	Uplands Sewer Separation Rutland Catchment	Construction of new storm sewer	To be confirmed by December 31/2019	$9,815,000
1c.	Uplands sanitary sewer pipeline rehabilitation	Rehabilitation of the former combined sewer pipeline to address infiltration	To be confirmed by December 31/2019	$3,000,000
2.	Oak Bay Inflow and Infiltration Rehabilitation Project	Continue with phased rehabilitation projects in various catchments	Annually	$500,000
3.	CCTV Inspection	Video inspection of sewer mains	Annually	$25,000
4.	Sewer System Maintenance Program	Maintenance to keep sewers clean and free from defects.	Annually	$240,000

Table 5.6
Prioritized Order of Saanich Overflow Reduction Plan

Item No.	Work Name	Description	Estimated Year of Completion	Estimated Cost ($2008) to Complete
1.	Dysart Pump Station	Complete construction of the new Dysart pump station.	2008 (Complete)	$2,500,000 (est.)
2.	The following pump stations will be upgraded: Vantreight Lift Station Murray #1 Pump Station Murray #2 Pump Station Arundel Pump Station Glenwood Pump Station Ashley Pump Station Dunkirk Pump Station Colquitz Pump Station Gorge Pump Station	Rebuild pump station and add a new standby generator.	2009-2015	$500,000 Annually

Table 5.7
Prioritized Order of Victoria Overflow Reduction Plan

Item No.	Work Name	Description	Estimated Year of Completion	Estimated Cost ($2008) to Complete
1.	James Bay I&I Pilot Project	Commence with the rehabilitation of sewer mains, laterals and manholes in James Bay.	2010	$3,000,000
2.	Hydraulic Model	Continue to complete a hydraulic model of the City's entire sanitary sewer collection system.	2009	$100,000
3.	Overflow Elimination	Investigate, monitor and abandon, if possible, existing known overflow locations.	2010	$100,000
4.	Combined Manhole Separation	Investigate, monitor and initiate a program to separate combined manholes.	2015	$400,000

Table 5.8
Prioritized Order of View Royal Overflow Reduction Plan

Item No.	Work Name	Description	Estimated Year of Completion	Estimated Cost ($2008) to Complete
1.	Upgrade Pump Stations	Upgrade pump stations where required to improve pump performance, provide standby power and collect better data.	2017	$140,000
2.	CCTV Inspection	Continue to video inspect all new sewers that are installed to ensure that they are well constructed.	Annually	$20,000
3.	Manhole Inspection	Continue to visually inspect manholes to ensure that they do not leak.	Annually	$5,000
4.	Pump Station Maintenance	Continue to maintain all pump station components to ensure that they run efficiently.	Annually	$120,000
5.	Sewer System Maintenance	Continue to keep the sewers clean and free from defects.	Annually	$40,000

APPENDIX C

Excerpt from the Capital Regional District Core Area Liquid Waste Management Plan – Sanitary Sewer Overflow Management Plan, June 2008.

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Appendix B

2024 LWMP Section 5 Updates (April 2022 Draft)

SECTION 5
MANAGEMENT OF INFILTRATION AND INFLOW AND CONTROL OF WASTEWATER OVERFLOWS

REGULATORY REQUIREMENT

The Municipal Wastewater Regulation (MWR), ***Part 3, Division 2 – Overflows, and Inflow and Infiltration Requirements,*** sets out the conditions for overflows and inflow and infiltration.

With respect to Overflows, MWR Article 42 (1) (a) states: "A discharger must ensure that an overflow does not occur during storm or snowmelt events with a less than 5-year return period, unless the person responsible for the municipal wastewater collection system develops and implements, as part of a liquid waste management plan, measures to eliminate overflows" .

And with respect to Inflow and Infiltration, MWR Article 44 (1) (a), states that: "a discharger must ensure that inflow and infiltration does not occur such that the maximum daily flow exceeds 2 times the ADWF at the treatment plant during storm or snowmelt events with a less than 5-year return period, unless the person responsible for the municipal wastewater collection system addresses, as part of a liquid waste management plan, how inflow and infiltration can be reduced".

On March 24, 2022 The CRD was directed to "complete the separation of combined sewers in the Humber Catchment area by December 31, 2025" and to propose a new timeline for the separation of the Rutland Catchment that is "in line with the overarching commitment to reduce inflow and infiltration to below four times average dry weather by 2030."

GOAL

The goal of the Core Area Liquid Waste Management Plan is to meet the intent of the MWR by preparing Inflow, Infiltration and Overflow Management Plans to achieve the following:

The primary objective is to reduce inflow and infiltration to eliminate overflows for storm events with less than a 5-year return period from all CRD facilities by 2030, except the Clover Point Long outfall. The next key objective would be to eliminate overflows for storm events with less than a 5-year return period from all CRD facilities including the Clover Point Long outfall by year 2045.

COMMITMENTS

To achieve the goals and objectives noted above, the CRD and participants discharging into the CRD wastewater system commit to the following actions:

CRD Commitments:

1) Monitoring municipal sewer flows into the core area trunk sewer system and assessing compliance with the peak flow allocations in CRD Bylaw 4304 (Table 1).

2) Analyzing available flow data for I&I on a periodic basis including flow data from the CRD cost sharing meters and municipal pump stations (when suitable).

3) Completing a study assessing the impacts of storm event overflows from the Clover Long outfall including: environmental impacts, social impacts, budget estimates to eliminate 5-year overflows, and impact on taxpayers.

4) Establishing an education program for homeowners and key stakeholders (i.e. home inspectors, realtors, plumbers) that promotes repair and maintenance of private property sewer laterals.

5) Assisting municipalities with catchment specific studies designed to address high I&I and/or overflows (as budget allows).

6) Periodically assessing options to reduce overflows caused by I&I.

7) Reviewing and updating, if appropriate, the CRD model bylaw for private sewer lateral laterals (2015) for municipalities to consider adopting or incorporating into existing bylaws.

8) Submitting 5-year updates of the I&I Management Plan to the Province.

The Participants who discharge into the CRD wastewater system commit to the following actions:

1) Performing detailed catchment investigations and preparing compliance plans for participant area inputs to the core area sewer system that both (1) exceeds their sewer allocations and (2) contribute to sub 5-year overflows.

2) Preparing asset management plans identifying sewer asset life span, when sewer assets will be replaced, the level of funding required, and how that will help to reduce inflow and infiltration over time as infrastructure is renewed.

3) Applying for grants targeted specifically to address catchment areas contributing to overflows less than a 5-year return period.

4) Carrying out additional flow monitoring in catchments with elevated I&I, as appropriate.

5) Carry out the recommendations outlined in the I&I Management Plan that relate to their specific participant area or collection system.

Table 1: Allocated Sewer Flows from Bylaw 4304

Allocation Point	Allocated Average Dry Weather Flow (ML/day)	Allocated Peak Daily Flow (ML/day)
COLWOOD		
Total (Parson's minus Meaford)	**4.70**	**18.8**
ESQUIMALT		
Esquimalt Panhandle	0.12	0.48
Lang Cove Pump Station	1.28	5.12
Dockyard	1.01	4.04
Kinver	0.44	1.76
Pooley Place	0.06	0.24
Devonshire	1.85	7.40
Wilson	0.37	1.48
Head	1.68	6.72
Anson	0.24	0.97
Total	**7.09**	**28.36**
LANGFORD		
Total *(Meaford)*	**14.12**	**56.48**
OAK BAY		
Windsor	2.92	11.68
Humber *(combined sewers)*	0.60	2.40
Rutland *(combined sewers)*	0.37	1.48
Currie Net	0.97	3.88
Currie Lift Station	1.62	6.48
Harling Point Pump Station	0.20	0.79
Total	**6.62**	**26.48**
SAANICH		
Marigold PS	13.19	52.76
City Boundary	5.88	23.52
Harriet	3.27	13.08
Townley	0.61	2.44
Haultain	0.57	2.27
Arbutus	7.08	28.31
Haro	0.79	3.17
Penrhyn Lift Station	0.93	3.73
Total	**32.89**	**131.56**
VICTORIA		
Cecelia	3.14	12.57
Chapman & Gorge	0.35	1.40
Selkirk	0.28	1.11
Langford - Vic West	0.19	0.77

Allocation Point	Allocated Average Dry Weather Flow (ML/day)	Allocated Peak Daily Flow (ML/day)
Hereward	1.91	7.65
Sea Terrace	0.33	1.32
Trent Net	7.33	29.32
Hollywood	0.54	2.16
Olive	23.06	92.24
Clover Net	1.50	6.01
Total	**38.30**	**153.19**
VIEW ROYAL		
Craigflower Pump Station	3.54	14.16
Shoreline Trunk	0.14	0.55
Total	**3.54**	**14.16**
ESQUIMALT NATION		
Total	0.07	0.28
SONGHEES NATION		
Songhees Nation	0.59	2.36
Maplebank	0.010	0.04
Total	**0.63**	**2.52**

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Appendix C

2024 LWMP Section 5 Updates (Proposed KWL Suggestions)

SECTION 5
MANAGEMENT OF INFILTRATION AND INFLOW AND CONTROL OF WASTEWATER OVERFLOWS

REGULATORY REQUIREMENT

The Municipal Wastewater Regulation (MWR), ***Part 3, Division 2 – Overflows, and Inflow and Infiltration Requirements,*** sets out the conditions for overflows and inflow and infiltration.

With respect to Overflows, MWR Article 42 (1) (a) states: "A discharger must ensure that an overflow does not occur during storm or snowmelt events with a less than 5-year return period, unless the person responsible for the municipal wastewater collection system develops and implements, as part of a liquid waste management plan, measures to eliminate overflows" .

And with respect to Inflow and Infiltration, MWR Article 44 (1) (a), states that: "a discharger must ensure that inflow and infiltration does not occur such that the maximum daily flow exceeds 2 times the ADWF at the treatment plant during storm or snowmelt events with a less than 5-year return period, unless the person responsible for the municipal wastewater collection system addresses, as part of a liquid waste management plan, how inflow and infiltration can be reduced".

On March 24, 2022 The CRD was directed to "complete the separation of combined sewers in the Humber Catchment area by December 31, 2025" and to propose a new timeline for the separation of the Rutland Catchment that is "in line with the overarching commitment to reduce inflow and infiltration to below four times average dry weather by 2030."

GOAL

The goal of the Core Area Liquid Waste Management Plan is to meet the intent of the MWR by preparing Inflow, Infiltration and Overflow Management Plans to achieve the following:

The primary objective is to reduce inflow and infiltration to eliminate overflows for storm events with less than a 5-year return period from all CRD facilities by 2030, except the Clover Point Long outfall. The next key objective would be to eliminate overflows for storm events with less than a 5-year return period from all CRD facilities including the Clover Point Long outfall by year 2045.

COMMITMENTS

To achieve the goals and objectives noted above, the CRD and participants discharging into the CRD wastewater system commit to the following actions:

CRD Commitments:

1. Monitoring municipal sewer flows into the core area trunk sewer system and assessing compliance with the peak flow allocations in CRD Bylaw 4304 (Table 1).

2. Analyzing available flow data for I&I on a periodic basis including flow data from the CRD cost sharing meters and municipal pump stations (when suitable).

3. Completing a study assessing the impacts of storm event overflows from the Clover Long outfall including: climate change implications, environmental impacts, social impacts, budget estimates to eliminate 5-year overflows, and impact on taxpayers.

4. Establishing an education program for homeowners and key stakeholders (i.e. home inspectors, realtors, plumbers) that promotes repair and maintenance of private property sewer laterals.

5. Assisting municipalities with catchment specific studies designed to address high I&I and/or overflows (as budget allows).

6. Assessing storage and treatment options to reduce overflows caused by I&I at the Clover Point Long outfall.

7. Reviewing and updating, if appropriate, the CRD model bylaw for private sewer lateral laterals (2015) for municipalities to consider adopting or incorporating into existing bylaws.

8. Creating a mass balance model/tool to assess, document, and improve the effectiveness of the municipal asset management plans and CRD I&I Management Plan for eliminating overflows at the Clover Long Outfall by 2045.

9. Submitting 5-year updates of the I&I Management Plan to the Province.

The Participants who discharge into the CRD wastewater system commit to the following actions:

1. Performing detailed catchment investigations and preparing compliance plans for participant area inputs to the core area sewer system that both (1) exceeds their sewer allocations and (2) contribute to sub 5-year overflows.

2. Preparing asset management plans identifying sewer asset life span, when sewer assets will be replaced, the level of funding required, and how that will help to reduce inflow and infiltration over time as infrastructure is renewed.

3. Preparing drainage improvement plans for those areas where building foundation drains are unable to connect to the storm drainage system.

4. Applying for grants targeted specifically to address catchment areas contributing to overflows less than a 5-year return period.

5. Carrying out additional flow monitoring in catchments with elevated I&I, as appropriate.

6. Carry out the recommendations outlined in the I&I Management Plan that relate to their specific participant area or collection system.

7. If sanitary municipal sewer flows exceed allotted flows from Bylaw 4304, consider implementing a private sewer lateral replacement bylaw to replace laterals that have exceeded their service life and separate combined storm and sanitary connections.

Table 1: Allocated Sewer Flows from Bylaw 4304

Allocation Point	Allocated Average Dry Weather Flow (ML/day)	Allocated Peak Daily Flow (ML/day)
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Total (Parson's minus Meaford)	**4.70**	**18.8**
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SONGHEES NATION		
Songhees Nation	0.59	2.36
Maplebank	0.010	0.04
Total	**0.63**	**2.52**

Making a difference...together

IWS 24-06

REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF WEDNESDAY, OCTOBER 9, 2024

SUBJECT **Core Area Wastewater Service Esquimalt Nation Capacity Allocation Request**

ISSUE SUMMARY

To provide an overview of a request from xʷsepsum (Esquimalt Nation) for additional capacity at the McLoughlin Point Wastewater Treatment Plant (MPWWTP) and to outline the process for the transfer of treatment capacity is laid out in Section 9 of Bylaw 2312 (attached as Appendix A).

BACKGROUND

The treatment capacity of the McLoughlin Point Wastewater Treatment Plant is 108 megalitres per day (ML/d) measured on the basis of Average Dry Weather Flows (ADWF). Design capacity is allocated to participants as shown below.

Participant Area	Allocated ADWF Capacity (MLD)	% of Total
Colwood	4.70	4.35%
Esquimalt	7.10	6.57%
Esquimalt Nation	0.07	0.06%
Songhees Nation	0.66	0.61%
Langford	14.12	13.07%
Oak Bay	6.62	6.13%
Saanich	32.89	30.45%
Victoria	38.30	35.46%
View Royal	3.54	3.28%
Total	**108.00**	**100.00%**

The bylaw also sets out the ADWF and Peak Wet Weather Flow (PWWF) allocations for all participants who purchased capacity at the MPWWTP.

The capacity allocations by participant and the actual measured ADWF and PWWF, (for the period from October 1, 2022 to September 30, 2023) are noted in the table below.

McLoughlin WWTP Allocations and Actual Measured ADWF and PWWF: 2023

Participant Area	Allocated [1] ADWF Capacity (MLD)	ADWF [2] (Jun + Jul + Aug, 2023)		Allocated[1] PWWF Capacity (MLD)	PWWF [3] (Between Oct 1 to Sep 30)	
		MLD	% of Allocated Capacity		MLD	% of Allocated Capacity
Colwood	4.70	2.81	59.8%	18.80	5.37	28.5%
Esquimalt	7.10	4.44	62.5%	28.40	21.77	76.6%
Esquimalt Nation [4]	0.07	0.06	85.7%	0.28	0.21	74.5%
Songhees Nation	0.66	0.53	80.3%	2.64	1.82	68.8%
Langford	14.12	9.36	66.3%	56.48	15.49	27.4%
Oak Bay	6.62	5.35	80.8%	26.48	37.96	143.3%
Saanich	32.89	20.92	63.6%	131.56	49.72	37.8%
Victoria	38.30	27.99	73.1%	153.20	99.07	64.7%
View Royal	3.54	1.96	55.4%	14.16	3.75	26.5%
Total	**108.00**	**73.42**	**68.0%**	**432.00**	**235.14**	**54.4%**

[1] Allocated ADWF and PWWF Capacity are set in Bylaw 2312
[2] ADWF is measured from June 1 to August 31 and divided by 91 days.
[3] PWWF for the period of Oct 1, 2022 to Sep 30, 2023 occurred on December 24, 2022 (it excludes overflow volumes)
[4] Esquimalt Nation's flow is calculated on a correlation with adjacent catchments. A new flow meter is being installed in 2024.

Esquimalt Nation has requested an increase in capacity from 0.07 ML/day ADWF to 0.14 ML/d ADWF to accommodate their growing needs. As shown in the above table, Esquimalt Nation reached 86% of its capacity in 2023, nearing maximum allocation. Esquimalt Nation is seeking to secure allocation to meet their development goals in the short term and may also seek additional capacity in the coming years, contingent on their future economic opportunities.

Bylaw No. 2312 allows for a participant to buy capacity from another participant and Section 9 sets out the process for the Transfer of Treatment Capacity. Section 9(6) states that:

> *A participating area that permanently transfers allocated treatment capacity (the Transferor) must be compensated by the recipient for the cumulative debt servicing and capital costs paid by the Transferor to the date of the transfer, including interest costs and interest foregone, in relation to the transferred capacity, as calculated by the Regional District.*

To purchase capacity, Esquimalt Nation would need to remit the cumulative debt servicing and capital costs incurred by the transferor to the date of transfer including interest and opportunity costs. Said another way, this is the net value of all debt and capital assets incurred by the transferring participant from 2013 until the date of purchase by Esquimalt Nation.

The Capital Regional District (CRD) has estimated additional wastewater treatment capacity is $200,000 to $300,000 for 0.1 ML/d. This would result in an estimated cost of between $140,000 and $210,000 for the additional 0.07 ML/d. It's critical to understand that this involves point-in-time information including, but not limited to, accumulated depreciation, interest and principal impacts, and life cycle improvements. This estimate will be refined as part of the negotiation.

NEXT STEPS

On September 26, 2024, the CRD sent letters to each of the municipal Chief Administrative Officers summarizing the details above (sample letter attached as Appendix B). The letter seeks consideration of the request and asks participants willing to consider relinquishing the requested 0.07 ML/d capacity or a portion of that amount, to respond with their interest by October 25, 2024 and the amount they could relinquish.

As outlined in Bylaw 2312 Section 9, once the CRD has received a response from the participants the CRD will lead the negotiation of the reallocation of capacity.

If no willing participants are identified, CRD can appoint an arbitrator. The arbitrator appointed under Bylaw No. 2312 Section 9 subsection (4) may require one or more participating areas to transfer treatment capacity to another participating area, provided the transferring participating area is not expected to use more than 95% of its respective allocated treatment capacity within 10 years from the requested date of the transfer.

IMPLICATIONS

First Nation Implications

Historically, First Nations have expressed concerns that their opportunities for economic development and housing for their members, already constrained by Indian Act-imposed barriers to on-reserve development and economic growth, are further limited by available water and wastewater servicing. To ensure development within Esquimalt Nation can be maintained, it is hoped that this request will be supported by one or more willing participants on a voluntary basis.

CONCLUSION

This report provides the Core Area Liquid Waste Management Committee with a summary of the capacity allocation request received from xʷsepsum (Esquimalt Nation) and the steps that are underway in order to commence the negotiation of a transfer of treatment capacity in accordance with the process outlined within Bylaw No. 2312.

RECOMMENDATION

There is no recommendation. This report is for information only.

Submitted by:	Alicia Fraser, P. Eng., General Manager, Integrated Water Services
Concurrence:	Kristen Morley, J.D., General Manager, Corporate Services & Corporate Officer
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENT(S)

Appendix A: Bylaw No. 2312
Appendix B: Sample Letter

APPENDIX A

Making a difference...together

BYLAW NO. 2312

LIQUID WASTE MANAGEMENT CORE AREA AND WESTERN COMMUNITIES SERVICE ESTABLISHMENT BYLAW NO. 1, 1995

Consolidated for Public Convenience

(This bylaw is for reference purposes only)

ORIGINALLY ADOPTED AUGUST 14, 2002
(Consolidated with Amending Bylaws 3028, 3319, 4304)

For reference to original bylaws or further details, please contact the Capital Regional District,
Legislative Services Department, 625 Fisgard St., PO Box 1000, Victoria BC V8W 2S6
T: (250) 360-3127, F: (250) 360-3130, Email: legserv@crd.bc.ca, Web: www.crd.bc.ca

CAPITAL REGIONAL DISTRICT

BYLAW NO. 2312

****

A BYLAW TO CONVERT THE AUTHORITY FOR LIQUID WASTE MANAGEMENT TO A SERVICE FOR THE CORE AREA AND WESTERN COMMUNITIES

****

WHEREAS:

A. By Supplementary Letters Patent, Division VII dated December 28, 1967, as amended by further Supplementary Letters Patent, the Capital Regional District was granted the function of the acquisition, design, construction, operation, maintenance, renewal and administration of trunk sewers and sewage disposal facilities within all member municipalities of the Regional District except the District of Sooke and the Southern Gulf Islands;

B. The Board of the Capital Regional District wishes to exercise the function granted to it by the Letters Patent in accordance with Part 24 of the *Local Government Act* subject to all the terms and conditions contained in the Letters Patent and including all the powers granted by the Letters Patent within all member municipalities except the District of Sooke and the Southern Gulf Islands;

C. The Board of the Capital Regional District wishes to proceed under section 341 of the *Local Government Act* and convert the service to a service exercised under the authority of a bylaw for a portion of the Regional District by bylaw under sections 341(3) and 332 of the *Local Government Act*; *(Bylaw 4304)*

D. The Board of the Capital Regional District has obtained the consent on behalf of the electors under section 346 of the *Local Government Act*; *(Bylaw 4304)*

NOW THEREFORE, the Regional Board of the Capital Regional District in open meeting assembled enacts as follows:

Service

1. The collection, conveyance, treatment and disposal of sewage is established as a service.

Boundaries

2. The boundaries of the service area shall be coterminous with the boundaries of the municipalities of Saanich, Victoria, Oak Bay, Esquimalt, View Royal, Colwood and Langford.

Participating Areas

3. The municipalities of Saanich, Victoria, Oak Bay, Esquimalt, View Royal, Colwood and Langford include the participating areas for this service.

Cost Recovery

4. (1) The annual operating costs and annual debt costs for the service shall be recovered by one or more of the following:

    (a) property value taxes imposed in accordance with Division 2 of Part 11 of the *Local Government Act;* *(Bylaw 4304)*

(b) fees and charges that may be imposed under section 397 of the *Local Government Act;* *(Bylaw 4304)*

(c) revenues raised by other means authorized by the *Local Government Act*; and

(d) revenue received by way of agreement, enterprise, gift, grant or otherwise.

(2) The amount of the requisition for any participating area shall not exceed the amount calculated under section 5 less any amount received from the participating area under section 4(1)(d) by way of agreement negotiated with that participant.

Cost Sharing and Apportionment

5. (1) In this Bylaw:

(a) “allocated treatment capacity” or “treatment capacity” means the portion of the maximum treatment capacity in ML/D of a wastewater treatment plant that is allocated to a participating area under this Bylaw as set out in Schedule “B” and Schedule “C” and as adjusted from time-to-time in accordance with this bylaw;

(b) "annual debt and capital cost" means the principal and interest payable in each calendar year for the amortization of debenture and other debt;

(c) "annual operating cost" includes all costs of operating, maintaining, replacing, refreshing, and administering all participating area facilities, works, and programs, excluding annual debt and capital costs;

(d) “average annual flow” or “AAF” means the calculation obtained from measuring the total flow from October 1 of one year and September 30 of the following year;

(e) “average dry weather flow” means the calculation obtained from measuring the total flow from June 1 to August 31 in one year and dividing that amount by the number of days in that same period.

(f) “cost per unit of capacity” means the number derived by dividing the total annual debt and capital costs for a wastewater treatment plant in its first year of repayment by the wastewater treatment plant’s design capacity, in ML/D, as follows:

$$\frac{total\ annual\ debt\ and\ capital\ costs}{treatment\ capacity\ (ML/D)}$$

(g) “cost per unit of operating expense” means the number derived by dividing the total annual operating cost in one year by the actual measured sewage flows, in ML/D, in the same year, as follows:

$$\frac{total\ annual\ operating\ cost}{total\ actual\ measured\ sewage\ flows\ (ML/D)}$$

(h) "design capacity benefit" means a benefit to one or more participants that results from any new construction of, or capital additions or improvements to sewage conveyance facilities or their ancillary facilities, after December 21, 2002. To the extent that the benefit was the provision of, or the creation of conditions to allow, additional conveyance capacity, then the design capacity shall be calculated only on the extent to which each participant gained an increase in maximum allocated capacity. Where

the benefit was not an increase in capacity, then the design capacity benefit shall be calculated on the existing maximum allocated capacity of each participant in the facility that was altered, added to or affected by the change;

(i) "East Coast Interceptor Trunk" means the sewer facilities and functions located in the municipalities of Saanich, Oak Bay and Victoria, comprising all Regionally operated facilities from the Finnerty Outfall diversion works to the Ross Bay trunk sewer at Dallas Road and Cemetery Road, as particularly set out in the East Coast Interceptor Operating Agreement, dated December 1993, and shown on Drawing No. 8-S184-2, including but not limited to:

(i) that portion of the original Northeast Trunk Sewer from Currie Pump Station to McMicking Outfall;
(ii) the McMicking Outfall;
(iii) the Finnerty Cove diversion works and Outfall;
(iv) the Humber Pump Station;
(v) the Rutland Pump Station; and
(vi) the Penrhyn and Currie Lift Station and Currie and Hood Pump stations;

(j) “Manager” means CRD’s General Manager, Integrated Water Services department, or such other individual designated by the CRD;

(k) "maximum allocated conveyance capacity" means that part of the maximum operating capacity of regional sewer allocated to a participating area to accommodate peak sewage flows from that participating area. When used in reference to spills, it is calculated as the peak wet weather flow in litres per second as shown in Schedule “B”, as adjusted from time-to-time on transfer of capacity under this bylaw, and when used in reference to design capacity benefit calculations or the transitory clauses in section 5(2)(a) and (b) for regional sewer built before December 31, 2020, it is as shown on Drawings No. 8-S184-1 and 8-S184-2 on file in the Integrated Water Services department and forming a part of this bylaw by reference;

(l) “ML/D” means megalitres per day;

(m) "participating area facilities" means all regional sewer facilities that serve the participating areas, as set out in Schedule “A”, but does not include those works owned or operated by a participant or a client of the service for a local sewer or wastewater system;

(n) “peak wet weather flow” means the maximum flow measured over a 24-hour period on any given day within the calendar year;

(o) "program" means investigations to assess the marine environment and shoreline discharges and contaminant sources and the coordination of these programs among all levels of government to enhance marine environmental quality;

(p) “regional sewer” means a trunk sewer, pump station, outfall, treatment plant, interceptor, sewer, sewage disposal, or other wastewater system owned or operated as part of the regional sewer system for the conveyance, measurement, treatment, control, handling and disposal of wastewater (liquids and solids).

(q) "Spill Regulation" includes the *Fisheries Act (Canada)* and regulations, the *Environmental Management Act (British Columbia)* and regulations, and any other enactment of a Federal or Provincial government governing the discharge of or report of a discharge of wastewater into the environment.

(r) “wastewater treatment plant” means, as applicable, a single treatment plant or one or

more plants as then operating.

(2) (a) The annual debt and capital costs of participating area facilities constructed prior to December 31, 2002 shall be apportioned on the basis of the proportion of the maximum allocated conveyance capacity of that part of the respective facilities within a participating area and downstream from the participating area allotted to the participating area.

(b) The annual debt and capital costs of participating area facilities constructed after December 31, 2002 shall continue to be apportioned on the basis of the design capacity benefit that each participating area derives from each particular facility constructed during that time period.

(c) After December 31, 2020, the annual debt and capital costs of acquiring land and constructing participating area facilities shall be apportioned on the basis of design capacity based on projected flows to full wastewater treatment plant capacity using the following proportions of 70% ADWF and 30% AAF, as set out in Schedule "C" and as deemed adjusted from time-to-time by transfer of treatment capacity under this bylaw.

(d) Where the total flow of sewage from a participating area in a calendar year exceeds that participating area's allocated treatment capacity, and the total flow of sewage from all participating areas during that year is less than or equal to 95% of the design capacity of the wastewater treatment plant, the costs apportioned to that participating area under section 5(2)(c) shall be increased by an amount that is equal to:

$$3\ x\ (cost\ per\ unit\ of\ capacity\ +\ cost\ per\ unit\ of\ operating\ expense)$$
$$x\ number\ of\ ML/D\ over\ allocated\ treatment\ capacity$$

(e) Where the total flow of sewage from a participating area in a calendar year exceeds that participating area's allocated treatment capacity, and the total flow of sewage from all participating areas during that year is greater than 95% of the design capacity of the wastewater treatment plant, the costs apportioned to that participating area under section 5(2)(c) shall be increased by an amount that is equal to:

$$5\ x\ (cost\ per\ unit\ of\ capacity\ +\ cost\ per\ unit\ of\ operating\ expense)$$
$$x\ number\ of\ ML/D\ over\ allocated\ treatment\ capacity$$

(f) Where either subsection 5(2)(d) or 5(2)(e) applies, the costs apportioned to the remaining participating areas under subsection 5(2)(c) shall be reduced by an amount equivalent to that derived under the applicable formula.

(Bylaw 4304)

(3) (a) In the event that:

(i) a spill occurs from any of the participating area facilities;

(ii) the spill resulted from the capacity of regional sewer being exceeded, and by measurement it could be determined that flows from one or more participating areas exceeded the participating area's maximum allocated capacity or allocated treatment capacity; and *(Bylaw 4304)*

(iii) a fine is imposed against the CRD following a conviction under a Spill Regulation or the CRD is liable for damages as a result of the spill;

then the amount of the fine, damages or other liability and associated legal costs directly attributable to the spill shall be allocated to that participating area determined to have caused the spill;

(b) If more than one participating area jointly caused the spill, then the amount of the fine, damages or liability and legal costs shall be apportioned among those participating areas

determined to have caused the spill in proportion to their AAF, or where flow records indicate the percentage of overflow contribution, based on the amount of overflow contributed by each participating area.

(Bylaw 4304)

(4) Notwithstanding Section 5 (2), the net annual debt cost of the East Coast Interceptor, for portions constructed prior to December 31, 2002, shall be apportioned among the participating areas on the basis of the net taxable value of land and improvements for Regional Hospital District purposes within that part of each participating area that is within the benefiting or sewer catchment area of the East Cost Interceptor trunk after calculating the conversion on an annual basis of 100% of the current year's property assessment values for Regional Hospital District tax purposes by a factor equivalent to the variable tax rates, established for various classes of assessment by each of the participating member municipalities, for the taxation year immediately preceding the date of the apportionment of the capital cost and annual debt charges.

(5) The annual operating cost for participating area facilities shall be apportioned among the participating areas, in proportion to the AAF of each participating area, as it relates to the Total AAF of all participating areas, as follows:

$$Total\ operating\ costs\ x\ \frac{AAF\ of\ Participating\ Area}{Total\ AAF}$$

(Bylaw 4304)

Maximum Requisition

6. The maximum amount that may be requisitioned under section 339(1) of the *Local Government Act* for the service shall be the greater of: *(Bylaw 4304)*

(a) twenty million ($20,000,000) dollars; or

(b) an amount equal to the amount that could be raised by a property value tax of one dollar and six cents ($1.06) per one thousand ($1,000.00) dollars which when applied to the net taxable value of land and improvements within the service area will yield the maximum amount that may be requisitioned under sections 378(1)(a) and (b) for the service. *(Bylaw 4304)*

Powers

7. In providing the service established by this bylaw, the Regional District may, without limiting the generality of Section 1:

(a) Acquire, design, construct, operate, maintain, renew, decommission, demolish, clean-up, restore, and administer regional sewer facilities, buildings, and works; *(Bylaw 4304)*

(b) enter into an agreement with a member municipality on such terms as are mutually agreed upon providing that the municipality may undertake on behalf of the Regional District the design, construction, operation and maintenance of any of the facilities of the Regional District within that municipality;

(c) make interim provision for sewage disposal;

(d) at any time enter upon any lands, streets, waters or water courses, without the consent of the owner, for the purpose of making surveys and other examinations to determine whether or not the lands, streets, waters or water courses are required in the carrying out of the service;

(e) carry any sewer or other works through, across or under any street in such manner as not unnecessarily to obstruct or impede travel and may enter upon and dig up any street for the purpose of laying sewers or other works and of maintaining, repairing and renewing the works in accordance with the following:

(i) in entering upon and digging up any street, the Regional District shall be subject to such reasonable terms and conditions as may be made by the authority having jurisdiction over such street;

(ii) before entering upon any street for the purpose of laying, maintaining, repairing or renewing a sewer or other works, the Regional District gives at least 30 days' notice of its contemplated action to the authority having jurisdiction over the street, but the authority may waive the giving of such notice or shorten the notice period; and

(iii) whenever the Regional District digs up any street for any of the purposes set out above, it shall, so far as practicable, restore the street to as good a condition as the street was in before such digging began, and the Regional District shall at all times indemnify and save harmless the municipality within which such digging occurred against and from all damage which may be recovered against such municipality by reason of anything done or omitted by the Regional District, and shall reimburse the municipality for all expenses which the municipality may incur by reason of any defect or want of repair of any street caused by the construction, maintenance, repair or renewal of any of the sewers, drains or other works. No compensation other than as provided in this subsection shall be made by the Regional District in respect of anything done by the Regional District under this subsection;

(f) make regulations for the purpose of:

(i) minimizing the entry of surface, rainwater, and groundwater; taking into account the condition of the sewers; *(Bylaw 4304)*

(ii) controlling the quantity and quality of sewage discharging into its facilities;

(g) carry out investigations to assess the marine environment and shoreline discharges and contaminant sources; and

(h) coordinate programs among all levels of government to enhance marine environmental quality.

(i) accept, collect, convey, and treat leachate generated at Hartland Landfill; *(Bylaw 4304)*

(j) accept, collect, convey, and treat wastewater treatment plant residuals from one or more local governments, public authorities, or persons by agreement or by way of fee and charge; *(Bylaw 4304)*

(k) enter into an agreement with one or more First Nations, including Songhees Nation and Esquimalt Nation, on such terms as are mutually agreed, for the provision of sewage conveyance, treatment, and disposal services, where such agreements follow the cost and treatment capacity apportionment procedures as set out in this bylaw. *(Bylaw 4304)*

Negotiation, Mediation and Arbitration

8. (1) The participating areas shall make all reasonable efforts to resolve by negotiation a dispute regarding the allocation or reallocation of treatment capacity under section 9, or regarding the apportionment of capital and operating costs for the participating area facilities under subsections 5(2) or 5(5).

(2) In the event that negotiations under subsection (1) fail to resolve a matter in dispute, a Director representing a participating area affected or likely to be affected by the matter in dispute shall declare at a meeting of the Board at which it is intended to deal with any such question that he or she unwilling to accept the Board's determination with respect to the

matter, and the Board shall not decide the question, but shall appoint a mediator under subsection (5) and refer the question to a mediator within 30 days.

(3) In the event that a question has not been resolved by the mediator within 90 days of the appointment of a mediator under subsection (5), the mediator shall terminate the negotiations by giving notice in writing to all affected participating areas.

(4) Following termination of the mediation under subsection (3), the matter in dispute shall be referred to an arbitrator appointed under subsection (6) by the Board as soon as reasonably practicable following the expiry of the time period referred to in subsection (3).

(5) A mediator appointed under subsection (2) shall be appointed by two-thirds vote of all the Directors of the Board present at the meeting of the Board at which the selection is made. Failing such vote, the Board shall request the assistance of a dispute resolution officer under Division 3 of Part 9 of the *Community Charter* in appointing a mediator.

(6) An arbitrator appointed under subsection (4) shall be appointed by two-thirds vote of all the Directors of the Board present at the meeting of the Board at which the selection is made. Failing such vote, the Board shall request the assistance of a dispute resolution officer under Division 3 of Part 9 of the *Community Charter* in appointing the arbitrator, from the list of persons qualified to act as arbitrators under Division 3 of Part 9 of the *Community Charter*.

(7) The arbitration shall be conducted as either a final proposal arbitration, or as a full arbitration, in accordance with Division 3 of Part 9 of the *Community Charter*. The choice of arbitration process shall be made by unanimous vote of all the Directors of the Board present at the meeting of the Board at which the choice of process is made. Failing such vote, a dispute resolution officer under Division 3 of Part 9 of the *Community Charter* may direct which process is to be used.

(8) The arbitrator's decision shall be final and binding on the Board and on all participating areas affected, unless within 60 days of the date of decision the parties come to an alternative settlement in accordance with section 290 of the *Community Charter*.

(Bylaw 4304)

Transfer of Treatment Capacity

9. (1) Where a participating area:

(a) uses 90% or more of its allocated treatment capacity under this Bylaw, based on either:

(i) measured flows; or

(ii) where such flows are not available, as determined by the Manager based on the best available information and sound engineering practice;

and;

(b) desires additional capacity, or in the opinion of the Manager, requires additional capacity;

then such participating area shall commence negotiations with the Regional District, who will engage with the other participating areas for the reallocation of capacity.

(2) Allocated treatment capacity is reallocated under this section 9 on a permanent basis as the Regional District and the participating areas agree.

(3) Allocated treatment capacity shall not be reallocated under this section 9 if the requested increase in capacity is inconsistent with the projected population growth of the sub-region of the Regional District containing the requesting participating area, as set out in the Regional District's Regional Growth Strategy.

(4) In the event that the participating areas cannot agree on a reapportionment of the annual debt and capital costs or on arrangements for reallocation of design capacity within six months of the date of notice to the Manager or the Manager's determination under subsection (1), then a Director on the Board of the Regional District representing a participating area may, at a meeting of the Board, require that the matter be settled by mediation or arbitration in accordance with Section 8 of this Bylaw, subject to subsections (5) and (6).

(5) The decision of the arbitrator appointed under subsection (4) may require one or more participating areas to transfer treatment capacity to another participating area, provided the transferring participating area is not expected to use more than 95% of its respective allocated treatment capacity within 10 years from the requested date of the transfer.

(6) A participating area that permanently transfers allocated treatment capacity (the "Transferor") must be compensated by the recipient for the cumulative debt servicing and capital costs paid by the Transferor to the date of the transfer, including interest costs and interest foregone, in relation to the transferred capacity, as calculated by the Regional District.

(7) Where additional design capacity in a wastewater treatment facility becomes available, whether through the construction of a new wastewater treatment facility or otherwise, the added design capacity shall be allocated by the Regional Board among the participating areas as follows:

(a) a participating area that requires additional design capacity shall submit a request in writing to the Regional District;

(b) all requests for additional design capacity that are received before January 1 in a calendar year shall be considered by the Regional Board at the same time for the following budget year, and additional design capacity shall be allocated based on:

(i) availability of additional design capacity;

(ii) the demonstrated need for each requesting participating area;

(iii) consistency of the request with the Regional District's Regional Growth Strategy;

(iv) the adequacy of existing or planned conveyance infrastructure; and

(v) the Regional District's plans for future expansion of participating areas facilities, and whether the participating area's requests should be deferred until new capital projects are completed.

(Bylaw 4304)

Sole Authority

10. (a) The Regional District is the sole authority with jurisdiction to construct the works referred to in paragraph 7(a), provided that a member municipality may proceed on its own initiative with any such work within its own boundaries that the Regional Board is unable or unwilling to construct at that time, the design of such work having been approved by the Regional Board;

(b) Despite paragraph (a), the Regional District and a municipality which includes a participating area may agree that the construction and operation of works referred to in paragraph 7(a) are within the powers of the municipality.

Continuing Authority

11. Nothing in this bylaw shall be interpreted as affecting or impairing in any way the rights and powers of the Regional District under the Supplementary Letters Patent, Division VII, dated December 28, 1967, as amended by further Supplementary Letters Patent, in relation to that part of the Regional District not contained within the service area created by this bylaw, or the District of Sooke or the Southern Gulf Islands.

Citation

12. This Bylaw may be cited for all purposes as the "Liquid Waste Management Core Area and Western Communities Service Establishment Bylaw No. 1, 1995."

READ A FIRST TIME THIS	12th day of	July	1995
READ A SECOND TIME THIS	12th day of	July	1995
READ A THIRD TIME THIS	11th day of	July	2001
APPROVED BY THE INSPECTOR OF MUNICIPALITIES THIS	18th day of	July	2002
ADOPTED THIS	14th day of	August	2002

Christopher M. Causton
CHAIR

S. M. Norton
SECRETARY

FILED WITH THE INSPECTOR OF MUNICIPALITIES THIS	19th day of	August	2002

CRD Core Area Wastewater Service Area Identification of Participating Facilities

Schedule A to Bylaw 2312 as Amended by Bylaw 4304

May 2020

Making a difference...together

1:25,000 NAD 1983 UTM Zone 10N

May 2020 | CoreAreaTrunkSewersParticipatingFacilities_ScheduleA.mxd | gis@crd.bc.ca

- Municipal Boundary
- CRD Growth Boundary
- CRD Core Area Sewer Service Boundary
- DND Areas
- Existing Sewer Main
- Overflow/Outfall
- Future Sewer Main
- Participating Facility Identification
- TP Treatment Plant
- RT Residuals Treatment Facility
- PS Pump Station

Key CRD Facilities

1. McLoughlin Wastewater Treatment Plant and Outfall
2. Clover Pump Station and Emergency Outfall
3. Harling Pump Station
4. Currie Lift station
5. Currie Pump Station and McMicking Outfall
6. Rutland Pump Station
7. Humber Pump Station
8. Penrhyn Lift Station
9. Penrhyn Booster Station
10. Arbutus Storage Tank and Finnerty Outfall
11. Trent Pump Station
12. Macaulay Pump Station and Emergency Outfall
13. Lancove Pump Station
14. Craigflower Pump Station
15. Marigold Pump Station and Storage Tank
16. Residual Solids Conveyance Line Pump Station #2
17. Residual Solids Conveyance Line Pump Station #3
18. Residual Solids Conveyance Line Pump Station #4
19. Residual Solids Treatment Facility

Continuation in inset

Service area in Saanich encompasses the whole municipality.

CRD Sewer Service Boundary follows coastline to City of Colwood

Service area in View Royal encompasses the whole municipality.

Service area in Langford encompasses the whole municipality.

Residual Solids Conveyance Line

Leachate/Centrate Return Line

Northwest Trunk

Western Trunk

Northeast Trunk

Eastern Trunk

District of Saanich

Town of View Royal

City of Langford

City of Colwood

District of Metchosin

Township of Esquimalt

Esquimalt Nation

Songhees Nation

City of Victoria

District of Oak Bay

CRD Core Area Wastewater Service Area Allocated Flow Capacities to Participants

Schedule B to Bylaw 2312 as Amended by Bylaw 4304

May 2020

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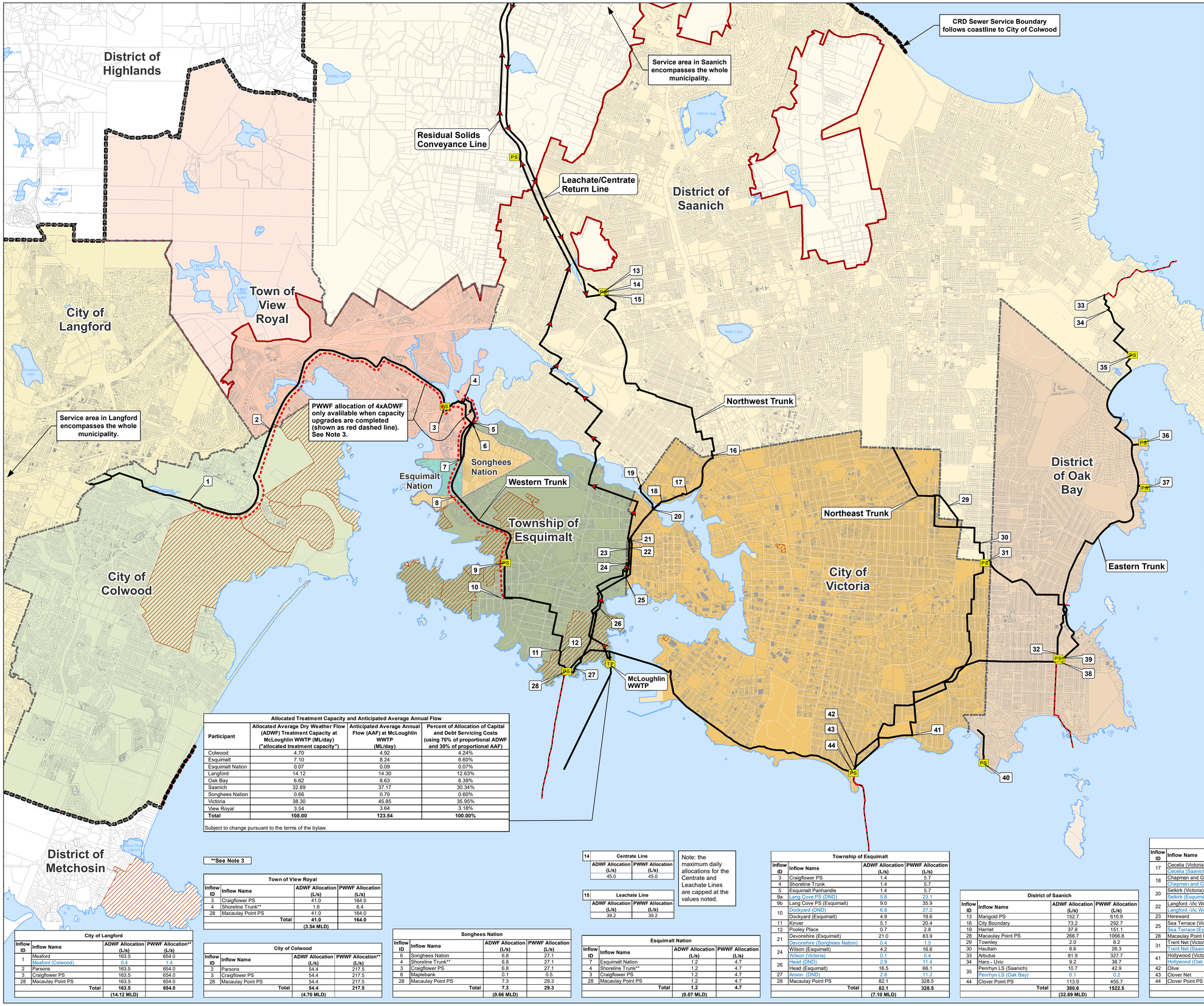
October 2019 | CoreAreaTrunkSewersAllocatedFlowCapacities_ScheduleB.mxd | gis@crd.bc.ca



Notes:

1. ADWF = Average Dry Weather Flow (June 1 to August 31).
PWWF = Peak Wet Weather Flow (max flow over a 24-hour period).
L/s = Litres per second. MLD = Mega Litres per day.

2. The ADWF Allocations are based the Core Area Wastewater Treatment Program where the total ADWF plant capacity of 108 MLD was allocated out to each participant based on their requested capacity.

3. PWWF is based on 4xADWF which the maximum flow allowed at McLoughlin WWTP as approved by the Ministry of Environment. These allocations will be available when the upgrades identified on the map are completed. Capacity upgrade at the Craigflower Pump Station can be achieved by forcemain twinning. Pump upgrades are not required to meet the PWWF allocation.

4. Total peak flows may not add cumulatively at downstream locations due to system attenuation (population-based on Harmon peaking factor).

5. Inflow allocations may not add cumulatively to participant totals due to inter-municipal cross boundary connections. Inter-municipal flows are not measured; they are estimated as shown in blue text in the tables.

6. Location and extent of future CRD sewers and facilities as depicted are preliminary and may change in accordance with the final system design.

7. Allocations are available up until the capacity at McLoughlin WWTP has been reached. New infrastructure and reallocation of flows will then be required. Allocations can be transferred amongst participants pursuant to the terms of the bylaw.

8. Note some infrastructure is currently being constructed as part of the Core Area Wastewater Treatment Project but is shown as existing on this map.

Municipal Boundary	Existing Sewer Main	TP Treatment Plant
CRD Growth Boundary	Overflow/Outfall	RT Residuals Treatment Facility
CRD Core Area Sewer Service Boundary	Future Sewer Main	PS Pump Station
DND Areas	1 Wastewater Inflow Allotment at Indicated Location (Inflow ID)	

Allocated Treatment Capacity and Anticipated Average Annual Flow

Participant	Allocated Average Dry Weather Flow (ADWF) Treatment Capacity at McLoughlin WWTP (ML/day) ("allocated treatment capacity")	Anticipated Average Annual Flow (AAF) at McLoughlin WWTP (ML/day)	Percent of Allocation of Capital and Debt Servicing Costs (using 70% of proportional ADWF and 30% of proportional AAF)
Colwood	4.70	4.92	4.24%
Esquimalt	7.10	8.24	6.60%
Esquimalt Nation	0.07	0.09	0.07%
Langford	14.12	14.30	12.63%
Oak Bay	6.62	8.63	6.39%
Saanich	32.89	37.17	30.34%
Songhees Nation	0.66	0.70	0.60%
Victoria	38.30	45.85	35.95%
View Royal	3.54	3.64	3.18%
Total	**108.00**	**123.54**	**100.00%**

Subject to change pursuant to the terms of the bylaw.

**See Note 3

Town of View Royal

Inflow ID	Inflow Name	ADWF Allocation (L/s)	PWWF Allocation (L/s)
3	Craigflower PS	41.0	164.0
4	Shoreline Trunk**	1.6	6.4
28	Macaulay Point PS	41.0	164.0
	Total	**41.0**	**164.0**
		(3.54 MLD)	

City of Langford

Inflow ID	Inflow Name	ADWF Allocation (L/s)	PWWF Allocation** (L/s)
1	Meaford	163.5	654.0
	Meaford (Colwood)	0.4	1.4
2	Parsons	163.5	654.0
3	Craigflower PS	163.5	654.0
28	Macaulay Point PS	163.5	654.0
	Total	**163.5**	**654.0**
		(14.12 MLD)	

City of Colwood

Inflow ID	Inflow Name	ADWF Allocation (L/s)	PWWF Allocation** (L/s)
2	Parsons	54.4	217.5
3	Craigflower PS	54.4	217.5
28	Macaulay Point PS	54.4	217.5
	Total	**54.4**	**217.5**
		(4.70 MLD)	

Songhees Nation

Inflow ID	Inflow Name	ADWF Allocation (L/s)	PWWF Allocation (L/s)
6	Songhees Nation	6.8	27.1
4	Shoreline Trunk**	6.8	27.1
3	Craigflower PS	6.8	27.1
8	Maplebank	0.1	0.5
28	Macaulay Point PS	7.3	29.3
	Total	**7.3**	**29.3**
		(0.66 MLD)	

14 Centrate Line

ADWF Allocation (L/s)	PWWF Allocation (L/s)
45.0	45.0

15 Leachate Line

ADWF Allocation (L/s)	PWWF Allocation (L/s)
39.2	39.2

Note: the maximum daily allocations for the Centrate and Leachate Lines are capped at the values noted.

Esquimalt Nation

Inflow ID	Inflow Name	ADWF Allocation (L/s)	PWWF Allocation (L/s)
7	Esquimalt Nation	1.2	4.7
4	Shoreline Trunk**	1.2	4.7
3	Craigflower PS	1.2	4.7
28	Macaulay Point PS	1.2	4.7
	Total	**1.2**	**4.7**
		(0.07 MLD)	

Township of Esquimalt

Inflow ID	Inflow Name	ADWF Allocation (L/s)	PWWF Allocation (L/s)
3	Craigflower PS	1.4	5.7
4	Shoreline Trunk	1.4	5.7
5	Esquimalt Panhandle	1.4	5.7
9a	Lang Cove PS (DND)	5.8	23.1
9b	Lang Cove PS (Esquimalt)	9.0	35.9
10	Dockyard (DND)	6.8	27.2
	Dockyard (Esquimalt)	4.9	19.6
11	Kinver	5.1	20.4
12	Pooley Place	0.7	2.8
21	Devonshire (Esquimalt)	21.0	83.9
	Devonshire (Songhees Nation)	0.4	1.5
24	Wilson (Esquimalt)	4.2	16.6
	Wilson (Victoria)	0.1	0.4
26	Head (DND)	2.9	11.4
	Head (Esquimalt)	16.5	66.1
27	Anson (DND)	2.8	11.2
28	Macaulay Point PS	82.1	328.5
	Total	**82.1**	**328.5**
		(7.10 MLD)	

District of Saanich

Inflow ID	Inflow Name	ADWF Allocation (L/s)	PWWF Allocation (L/s)
13	Marigold PS	152.7	610.9
16	City Boundary	73.2	292.7
19	Harriet	37.8	151.1
28	Macaulay Point PS	266.7	1066.8
29	Townley	2.0	8.2
30	Haultain	6.6	26.3
33	Arbutus	81.9	327.7
34	Haro - Uvic	9.2	36.7
35	Penrhyn LS (Saanich)	10.7	42.9
	Penrhyn LS (Oak Bay)	0.1	0.2
44	Clover Point PS	113.9	455.7
	Total	**380.6**	**1522.5**
		(32.89 MLD)	

City of Victoria

Inflow ID	Inflow Name	ADWF Allocation (L/s)	PWWF Allocation (L/s)
17	Cecelia (Victoria)	33.5	133.9
	Cecelia (Saanich)	2.8	11.0
18	Chapman and Gorge (Victoria)	3.9	15.6
	Chapman and Gorge (Saanich)	0.2	1.0
20	Selkirk (Victoria)	2.6	10.5
	Selkirk (Esquimalt)	0.6	2.3
22	Langford -Vic West (Victoria)	1.9	7.5
	Langford -Vic West (Esquimalt)	0.3	1.3
23	Hereward	22.1	88.2
25	Sea Terrace (Victoria)	3.6	14.5
	Sea Terrace (Esquimalt)	0.2	0.8
28	Macaulay Point PS	67.7	270.6
31	Trent Net (Victoria)	81.5	325.9
	Trent Net (Saanich)	2.9	11.5
41	Hollywood (Victoria)	4.0	15.9
	Hollywood (Oak Bay)	2.3	9.3
42	Olive	266.0	1064.1
43	Clover Net	22.2	88.9
44	Clover Point PS	375.6	1502.4
	Total	**443.3**	**1773.0**
		(38.30 MLD)	

District of Oak Bay

Inflow ID	Inflow Name	ADWF Allocation (L/s)	PWWF Allocation (L/s)
32	Windsor	5.0	19.9
36	Humber	7.1	28.4
37	Rutland	4.4	17.8
38	Currie Net (Oak Bay)	38.5	154.2
	Currie Net (Victoria)	1.9	7.4
	Currie Net (Saanich)	0.6	2.4
39	Currie Lift Station (Oak Bay)	19.2	76.7
	Currie Lift Station (Victoria)	0.03	0.13
40	Harling Point PS	2.3	9.3
44	Clover Point PS	76.6	306.5
	Total	**76.6**	**306.5**
		(6.62 MLD)	

APPENDIX A

SCHEDULE "C"

(Bylaw 4304)

ALLOCATION OF WASTEWATER FLOW AND COST APPORTIONMENT

ALLOCATION OF DESIGN CAPACITY

The treatment capacity of the wastewater treatment plant is 108 ML/day measured on the basis of Average Dry Weather Flows (ADWF). Design capacity is allocated to participants as shown in Table One, subject to adjustment for transfer of capacity in accordance with this bylaw.

TABLE ONE: ALLOCATION OF DESIGN CAPACITY AS MEASURED BY ADWF

	Allocated Treatment Capacity in ADWF (ML/day)	% of Total
Colwood	4.70	4.35%
Esquimalt	7.10	6.57%
Esquimalt Nation	0.07	0.07%
Langford	14.12	13.08%
Oak Bay	6.62	6.13%
Saanich	32.89	30.45%
Songhees Nation	0.66	0.61%
Victoria	38.30	35.46%
View Royal	3.54	3.28%
Total	108.00	100.00%

Anticipated flow in terms of AAF are derived in the manner shown in Table Two. Table Three shows the percentage allocation of capital and debt servicing costs calculated from the % allocation of design capacity defined in terms of ADWF and AAF.

TABLE TWO: CONVERSION OF ADWF DESIGN CAPACITY INTO AAF

	ADWF (ML/day)	Conversion Factor *	AAF (ML/day)	% of Total
Colwood	4.70	1.046	4.92	3.98%
Esquimalt	7.10	1.161	8.24	6.67%
Esquimalt Nation	0.07	1.286	0.09	0.08%
Langford	14.12	1.013	14.30	11.58%
Oak Bay	6.62	1.304	8.63	6.98%
Saanich	32.89	1.130	37.17	30.09%
Songhees Nation	0.66	1.061	0.70	0.56%
Victoria	38.30	1.197	45.85	37.11%
View Royal	3.54	1.028	3.64	2.95%
Total	108.00		123.54	100.00%

***** The conversion factor was calculated using measured ADWF and AAF in year 2012.

SCHEDULE "C"

APPORTIONMENT OF CAPITAL AND DEBT SERVICING COSTS

TABLE THREE: PERCENTAGE ALLOCATION OF CAPITAL AND DEBT SERVICING COSTS

	% Distribution of ADWF	% Distribution of AAF	% Allocation of Debt Servicing Costs
Weighting factor	*0.7*	*0.3*	
Colwood	4.35%	3.98%	4.24%
Esquimalt	6.57%	6.67%	6.60%
Esquimalt Nation	0.07%	0.08%	0.07%
Langford	13.08%	11.58%	12.63%
Oak Bay	6.13%	6.98%	6.39%
Saanich	30.45%	30.09%	30.34%
Songhees Nation	0.61%	0.56%	0.60%
Victoria	35.46%	37.11%	35.96%
View Royal	3.28%	2.95%	3.18%
Total	100.00%	100.00%	100.00%

All calculations subject to change based on transfer of treatment capacity pursuant to the terms of this bylaw.

APPENDIX B

Making a difference...together

Integrated Water Services
479 Island Highway
Victoria, BC V9B 1H7

T: 250.474.9600
F: 250.474.4012
www.crd.bc.ca

September 26, 2024

File: 0400-60
Corporation & Liaision

BY EMAIL:

Chief Administrative Officer
City of Colwood
Township of Esquimalt
City of Langford
District of Oak Bay
District of Saanich
City of Victoria
Town of View Royal

Dear:

RE: CORE AREA WASTEWATER CAPACITY ALLOCATION REQUEST

On June 24, 2024 the Capital Regional District (CRD) received a request from xʷsepsum (Esquimalt Nation) for additional capacity at the McLoughlin Point Wastewater Treatment Plant (MPWWTP). The process for the transfer of treatment capacity is laid out in Section 9 of Bylaw 2312 (as amended by Bylaw No. 4304).

The treatment capacity of the wastewater treatment plant is 108 megalitres per day (ML/d) measured on the basis of Average Dry Weather Flows (ADWF). Design capacity is allocated to participants as shown below.

Participant Area	Allocated ADWF Capacity (MLD)	% of Total
Colwood	4.70	4.35%
Esquimalt	7.10	6.57%
Esquimalt Nation	0.07	0.06%
Songhees Nation	0.66	0.61%
Langford	14.12	13.07%
Oak Bay	6.62	6.13%
Saanich	32.89	30.45%
Victoria	38.30	35.46%
View Royal	3.54	3.28%
Total	**108.00**	**100.00%**

The Bylaw also sets out the ADWF and Peak Wet Weather Flow (PWWF) allocations for all participants who purchased capacity at the MPWWTP.

The capacity allocations by participant and the actual measured ADWF and PWWF, (for the period from October 1, 2022 to September 30, 2023) are noted in the table below.

McLoughlin WWTP Allocations and Actual Measured ADWF and PWWF: 2023

Participant Area	Allocated [1] ADWF Capacity (MLD)	ADWF [2] (Jun + Jul + Aug, 2023)		Allocated[1] PWWF Capacity (MLD)	PWWF [3] (Between Oct 1 to Sep 30)	
		MLD	% of Allocated Capacity		MLD	% of Allocated Capacity
Colwood	4.70	2.81	59.8%	18.80	5.37	28.5%
Esquimalt	7.10	4.44	62.5%	28.40	21.77	76.6%
Esquimalt Nation [4]	0.07	0.06	85.7%	0.28	0.21	74.5%
Songhees Nation	0.66	0.53	80.3%	2.64	1.82	68.8%
Langford	14.12	9.36	66.3%	56.48	15.49	27.4%
Oak Bay	6.62	5.35	80.8%	26.48	37.96	143.3%
Saanich	32.89	20.92	63.6%	131.56	49.72	37.8%
Victoria	38.30	27.99	73.1%	153.20	99.07	64.7%
View Royal	3.54	1.96	55.4%	14.16	3.75	26.5%
Total	**108.00**	**73.42**	**68.0%**	**432.00**	**235.14**	**54.4%**

[1] Allocated ADWF and PWWF Capacity are set in Bylaw 2312
[2] ADWF is measured from June 1 to August 31 and divided by 91 days.
[3] PWWF for the period of Oct 1, 2022 to Sep 30, 2023 occurred on December 24, 2022 (it excludes overflow volumes)
[4] Esquimalt Nation's flow is calculated on a correlation with adjacent catchments. A new flow meter is being installed in 2024.

Esquimalt Nation has requested an increase in capacity from 0.07 ML/day ADWF to 0.14 ML/d ADWF to accommodate their growing needs. In 2013, at the time allocations were apportioned the development projections for Esquimalt Nation were not considered. As shown in the above table, Esquimalt Nation reached 86% of its capacity in 2023, nearing maximum allocation. Esquimalt Nation is seeking to secure allocation to meet their development goals in the short term and may also seek additional capacity in the coming years, contingent on their future economic opportunities.

Bylaw No. 2312 allows for a participant to buy capacity from another participant and Section 9 sets out the process for the Transfer of Treatment Capacity. Section 9(6) states that:

> *A participating area that permanently transfers allocated treatment capacity (the Transferor) must be compensated by the recipient for the cumulative debt servicing and capital costs paid by the Transferor to the date of the transfer, including interest costs and interest foregone, in relation to the transferred capacity, as calculated by the Regional District.*

To purchase capacity, Esquimalt Nation would need to remit the cumulative debt servicing and capital costs incurred by the transferor to the date of transfer including interest and opportunity costs. Said another way, this is the net value of all debt and capital assets incurred by the transferring participant from 2013 until the date of purchase by Esquimalt Nation.

The CRD has estimated additional wastewater treatment capacity is $200,000 to $300,000 for 0.1 ML/d. This would result in an estimated cost of between $140,000 and $210,000 for the additional 0.07 ML/d. It's critical to understand that this involves point-in-time information including, but not limited to, accumulated depreciation, interest and principal impacts, and life cycle improvements, this estimate will be refined as part of the negotiation.

CRD staff are asking service participants willing to consider relinquishing the requested 0.07 ML/d capacity or a portion of that amount, to respond with their interest by October 25, 2024 and the amount they could relinquish. Please provide your response to iwsadministration@crd.bc.ca.

Historically, Nations have expressed concerns that their opportunities for economic development and housing for their members, already constrained by Indian Act-imposed barriers to on-reserve development and economic growth, are further limited by available water and wastewater servicing. In order to ensure development within Esquimalt Nation can be maintained, we trust this request will be supported by one or more willing participants.

Once an interested participant, or participants, has/have been identified, CRD will coordinate a meeting with each party to further the process.

Yours sincerely,

Alicia Fraser, P.Eng.,
General Manager, Integrated Water Services

cc: Ted Robbins, Chief Administrative Officer, CRD
Caitlyn Vernon, Manager, First Nations Relations, CRD
Chief and Council, xʷsepsum (Esquimalt Nation)