

1

Wastewater



Efficient and effective management of the region's wastewater

01 Strategy

STRATEGIES & PLANS

- › [Core Area Liquid Waste Management Plan](#)
- › [Saanich Peninsula Liquid Waste Management Plan](#)

CORPORATE PLAN GOALS

- 1a Optimize Core Area wastewater treatment system
- 1b Management of wastewater & treatment residuals

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03 Operating Context

ACHIEVEMENTS IN 2025

1. Various McLoughlin Wastewater Treatment Plant Improvement Projects continued in 2025. These projects refine and optimize operations at the McLoughlin Wastewater Treatment Plant to reduce cost, improve efficiency and odour controls. 2025 saw a significant reduction in odour complaints at the McLoughlin Wastewater Treatment Plant.
2. Marigold, Currie & Lang Cove Pump Stations: These three pump stations are within the Core Area Wastewater system and construction of Electrical and Instrumentation improvements for the Currie and Lang Cove pump station are scheduled to be completed by the end of 2025. Marigold pump station is scheduled to be completed early 2026.
3. Harling Pump Station: This project is the complete replacement of the aging Harling Pumpstation within the Core Area Wastewater system and has been designed and tendered with construction scheduled to start in 2025 and be completed in 2026.
4. Tendered the construction contract for the odour control systems upgrades at Saanich Peninsula Wastewater Treatment Plant. Upgrades are required in numerous spaces to meet health and safety requirements and prolong the life of existing assets.
5. Shoreline Trunk Sewer Twinning: An options analysis and preliminary design and the start of detailed was completed for the Shoreline Trunk Sewer Twinning. This project will increase capacity within the Core Area conveyance system and prevent future overflows during high storm events.
6. Continuing to mature and operationalize the asset and maintenance management function by centralizing the team to build consistency and streamline service delivery. This function continues to advance standards, systems, and processes to support data-driven decision-making and efficiencies in service delivery.
7. Biochar Production: The Board provided direction to enter negotiations with Australia company Pyrocal to integrate advanced thermal technology at the Residuals Treatment Facility to convert biosolids into biochar which would destroy contaminants of emerging concern and provide climate benefits through carbon sequestration.
8. Completion of the Supervisory Control And Data Acquisition (SCADA) Master Plan which sets clear design standards and aligns with industry best practices and benchmarks including cybersecurity to allow the real-time collection, monitoring, analysis, and control of critical infrastructure across the department.

FACTORS THAT WILL AFFECT OUR OPERATIONS IN 2026 AND BEYOND

- **Core Area Wastewater System:** Monitoring programs for new wastewater infrastructure in the Core Area continue to be implemented and updated. Additional samples will need to be collected and analyzed on an ongoing basis to support the ongoing operational commissioning and refinement, and monitoring programs.
- Work continues to optimize the operation and maintenance of the new infrastructure. Activities include refining staffing requirements, infrastructure performance, and operations and maintenance functions to improve effluent quality and reduce community impacts related to the operation.

- The CRD has implemented several out-of-region, non-agricultural biosolids management options aligned with the Long-Term Biosolids Management Strategy while also advancing planning for the preferred option of advanced thermal treatment to convert biosolids into biochar. The CRD will remain reliant on third-party options for biosolids management until the Biochar Production Facility is operational in 2030.
- As the CRD gains more operating experience and implements the outcomes of ongoing optimization works across the Core Area Wastewater System, the annual operating budget will continue to be monitored closely and refined annually.
- **Operational cost increases:** the costs of essential wastewater system operating supplies, such as coagulant chemicals, have been increasing 30-40% year over year which is impacting the cost of service delivery. This trend, seen across North America, is placing significant pressure on service delivery budgets. In addition, ongoing Canada-U.S. trade negotiations present a potential risk to capital project costs as changes in trade policy could drive up the price of goods and materials. Moreover, annual costs are increasing for biosolids management as the CRD increases its portfolio of options to ensure reliability and redundancy for the beneficial use of Class A Biosolids.
- **Asset Management:** the ongoing trend in reviewing, updating and completing asset management plans and the continuous upgrading, replacement and growth of assets in the water and wastewater systems rely on having an up-to-date asset registry, as well as an asset onboarding process. Both the Scottish Water Review in 2018 and the EMA Readiness Assessment of 2020 highlighted the need for a reliable asset registry for Water and Wastewater.
 - The risk of assets not being maintained, replaced in a timely manner and failing could impact the CRD's ability to provide the expected water and wastewater level of service and could even result in environmental and public health and safety risks.
 - The asset registry is an important step in ensuring that assets are captured in the Maintenance Management System and Preventative Maintenance Plans are developed. This information is also critical with regards to capital and financial planning for the utility services.
- **Aging Infrastructure:** infrastructure is of various ages and in several cases large scale infrastructure renewal will be required to maintain a state of good repair.
- **Community Growth:** member municipalities continue to revise **Official Community Plans** to reflect provincial guidelines on housing targets. This potential increase in population and wastewater flows may affect timing of proposed infrastructure upgrades. The CRD plans to be proactive in working with member municipalities to identify areas of growth and reassessing timing of infrastructure upgrades.

04 Services

The services listed below rely on the support of several corporate and support divisions to operate effectively on a daily basis. More information about these services is available in the Corporate Services and Government Relations Community Need Summaries.

Wastewater systems and small wastewater systems

Services include wastewater conveyance and tertiary treatment for Core Area, and conveyance and secondary treatment for Saanich Peninsula.

SERVICE BUDGET REFERENCES¹

- › 3.717 Core Area Wastewater Operations
- › 3.798C Core Area Wastewater Capital
- › 3.718 Saanich Peninsula Wastewater
- › 3.720 Saanich Peninsula Liquid Waste Management Planning Budget
- › 3.750 Core Area Liquid Waste Management Planning Budget

1. WASTEWATER SYSTEM OPERATIONS

Description

Wastewater treatment, collection and transmission system operation and monitoring. System and facility maintenance, consumables management and preventative maintenance. Respond to wastewater system emergencies, service interruptions and wastewater overflows.

What you can expect from us

- ▶ 24/7 wastewater treatment
- ▶ Conveyance system operation
- ▶ System monitoring
- ▶ Customer service and odour monitoring/investigation
- ▶ System and facility maintenance
- ▶ Consumables management
- ▶ 24/7 operator response to system emergencies, service interruptions, wastewater overflows and public and environmental health protection

Staffing Complement

Wastewater Infrastructure Operations: **64 FTE (including 5 Managers and 2 Administrative Support)**

¹ Service budget(s) listed may fund other services

2. INFRASTRUCTURE PLANNING & ENGINEERING

Description

Overseeing the engineering, planning and capital project delivery related to wastewater infrastructure. Strategic asset management for all wastewater systems including modeling and capacity analysis, vulnerability assessment and infrastructure renewal plans. Project design, procurement and delivery of projects planned each year, on time and budget. Installations, equipment replacement and capital projects support, as well as support of Infrastructure Operations through engineering services such as process, civil, electrical and mechanical investigation and optimization.

What you can expect from us

- ▶ Asset management plans
- ▶ Manage capital program for two wastewater services
- ▶ Proactive capital planning for two wastewater services
- ▶ Ongoing condition assessment to inform the capital program and ensure wastewater systems assets remain in a state of good repair
- ▶ Incorporating growth and expansion demands into future plans
- ▶ Infrastructure renewal and upgrades
- ▶ Capital project support
- ▶ Engineering support of utility operations for the wastewater services in the areas of process optimization and troubleshooting (including odour treatment systems and energy efficiency), management of change, and root cause failure analysis
- ▶ Long-range planning and implementation of treatment system improvements
- ▶ Feasibility studies, including cost estimates, technical reports and recommendations,
- ▶ Detailed technical research and analysis to support plant operations

Staffing Complement

Wastewater Engineering and Planning **4 FTE (including 1 Manager)**

Process Engineering: **3 FTE (including 1 Manager)**

3. CORPORATE ASSET & MAINTENANCE MANAGEMENT

Description

Leading the delivery of the actions in the Corporate Asset Management Strategy, and report on the status of asset management for the CRD. Implementing and enhancing enterprise asset management systems for asset information and analysis which informs capital plan priorities. Planning and scheduling asset interventions for water and wastewater operations with the goal of optimizing our maintenance program, minimizing failures and extending the life of the CRDs asset investments.

What you can expect from us

- ▶ Develop and implement standards and processes for asset and maintenance management activities
- ▶ Plan and schedule work management activities for water and wastewater services, and build asset registers for all CRD assets eventually, and work towards an enterprise asset management approach

- ▶ Audit and maintain the asset registers for water and wastewater services
- ▶ Procure, implement, and enhance an asset and working management system for asset reporting and decision-making
- ▶ Lead or support the development of asset management plans for all services
- ▶ Lead the delivery of the actions in the Corporate Asset Management Strategy
- ▶ Maintain safe and efficient maintenance practices in collaboration with field staff and streamlined data collection for asset reporting and decision-making
- ▶ Provide fleet vehicle maintenance and repairs
- ▶ Provide inventory management (parts and equipment) for maintenance activities
- ▶ Manage consultants and contractors providing asset and maintenance management services.

Staffing Complement

Corporate Asset and Maintenance Management: **25 FTE (including 3 managers)**

4. CAPITAL PROJECT DELIVERY

Description

Capital delivery services, including project management, various types of studies, detailed design, procurement, construction management and commissioning services that support several community needs. Coordinating with the service leaders to procure, construct, commission, and hand off physical infrastructure projects to the related service. In addition to the water services, this team also provide capital delivery services across the CRD.

What you can expect from us

- ▶ Develop and administer the capital plans for the 15 Water and Wastewater services and for one Southern Gulf Islands Small Craft Harbours Facilities budget with a current five-year budget of \$575 million
- ▶ Currently directly managing 83 active projects/programs of varying size and complexity, with a combined 2025 budget of \$84 million
- ▶ Provide support to other working groups, as necessary, in facilitating their capital planning requirements or providing guidance related to project delivery
- ▶ Projects include improvements at water treatment plants and pump stations, wastewater treatment plants and pump stations, water distribution and transmission main replacements, water storage tank improvements, sewer system improvements (including trenchless rehabilitation), dam safety improvements, docks and harbours upgrades and more.
- ▶ Work collaboratively with various planning and operations groups to support ongoing successful delivery of water and wastewater services for the residents of the CRD

Staffing Complement

Corporate Capital Project Delivery Services: **10 FTE (including 2 Managers) + leadership support shared with Water**

5. ENVIRONMENTAL INNOVATION

Description

Overseeing the third-party operated Residuals Treatment Facility, which produces Class A biosolids, and for the daily management of biosolids through a portfolio of beneficial use pathways. Advancing new and innovative resource recovery opportunities, including the development of a biochar production facility designed to convert biosolids into biochar, destroy contaminants of emerging concern, and deliver measurable climate benefits. Leading climate action initiatives including support and development of heat recovery systems and energy efficiency upgrades to wastewater treatment infrastructure.

What you can expect from us

- ▶ Manage and coordinate 10 tonnes a day of Class A biosolids to ensure their beneficial use across a portfolio of out-of-region, non-agricultural options
- ▶ Oversee the third-party operation of the Residuals Treatment Facility to ensure compliance with reliability and performance requirements
- ▶ Project planning and development for the Biosolids Production Facility to further process wastewater residuals to mitigate environmental impacts and provide private climate benefits
- ▶ Technical support to explore and develop capital improvements to wastewater infrastructure to recover resources and energy, reduce emissions, and improve energy efficiency

Staffing Complement

Environmental Innovation: 8 FTE (including 2 Managers) + leadership support

Environmental Protection

Regulatory and non-regulatory services and a support role across the organization that focuses on contaminant reduction, monitoring, assessment and reporting associated with liquid waste treatment.

SERVICE BUDGET REFERENCES²

- | | |
|---|--|
| › 1.536 Stormwater Quality Management - Core Area | › 3.700 Septage Disposal Agreement |
| › 1.537 Stormwater Quality Management - Peninsula | › 3.709 Inflow & Infiltration Enhancement Program |
| › 1.538 Source - Stormwater Quality - Saanich Peninsula | › 3.750 Liquid Waste Management Plan- Public Involvement Process |
| › 1.577 Environmental Operations | › 3.752 Stage 3 Harbour Studies |
| | › 3.756 Harbours Environmental Action |

6. REGIONAL SOURCE CONTROL

Description

Administration, monitoring and reporting of compliance with regional bylaw.

What you can expect from us

- ▶ Inspect, monitor and enforcement for businesses and institutions connected to sanitary sewer
- ▶ Promote contaminant reduction associated with sanitary and stormwater systems

Staffing Complement

Environmental Protection: **8.25 FTE + leadership support**

7. CORE AREA AND SAANICH PENINSULA WASTEWATER & MARINE ENVIRONMENTAL PROGRAM

Description

Oversight for wastewater monitoring and assessment and reporting to meet regulatory requirements.

What you can expect from us

- ▶ Marine outfall monitoring, assessment and reporting services to demonstrate compliance with federal and provincial legislation
- ▶ Update of Liquid Waste Management Plans

Staffing Complement

Environmental Protection: **3.5 FTE + leadership support**

² Service budget(s) listed may fund other services

8. ON-SITE WASTEWATER MANAGEMENT

Description

Regulatory oversight for onsite wastewater systems and education and outreach services across the region.

What you can expect from us

- ▶ Promote and monitor compliance with regional bylaw.

Staffing Complement

Environmental Protection: **0.7 FTE + leadership support**

9. SEPTAGE SERVICE

Description

Administration, monitoring and reporting of regional septage service.

What you can expect from us

- ▶ Negotiate and manage one septage disposal contract servicing the capital region.

Staffing Complement

Environmental Protection: **0.1 FTE + leadership support**

10. WATERSHED MANAGEMENT PROGRAM

Description

Promote environmental stewardship associated with sanitary and stormwater systems, contaminants and flows.

What you can expect from us

- ▶ Promote public awareness and stewardship initiatives.
- ▶ Public education and engagement in the region to promote sustainable behavior through campaigns, initiatives and services.

Staffing Complement

Environmental Protection: **1.5 FTE**

05 Initiatives

Below are the initiatives listed in the [Capital Regional District 2023-2026 Corporate Plan](#) and the related initiative business cases (IBCs). For an overview of the financial impacts, including cost of staffing, please refer to the Provisional Budget report.

Initiative	Implementation year(s)
1a Goal: Optimize Core Area wastewater treatment system	
1a-1 Refine and optimize operations at the McLoughlin Wastewater Treatment Plant to reduce cost, improve efficiency and odour controls	2023-2026
▶ IBC 1a-1.1 Lab Technician (Core Area)	2024-2026
1a-2 Support other infrastructure projects that form part of the Core Area wastewater treatment system, including the Residuals Treatment Facility and conveyance system	Ongoing
▶ IBC 1a-2.1 Environmental Monitoring Program – Environmental Technician Odour	2024-2026
▶ IBC 1a-2.2 Facilities Maintenance Worker	2024-ongoing
1b Goal: Management of wastewater & treatment residuals	
1b-1 Implement a development cost charge program for the Core Area wastewater service	2026-2027
1b-2 Deliver master plans, capital plans and operations for wastewater treatment and conveyance to service current and future population, and address infrastructure deficiencies	Ongoing
▶ FUTURE IBC 1b-2.1 Sr Project Manager (Wastewater Engineering)	Planned for 2027
1b-3 Update the Liquid Waste Management Plan for Saanich Peninsula and Core Area	2025-2026
1b-4 Develop and implement a long-term Biosolids Management Plan	2022-2024
▶ IBC 1b-4.1 Biosolids Coordinator	2024-2027
▶ IBC 1b-4.2 Innovative Projects Work Unit	2025-ongoing

06 Performance

GOAL 1A: OPTIMIZE CORE AREA WASTEWATER TREATMENT SYSTEM & GOAL 1B: MANAGEMENT OF WASTEWATER & TREATMENT RESIDUALS

Targets & Benchmarks

- N/A

Measuring Progress

Performance Measure(s)	Service	Type	2024 Actual	2025 Forecast	2026 Target
1. Volume of biosolids beneficially used	All Wastewater Services	Quantity	70%	100%	100%
2. Wastewater effluent quality non-compliance events with provincial and federal regulatory requirements	Core Area Wastewater	Quantity	6	6	3
	Saanich Peninsula Wastewater	Quantity	0	0	0
3. Number of wastewater overflows or flow exceedances ¹	Core Area Wastewater	Quantity	10	12	0
	Saanich Peninsula Wastewater	Quantity	0	0	0
4. Total volume of wastewater collected and treated ²	Core Area Wastewater	Quantity	35,100,000	35,350,000	35,500,000
	Saanich Peninsula Wastewater	Quantity	3,550,000	3,550,000	3,550,000
5. Operating cost per megaliter of wastewater collected and treated ³	Core Area Wastewater	Quantity	935	999	1117
	Saanich Peninsula Wastewater	Quantity	1,313	1388	1471
6. Number of odour complaints related to operation	Core Area Wastewater	Quantity	65	45	30
	Saanich Peninsula Wastewater	Quantity	1	0	0
7. Delivery of annual capital program ⁴	Core Area Wastewater	Quantity	25,000,000	26,000,000	\$20,000,00
	Saanich Peninsula Wastewater	Quantity	1,000,000	4,000,000	6,000,000
8. Preventative maintenance completion ⁵	Core Area Wastewater	Quantity	84%	86%	87%
	Saanich Peninsula Wastewater	Quantity	93%	94%	94%

¹ Target is zero but impacted by wet weather events

² Volume is expressed in cubic meters

³ Expressed in dollars

⁴ Expressed in dollars spent

⁵ Expressed as percentage of planned maintenance work completed

07 Business Model

PARTICIPANTS Core Area Municipalities (Colwood, Esquimalt, Langford, Oak Bay, Saanich, Victoria, View Royal) and Songhees and Esquimalt First Nations

Saanich Peninsula Municipalities (Central Saanich, North Saanich, Sidney) and Saanich Peninsula First Nations

FUNDING SOURCES Requisitions and user charges

GOVERNANCE [Core Area Liquid Waste Management Committee](#)
[Saanich Peninsula Wastewater Commission](#)