

**REPORT TO JUAN DE FUCA WATER DISTRIBUTION COMMISSION  
MEETING OF TUESDAY, OCTOBER 3, 2023**

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**SUBJECT**     **Service Planning 2024 – Water Community Need Summary**

**ISSUE SUMMARY**

To provide strategic context and an overview of services, initiatives and performance data related to the Water Community Need.

**BACKGROUND**

The Capital Regional District (CRD) Board approved the 2023-2026 Board Priorities on March 8, 2023. Staff then developed the 2023-2026 CRD Corporate Plan which was approved by the CRD Board on April 12, 2023.

The CRD Corporate Plan presents the work the organization needs to deliver over the four-year term, along with the critical regional, sub-regional and local services, to meet the region's most important needs (i.e., Community Needs) and advance the Board's Vision and Priorities. Board Priorities, Corporate Plan initiatives and core service delivery form the foundation of the five-year financial plan.

The 2024 planning cycle marks the first year of the implementation of the 2023-2026 CRD Corporate Plan. The CRD's annual service plans, known as Community Need Summaries, provide an overview of the operational and strategic context, services levels, initiatives, and performance data for each Community Need. They also provide details of the initiatives, associated staffing, timing and service levels required to advance the work in future years.

The Water Community Need Summary is attached as Appendix A. The desired outcome is safe drinking water and a resilient water supply.

The CRD reports on the progress of its initiatives and services on a regular basis. The Board receives updates about the Board Strategic Priorities through the Chief Administrative Officer Quarterly Progress Reports. The Board also receives an overview of progress made on delivering the Corporate Plan twice a year at the strategic check-in and provisional budget meetings, which take place in the spring and fall respectively. The next strategic check-in will take place in spring 2024. During the year, standing committees and commissions also fulfill an oversight and advisory role in relation to the work.

**ALTERNATIVES**

*Alternative 1*

The Juan de Fuca Water Distribution Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:

That Appendix A, Community Need Summary – Water, be approved as presented and form the basis of the 2024-2028 Financial Plan.

### *Alternative 2*

The Juan de Fuca Water Distribution Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:

That Appendix A, Community Need Summary – Water, be approved as amended and form the basis of the 2024-2028 Financial Plan.

## **IMPLICATIONS**

### *Governance Implications*

In 2024, staff have prioritized programs and initiatives that:

- Advance 2023-2026 Board Priorities or Corporate Plan initiatives;
- Operationalize capital investments; and/or
- Are necessary to maintain a core service level following a regulatory change or where there is a safety risk to customers, communities, or staff.

The Executive Leadership Team (ELT) has reviewed and assessed all business cases and confirmed alignment with the criteria. ELT has determined that the consolidated package of work is appropriate and a proportional response to the CRD Board's and communities' expectations of the organization.

### *Financial Implications*

To exercise constraint and cost containment, the CRD Board directed staff to keep the core inflationary adjustment to 3.5% through the 2024 Service and Financial Planning Guidelines. Staff and management have taken the necessary steps to mitigate the financial impact of proposed initiatives as well as cost escalation and high inflation rate experienced in 2022 through to 2023.

The 2024 operating costs include non-negotiable collective agreement increases coupled with chemical cost escalations that were effective for 2024, as well as retroactively capturing increases from 2023 which were finalized after the 2023 water rate approval. As a result, the 2024 core operating cost increase exceeds the 3.5% threshold.

Financial and staff impacts for initiatives will be summarized and included in the October 3, 2023 Juan de Fuca Distribution Service 2024 Operating and Capital Budget report, and in the provisional budget which will be presented at the Committee of the Whole meeting scheduled for October 25, 2023. Starting this year, this will also include a five-year forecast of staffing level changes, which will be reviewed annually.

### *Service Delivery Implications*

Appendix A includes information about existing service delivery, operational considerations and performance. Additional information has been provided below about the proposed changes for 2024/2025.

1. *Proposed changes for 2024*

Staff are proposing to advance four new initiatives for the Water Community Need that have financial implications for 2024, as shown in Table 1. The key drivers for the initiatives are:

1. advancing a Board or Corporate Plan Priority;
2. operationalizing capital investments; and
3. adjustments to core service levels to maintain safety.

Table 1. Water Community Need Initiatives (2024)

Initiative	Implementation year(s)	Staff impacts (2024)	Incremental cost (2024)	Funding source
2a-2.1 Contracts Coordinator	2024–ongoing	1 Auxiliary Converted	\$92,000	Fee-for-service
2a-2.2 Purchaser	2024–ongoing	1 New Ongoing	\$205,000	Fee-for-service & Requisition
2a-8.1 Water Quality Sampling Technician	2024-ongoing	Increase to daily hours	\$38,000	Other
2b-1.1 Dam Safety Program – Integrated Water Services	2024–ongoing	2 New Ongoing	\$375,000	Fee-for-service

The information in Table 1 reflects the business case costs which ELT reviewed as part of their annual assessment of initiatives. The financial impacts reflect full program costs, including cost of staffing.

### **2a-2.1 Contracts Coordinator**

Timely contract assembly and completion is essential to reducing financial risks (e.g., from rapid increases in material costs) and schedule risks (e.g., from inability to start projects as planned). The Integrated Water Services Administration division has experienced an exponential increase in the volume of contract-related work due to the growth of the water and wastewater capital programs, the expanded CA Wastewater service and the adoption of the 30-year Regional Water Supply 2022 Master Plan.

Initiative 2a-2.1 seeks to convert existing auxiliary hours to one regular ongoing Contracts Coordinator position to meet the increasing demand for contract management, coordination and related contracts and records management functions within the department.

### **2a-2.2 Purchaser**

The Integrated Water Services purchasing division has operated with one purchaser for over a decade. Integrated Water Services' staff, budgets, and purchasing needs, both for operating and capital, have increase significantly over that period. With more buying comes more legal and financial risk, and trained purchasers provide critical first-stage advice to avoid later stage disputes or litigation matters.

Initiative 2a-2.2 seeks to create a new regular ongoing Purchaser position in the Legal & Risk Management division to increase support for the Integrated Water Services centralized purchasing function and increase organizational capacity by freeing up specialized staff to focus on service delivery and spend less time on procurement activities.

### **2a-8.1 Water Quality Sampling Technician (Regular)**

The CRD is required to meet drinking water monitoring requirements to ensure compliance with provincial laws. Keeping monitoring and system oversight in step with regional growth in drinking water is part of its commitment to provide high-quality and safe drinking water to the region. The Greater Victoria Drinking Water System is rapidly expanding to meet the region's growth. Regulatory requirements for drinking water monitoring are growing relative to population growth and additional water sampling staff resources are needed to keep up.

Initiative 2a-8.1 seeks to increase existing Environmental Protection staff hours from a 7h per workday to 8h workday to achieve this.

### **2b-1.1 Dam Safety Program - Integrated Water Services**

Integrated Water Services manages 23 water supply dams, 15 of which are directly related to the Regional Water Supply System. The remaining eight dams are located within three other water services: Magic Lake Estates on North Pender Island (4), Lyall Harbour/Boot Cove on Saturna Island (1), and Wilderness Mountain near East Sooke (3).

Integrated Water Services is responsible for the operation, maintenance, and surveillance of the dams, as well as regulatory compliance activities and resolving safety issues through capital and operational safety improvements. Dams are essential for storing water for delivery to customers, but they are inherently risky. The failure of a dam can result in catastrophic consequences, including loss of life, economic impacts (e.g., property damage), and environmental and social impacts.

The Dam Safety program is currently led by the Infrastructure Engineering division, with support from various divisions in Integrated Water Services and other parts of the organization. In accordance with regulatory requirements, staff conduct regular safety reviews and studies to assess the state of the infrastructure and compare the CRD's dam management approaches against best management practices. This monitoring has highlighted that the number of safety issues has been trending up since 2017. It has now become clear that to successfully manage dam-related risks moving forward the department needs a proactive strategy and dedicated, experienced staff with a robust understanding of the complexities of dam safety projects.

Initiative 2b-1.1 seeks to consolidate resources and create a dedicated Dam Safety division with operational and engineering staff to operate, maintain and monitor dams in a 'safe condition', prioritize and resolve known deficiencies, identify and manage new risks, adapt to changing climatic conditions, and ensure compliance with the Dam Safety Regulation and Water Sustainability Act.

As a starting point, the division seeks to create two new regular ongoing positions in 2024 in the Infrastructure Engineering and the Water Infrastructure Operations divisions to start this process. Additional resources requests are expected to follow in 2025 and 2026 as the function becomes established.

## 2. *Planned changes in 2025*

There is one initiative planned for 2025, shown in Table 2. The CRD Board will consider approval next year.

Table 2. Forecast of Future Initiatives: Water Community Need

Initiative	Implementation year(s)	Staff impacts (2025)	Incremental cost (2025)	Funding source
2b-2.1 Utility Operator Team Lead – Water Operations	2025-ongoing	1 New Ongoing	\$153,000	Fee-for-service & Requisition

The information in Table 2 also reflects the business case costs.

### **2b-2.1 Utility Operator - Water Operations**

The Water Operations division maintains and operates the Juan de Fuca Water Distribution system for Colwood, Langford, Metchosin, View Royal, Sooke, Highlands and the Juan de Fuca Electoral Area (East Sooke), serving approximately 60,000 customers. The system continues to expand due to development and, as the system ages, additional maintenance and infrastructure renewal is required. The Water Operations division has identified several challenges related to the system's reliability, and efficiency including aging infrastructure, maintenance frequency, and increasing demand.

To address these challenges, initiative 2b-2.1 seeks to create one new regular ongoing Utility Operator position. This position will be responsible for ensuring operational activities are planned in a safe manner and compliant with regulatory requirements, while increasing the resilience of the drinking water systems.

### **CONCLUSION**

Capital Regional District (CRD) staff are progressing initiatives identified in the 2023-2026 CRD Corporate Plan, including the Board Priorities. The CRD Board and commissions with delegated authorities determine resourcing through the annual review and approval of the provisional financial plan. To support decision-making, staff provide recommendations on funding, timing and service levels through the service and financial planning processes.

**RECOMMENDATION**

The Juan de Fuca Water Distribution Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:

That Appendix A, Community Need Summary – Water, be approved as presented and form the basis of the 2024-2028 Financial Plan.

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

**ATTACHMENT**

Appendix A: Community Need Summary – Water

# 2 Water



Safe drinking water and a resilient water supply

## 01 Strategy

### STRATEGIES & PLANS

- › Regional Water Supply Strategic Plan
- › Regional Water Supply Master Plan 2022-2050
- › Regional Growth Strategy

### CORPORATE PLAN GOALS

- 2a High quality, safe drinking water
- 2b Reliable & efficient drinking water transmission system

## 02 Contacts

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## 03 Operating Context

### ACHIEVEMENTS IN 2023

#### Infrastructure Engineering:

1. Started procurement of a design consultant for replacement of sections of Regional Supply Main No.3 and No.4. These projects will replace aging infrastructure and improve seismic resilience in the regional transmission system. High quality, safe drinking water.
2. Completed Phase 1 and started Phase 2 of the Regional Water Development Cost Charge Program. The need for such a program was identified in the CRD 2023-2026 Corporate Plan and will be used to fund future growth-related regional water supply system improvements.
3. Completed major projects in the Juan de Fuca Water distribution system including two new pump stations and three water storage tanks. These projects replaced aging infrastructure and provided additional capacity for growth within the Juan de Fuca Water Distribution system.

#### Watershed Protection:

1. Completion of two autogates to prevent recreation driven trespass into the Greater Victoria Water Supply Area and public safety around the Goldstream Water Treatment Facilities.
2. Completion of an upgraded Goldstream Entrance to the Greater Victoria Water Supply Area to provide more functional access control, security and visible security presence.
3. Implementation of an infrared wildfire detection camera on a tower on Mount Healy for more effective surveillance and monitoring of any wildfire starts in the Sooke Water Supply Area (WSA).

### FACTORS THAT WILL AFFECT OUR OPERATIONS IN 2024 AND BEYOND

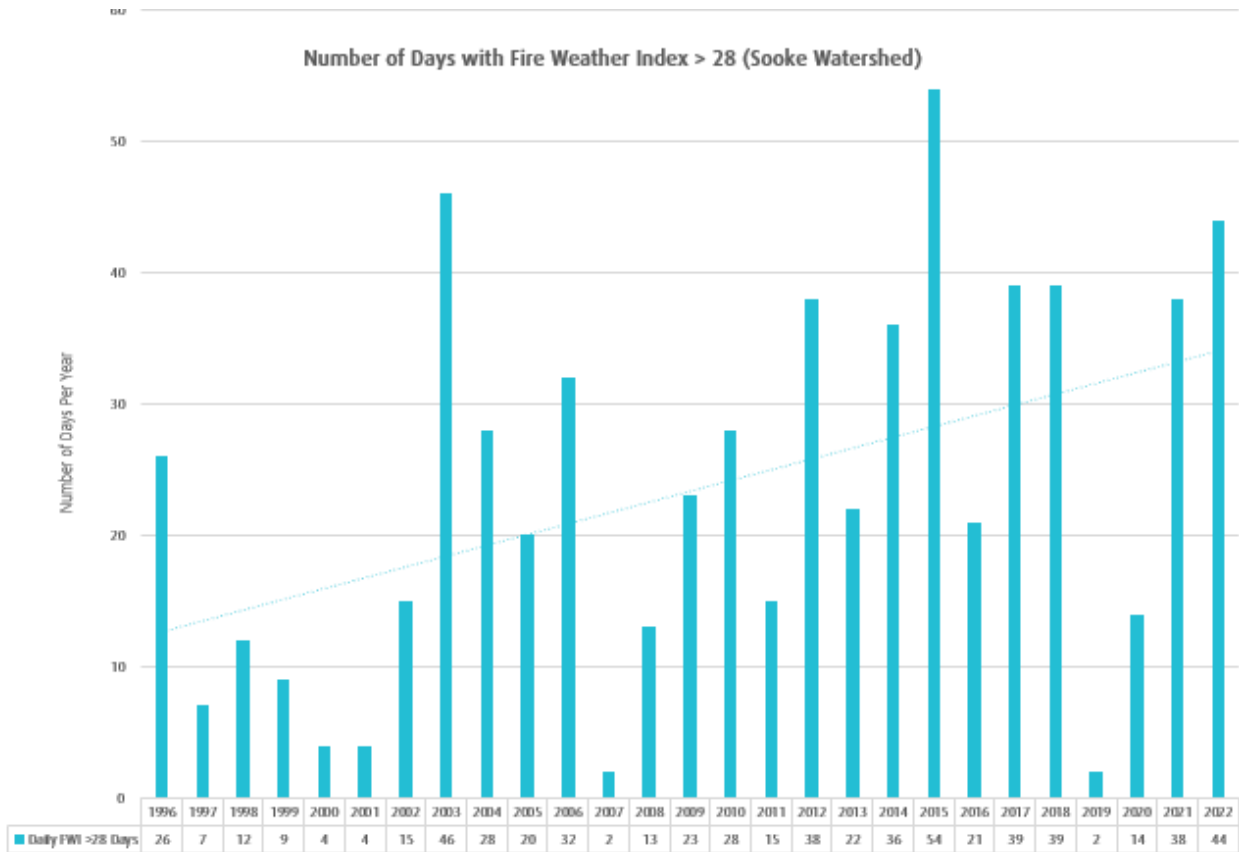
- **Security and patrols:** there is an ongoing need to monitor for and respond to recreational pressure into the Greater Victoria Water Supply Area from Sooke Hills Wilderness Regional Park and from the rapidly developing residential area around Langford and Goldstream. During Extreme Fire Danger Rating, this creates additional risk to the Greater Victoria Water Supply Area and additional pressure on the Watershed team.
- **Climate Action:** the most significant risks for water services relate to climate and environmental changes. Predicted trends of drier, hotter summers will impact the water services in several ways:
  - Demand for water, including for local agricultural activities – this is monitored closely and evaluated against historical trends. Model predictions are updated for areas exhibiting higher than predicted demands. This will inform future infrastructure upgrades to meet growing demands.
  - Water quality may be affected due to increased biological growth in the source water and distribution system. The 2022 Regional Water Supply Master Plan recommends implementing filtration as a step in the treatment process by 2037.
  - In the Greater Victoria Water Supply Area, increasing periods of elevated wildfire risk, peak flows from winter storms, drought stress on trees which could lead to increased mortality and forest pests/diseases.
  - Increased risk of power outages.



- **Infrastructure Vulnerability, Resiliency, and Emergency Preparedness:** there are increases in operational and system maintenance demands from a growing region combined with aging infrastructure. The 2022 Regional Water Supply Master Plan identified a strategy to address supply (quantity) and critical delivery infrastructure (redundancy) needs over the next 30 years. In addition to continuing to replace and refresh our existing assets to ensure they remain in a state of good repair, preliminary studies will also commence on the large elements identified in the Regional Water Supply Master Plan.
- **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.
- **Operational cost increases:** the costs of essential water system operating supplies, such as disinfection chemicals, have been increasing 30-40% year over year which is impacting the cost-of-service delivery. This trend has been seen across North America.
- **Regional Water Supply Strategic Plan (2017):** Actions and initiatives to support the strategic priorities and commitments will be updated, starting in 2023. The revised plan, which will be published in 2024, will look to address future needs for the 2025-2029 period.
- **Rate Structure Review:** A new service delivery model for First Nations water servicing is being advanced with implementation expected in late 2023/early 2024. Through the agreement, the Regional Water Supply Service will become the service provider for participating First Nations governments.

### OPERATIONAL STATISTICS

An example of the effect of climate change on the number of days of elevated wildfire risk for the Greater Victoria Water Supply Area:



## 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.

### Water Supply & Distribution

Wholesale water supply to approximately 400,000 consumers in Greater Victoria and residents in three municipalities on the Saanich Peninsula, water distribution system within Langford, Sooke, View Royal, Colwood, East Sooke, Metchosin and Highlands and the small water systems in the Electoral Areas (EAs) supported through the following key service areas:

#### SERVICE BUDGET REFERENCES<sup>1</sup>

- › 2.670 Regional Water Supply
- › 2.680 Juan de Fuca Water Distribution
- › 2.610 Saanich Peninsula Water
- › Small water systems in the Electoral Areas

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### 1. WATER SYSTEMS OPERATIONS AND MAINTENANCE

#### Description

Water treatment, supply and distribution system operation and monitoring. System and facility maintenance, consumables management and preventative maintenance. Respond to water main breaks and other system emergencies.

#### What you can expect from us

- ▶ 24/7 water treatment operations for two facilities for Greater Victoria
- ▶ Supply and distribution system operation
- ▶ System monitoring
- ▶ Customer service
- ▶ System and facility maintenance
- ▶ Consumables management
- ▶ Component preventative maintenance
- ▶ 24/7 emergency response to water main breaks and other system emergencies

#### Staffing Complement

Water Infrastructure Operations: **61 FTE (including 5 Managers and Administrative Support)**

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<sup>1</sup> Service budget(s) listed may fund other services

## 2. INFRASTRUCTURE PLANNING

### Description

Strategic asset management for all services/systems including modeling and capacity analysis, vulnerability assessment, infrastructure renewal plans.

### What you can expect from us

- ▶ Asset management and capital planning
- ▶ Adjust plans for 15 water services
- ▶ System expansion and growth planning
- ▶ Proactive capital planning for all 15 water services with a 15-year outlook
- ▶ Ongoing condition assessment to inform the capital program and ensure water systems assets remain in a state of good repair
- ▶ Incorporating growth and expansion demands into future plans

### Staffing Complement

Water Supply Engineering and Planning: **4 FTE**

Water Distribution Engineering and Planning: **6 FTE (including 1 Manager)**

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## 3. CAPITAL PROJECT DELIVERY

### Description

Project design, procurement and delivery of capital projects annually on time/budget. Main installations, dam upgrades, equipment replacement and capital projects support.

### What you can expect from us

- ▶ Infrastructure renewal and upgrades
- ▶ Capital Program for 15 water services (including Salt Spring Island)
- ▶ Engineering support of utility operations for the 15 water services.

### Staffing Complement

Capital Projects **8 FTE (including 1 Manager)**

## Watershed Protection

Forest land management of the 20,611 hectares of the Greater Victoria Water Supply Area to ensure high-quality source drinking water for the Regional Water Supply System through following service areas:

### SERVICE BUDGET REFERENCE<sup>2</sup>

- › 2.670 Regional Water Supply

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## 5. WILDFIRE, SECURITY & EMERGENCY RESPONSE

### Description

Watershed security, wildfire and spill preparedness, prevention and response.

### What you can expect from us

- ▶ 24/7 watershed emergency duty officer standby
- ▶ Security/wildfire patrols and standby (weekends and holidays; daily during elevated fire conditions)
- ▶ Wildfire detection air patrol during high and extreme fire hazard; infrared camera detection for the Sooke WSA

### Staffing Complement

Watershed Protection: 8 FTE (including 1 Manager and Administrative Support) + leadership support

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## 6. WATERSHED OPERATIONS

### Description

Silviculture, forest health and forest fuel management; invasive plant management; vegetation management and road maintenance, upgrades and rehabilitation

### What you can expect from us

- ▶ Winter/summer road maintenance
- ▶ Culvert and bridge upgrades to accommodate higher peak flows to higher standards and changing climate
- ▶ Forest fuel and forest resilience treatments and fire smarting maintenance including brushing, thinning and chipping or burning of woody debris
- ▶ Brushing dam faces and around facilities, gates and fences
- ▶ Danger tree assessment and removal along roads and powerlines
- ▶ Invasive plants management

### Staffing Complement

Watershed Protection: 10 FTE (including 1 Manager) + leadership support

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<sup>2</sup> Service budget(s) listed may fund other services

## 7. RESOURCE PLANNING

### Description

Wildlife management, ecological inventories and analyses, risk assessment and management, and GIS and data management.

### What you can expect from us

- ▶ Development of a comprehensive watershed hydrology monitoring program
- ▶ Annual forest health survey
- ▶ Partnering in climate change and other research in the Greater Victoria Water Supply Area
- ▶ Management of beaver, Canada geese and bullfrogs
- ▶ School and public tours of the Water Supply Area and facilities

### Staffing Complement

Watershed Protection: **8 FTE (including 1 Manager) + leadership support**

## ENVIRONMENTAL PROTECTION

Regulatory and non-regulatory services and a support role across the organization that focuses on enhanced integration of drinking water quality protection programs and integration of communication initiatives.

### SERVICE BUDGET REFERENCES:<sup>3</sup>

- |   |   |
|---|---|
| › 1.531 Stormwater Quality Management - Sooke | › 3.707 On Site System Management Program                               |
| › 1.576 Environmental Engineering Services    | › 3.720 Saanich Peninsula Liquid Waste Management Plan - Implementation |
| › 1.578 & 1.579 Environmental Protection      | › 3.755 Regional Source Control Program                                 |
| › 3.701 Millstream Remediation                |   |

## 8. WATER QUALITY 1.0

### Description

Monitoring, data analysis, assessment, reporting and technical advice to meet water quality regulatory requirements.

### What you can expect from us

- ▶ Source water and distribution system monitoring, assessment and reporting
- ▶ Physical, chemical and biological analytical services, assessment and reporting

### Staffing Complement

Environmental Protection: **6 + lab staff FTE + leadership support**

<sup>3</sup> Service budget(s) listed may fund other services

## 9. DEMAND MANAGEMENT

### Description

Research and data to inform capital planning, water conservation, and communications and education.

### What you can expect from us

- ▶ Accurate data
- ▶ Per capita targets (residential and Industrial, Commercial and Institutional)

### Staffing Complement

Environmental Protection: **1.0 FTE + leadership support**

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## 10. CROSS CONNECTION CONTROL

### Description

Identification, registration, tracking and reporting of potential cross connection contamination sources in the Greater Victoria Drinking Water System.

### What you can expect from us

- ▶ Contamination prevention through facility inspections, testing and education for backflow prevention devices
- ▶ Monitor and track (>28,000) backflow prevention devices

### Staffing Complement

Environmental Protection: **4.6 FTE**

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## 11. COMMUNICATIONS & ENVIRONMENTAL EDUCATION

### Description

Public education and engagement in the region to promote sustainable behavior through campaigns, initiatives and services. Position is shared 80:20 with Wastewater communications support.

### What you can expect from us

- ▶ Increased public awareness of CRD messages and subsequent behavior changes (declining trend in per capita and per sector water use)

### Staffing Complement

Environmental Protection: **0.8 FTE + leadership support**

## 05 Initiatives

Below are the initiatives listed in the [Capital Regional District 2023-2026 Corporate Plan](#) and the related initiative business cases (IBCs), including financial and staffing impacts, proposed for 2024. The financial impacts reflect full program costs, including cost of staffing.

Initiative	Implementation year(s)	Impacts in 2024
2a-1 Update the Regional Water Supply Strategic Plan	2023	-
2a-2 Implement the 2022-2050 Regional Water Supply Master Plan	Ongoing	-
▶ <b>NEW IBC</b> 2a-2.1 Contracts Coordinator	2024-ongoing	\$92K fee-for-service 1 Auxiliary Converted
▶ <b>NEW IBC</b> 2a-2.2 Purchaser	2024-ongoing	\$205K fee-for-service + requisition 1 New Ongoing
2a-3 Review water rates in service agreements with First Nations	2024	Continued negotiation and implementation
2a-4 Review and determine appropriate level of water subsidy used for agriculture	2024	Ongoing, no change in subsidy in 2024
2a-5 Active forest/ecological management to enhance forest health and resilience in the Water Supply Areas	Planned for 2025	-
2a-6 Collect and analyze information for climate adaptation, reservoir management and the siting of new major infrastructure	Ongoing	-
2a-7 Implement a development cost charge program for the Regional Water Service	2024	-
▶ <b>NEW IBC</b> 2a-8.1 Water Quality Sampling Technician*	2024-ongoing	\$38K other Increase from 7 to 8-hour shifts



Initiative	Implementation year(s)	Impacts in 2024	
2b-1 Enhance safety of aging dams, meet increasing regulatory requirements and mitigate against the risk of failures ► <b>NEW IBC</b> 2b-1.1 Dam Safety Program – Integrated Water Services	2024  2024-ongoing	\$375K <small>fee-for-service</small>	2 New Ongoing
2b-2 Invest in and maintain capital assets, and undertake regulatory monitoring, to service current and future population and climate adaptation ► <b>FUTURE IBC</b> 2b-2.1 Utility Operator Team Lead – Water Operations	2024  Planned for 2025	\$153K <small>fee-for-service + requisition</small>	1 New Ongoing

*\*Not captured in the 2022-2026 Corporate Plan*

## 06 Performance

### GOAL 2A: HIGH QUALITY, SAFE DRINKING WATER

#### Targets & Benchmarks

The performance measures link to the CRD's goals of safe, sustainable and resilient water resources for the Capital Region.

#### Measuring Progress

Performance Measure(s)	Service	Type	2022 Actual	2023 Forecast	2024 Target
<b>1. Regulatory Compliance<sup>1</sup></b>	Regional Water Supply	Quantity	None	None	None
	Juan de Fuca Water Distribution	Quantity	None	None	None
	Saanich Peninsula Water Supply	Quantity	None	None	None
	Local Services	Quantity	8	3	None
<b>2. Water Quality Sampling (raw)<sup>2</sup></b>	Regional Water Supply	Quantity	15,589	17,174	17,174
	Local Services	Quantity	3,670	4,218	4,218
<b>3. Water Quality Sampling (treated)<sup>3</sup></b>	Regional Water Supply	Quality	1,787	1,888	1,888
	Juan de Fuca Water Distribution	Quality	7,531	7,378	7,762
	Saanich Peninsula Water Supply	Quality	2,102	3,701	3,701
	Local Services	Quality	24,904	17,893	17,893
<b>4. Demand<sup>4</sup></b>	Regional Water Supply	Quantity	359	340	340
	Juan de Fuca Water Distribution	Quantity	314	300	300
	Saanich Peninsula Water Supply	Quantity	479	420	420
	Local Services	Quantity	227.8	216.5	215.8

<sup>1</sup> Non-compliance with Island Health, provincial and federal regulatory requirements and operational certificates that result in Boil Water Advisories or Do Not Consume Events

<sup>2</sup> Water quality samples analyzed annually from source reservoirs (raw water)

<sup>3</sup> Water quality samples analyzed annually from transmission/distribution systems (treated water)

<sup>4</sup> Average day per capita water use (litres per capita per day)

#### Discussion

Measure 4. Demand: average day per capita water use (litres per capita per day)

- Regional Water Supply: Demand is plateauing due to the replacement of inefficient appliances and a surge of new high-density buildings with built-in water efficiencies
- Saanich Peninsula Water Supply: Driven by agricultural demand and lack of residential densification
- Local Services: Values represent the average of twelve services

## GOAL 2B: RELIABLE & EFFICIENT DRINKING WATER TRANSMISSION SYSTEM

### Target & Benchmarks

The performance measures link to the CRD's goals of safe, sustainable and resilient water resources for the capital region.

### Measuring Progress

Performance Measure(s)	Service	Type	2022 Actual	2023 Forecast	2024 Target
<b>5. Operating cost<sup>5</sup></b>	Regional Water Supply	Quantity	\$111	\$112	\$115
<b>6. Energy usage<sup>6</sup></b>	Regional Water Supply	Quantity	62.5	66	66
<b>7. Watershed water release<sup>7</sup></b>	Regional Water Supply	Quantity	11,229	11,500	12,000
<b>8. Water-main leak repairs<sup>8</sup></b>	Juan de Fuca Water Distribution	Quantity	8.2	10	8
	Local Services	Quantity	1	1	1
<b>9. Preventative maintenance<sup>9</sup></b>	Regional Water Supply	Quality	86%	96%	98%
	Juan de Fuca Water Distribution	Quality	84%	94%	96%
	Saanich Peninsula Water Supply	Quality	97%	98%	98%
	Local Services	Quality	91%	98%	98%

<sup>5</sup> Annual operating cost per megaliter of drinking water treated and supplied/distributed

<sup>6</sup> Annual energy use (kWh) per megaliter of drinking water treated and supplied/distributed

<sup>7</sup> Volume of raw water released annually from Regional Water Supply watersheds to rivers to support fish habitat (megaliters)

<sup>8</sup> Number of water-main leak repairs and service line leaks annually per 100 kilometers of pipe (distribution systems)

<sup>9</sup> Preventative maintenance completed (% of planned)

### Discussion

- N/A

## 07 Business Model

### Water Supply & Distribution, Watershed Protection

**PARTICIPANTS** **Regional Water Supply:** All Municipalities, Juan de Fuca Electoral Area, First Nations (via Distribution Systems)

**Saanich Peninsula Water Supply:** Municipalities (Central Saanich, North Saanich, Sidney)

**JDF Water Distribution:** Langford, Colwood, View Royal, Metchosin, Highlands, Sooke, Juan de Fuca Electoral Area

**Local Water Service Areas in the Electoral Areas**

**FUNDING SOURCES** **Regional Water Supply:** Bulk water sales revenue

**Juan de Fuca Water Distribution System:** Retail water sales revenue in West Shore Municipalities

**Saanich Peninsula Water:** Wholesale water sales revenue

**GOVERNANCE** [Regional Water Supply Commission](#)  
[Water Advisory Committee](#)  
[Saanich Peninsula Water Commission](#)  
[Juan de Fuca Water Distribution Commission](#)  
[Various Local Services Commissions](#)

### Environmental Protection

**PARTICIPANTS** **Water Quality Service:** Allocation from Integrated Water Services and Local Service Areas (LSA) from the municipalities of Regional Water Supply area, Juan de Fuca and various local service areas, Sidney, North Saanich, Central Saanich and Peninsula First Nations

**Demand Management, Cross Connection Control Services:** water rate from all Municipalities and Electoral Areas

**Communications and Environmental Education:** all Municipalities and Electoral Areas

**FUNDING SOURCES** Water rate and requisition

**GOVERNANCE** [Regional Water Supply Commission](#)  
[Water Advisory Committee](#)  
[Saanich Peninsula Water Commission](#)  
[Juan de Fuca Water Distribution Commission](#)  
[Various Local Services Commissions](#)



**REPORT TO REGIONAL WATER SUPPLY COMMISSION  
MEETING OF WEDNESDAY, OCTOBER 18, 2023**

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**SUBJECT**     **Service Planning 2024 – Water Community Need Summary**

**ISSUE SUMMARY**

To provide strategic context and an overview of services, initiatives and performance data related to the Water Community Need.

**BACKGROUND**

The Capital Regional District (CRD) Board approved the 2023-2026 Board Priorities on March 8, 2023. Staff then developed the 2023-2026 Capital Regional District (CRD) Corporate Plan which was approved by the CRD Board on April 12, 2023.

The CRD Corporate Plan presents the work the organization needs to deliver over the four-year term, along with the critical regional, sub-regional and local services, to meet the region's most important needs (i.e., Community Needs) and advance the Board's Vision and Priorities. Board Priorities, Corporate Plan initiatives and core service delivery form the foundation of the five-year financial plan.

The 2024 planning cycle marks the first year of the implementation of the 2023-2026 CRD Corporate Plan. The CRD's annual service plans, known as Community Need Summaries, provide an overview of the operational and strategic context, services levels, initiatives, and performance data for each Community Need. They also provide details of the initiatives, associated staffing, timing and service levels required to advance the work in future years.

The Water Community Need Summary is attached as Appendix A. The desired outcome is safe drinking water and a resilient water supply.

The CRD reports on the progress of its initiatives and services on a regular basis. The Board receives updates about the Board Strategic Priorities through the Chief Administrative Officer Quarterly Progress Reports. The Board also receives an overview of progress made on delivering the Corporate Plan twice a year at the strategic check-in and provisional budget meetings, which take place in the spring and fall respectively. The next strategic check-in will take place in spring 2024. During the year, standing committees and commissions also fulfill an oversight and advisory role in relation to the work.

**ALTERNATIVES**

*Alternative 1*

The Regional Water Supply Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:

That Appendix A, Community Need Summary – Water, be approved as presented and form the basis of the 2024-2028 Financial Plan.

*Alternative 2*

The Regional Water Supply Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:

That Appendix A, Community Need Summary – Water, be approved as amended and form the basis of the 2024-2028 Financial Plan.

**IMPLICATIONS**

*Governance Implications*

In 2024, staff have prioritized programs and initiatives that:

- Advance 2023-2026 Board Priorities or Corporate Plan initiatives;
- Operationalize capital investments; and/or
- Are necessary to maintain a core service level following a regulatory change or where there is a safety risk to customers, communities, or staff.

The Executive Leadership Team (ELT) has reviewed and assessed all business cases and confirmed alignment with the criteria. ELT has determined that the consolidated package of work is appropriate and a proportional response to the CRD Board's and communities' expectations of the organization.

*Financial Implications*

To exercise constraint and cost containment, the CRD Board directed staff to keep the core inflationary adjustment to 3.5% through the 2024 Service and Financial Planning Guidelines. Staff and management have taken the necessary steps to mitigate the financial impact of proposed initiatives as well as cost escalation and high inflation rate experienced in 2022 through to 2023.

The 2024 operating costs include non-negotiable collective agreement increases that were effective for 2024, as well as retroactively capturing increases from 2023 which were finalized after the 2023 water rate approval. As a result, the 2024 core operating cost increase exceeds the 3.5% threshold.

Financial and staff impacts for initiatives will be summarized and included in the provisional budget which will be presented at the Committee of the Whole meeting scheduled for October 25, 2023. Starting this year, this will also include a five-year forecast of staffing level changes, which will be reviewed annually.

*Service Delivery Implications*

Appendix A includes information about existing service delivery, operational considerations and performance. Additional information has been provided below about the proposed changes for 2024/2025.

*1. Proposed changes for 2024*

Staff are proposing to advance four new initiatives for the Water Community Need that have financial implications for 2024, as shown in Table 1. The key drivers for the initiatives are:

1. advancing a Board or Corporate Plan Priority;
2. operationalizing capital investments; and
3. adjustments to core service levels to maintain safety.

Table 1. Water Community Need Initiatives (2024)

Initiative	Implementation year(s)	Staff impacts (2024)	Incremental cost (2024)	Funding source
2a-2.1 Contracts Coordinator	2024–ongoing	1 Auxiliary Converted	\$92,000	Fee-for-service
2a-2.2 Purchaser	2024–ongoing	1 New Ongoing	\$205,000	Fee-for-service & Requisition
2a-8.1 Water Quality Sampling Technician	2024-ongoing	Increase to daily hours	\$38,000	Fee-for-service & Requisition
2b-1.1 Dam Safety Program – Integrated Water Services	2024–ongoing	2 New Ongoing	\$375,000	Fee-for-service

The information in Table 1 reflects the business case costs which ELT reviewed as part of their annual assessment of initiatives. The financial impacts reflect full program costs, including cost of staffing.

**2a-2.1 Contracts Coordinator**

Timely contract assembly and completion is essential to reducing financial risks (e.g., from rapid increases in material costs) and schedule risks (e.g., from inability to start projects as planned). The Integrated Water Services Administration division has experienced an exponential increase in the volume of contract-related work due to the growth of the water and wastewater capital programs, the expanded core area wastewater service and the adoption of the 30-year Regional Water Supply 2022 Master Plan.

Initiative 2a-2.1 seeks to convert existing auxiliary hours to one regular ongoing Contracts Coordinator position to meet the increasing demand for contract management, coordination and related contracts and records management functions within the department.

**2a-2.2 Purchaser**

The Integrated Water Services purchasing division has operated with one purchaser for over a decade. Integrated Water Services’ staff, budgets, and purchasing needs, both for operating and capital, have increased significantly over that period. With more buying comes more legal and financial risk, and trained purchasers provide critical first-stage advice to avoid later stage disputes or litigation matters.

Initiative 2a-2.2 seeks to create a new regular ongoing Purchaser position in the Legal & Risk Management division to increase support for the Integrated Water Services centralized purchasing function and increase organizational capacity by freeing up specialized staff to focus on service delivery and spend less time on procurement activities.

**2a-8.1 Water Quality Sampling Technician (Regular)**

The CRD is required to meet drinking water monitoring requirements to ensure compliance with provincial laws. Keeping monitoring and system oversight in step with regional growth in drinking water is part of its commitment to provide high-quality and safe drinking water to the region. The

Greater Victoria Drinking Water System is rapidly expanding to meet the region's growth. Regulatory requirements for drinking water monitoring are growing relative to population growth and additional water sampling staff resources are needed to keep up.

Initiative 2a-8.1 seeks to increase existing Environmental Protection staff hours from a 7 hour workday to an 8 hour workday to achieve this.

### **2b-1.1 Dam Safety Program - Integrated Water Services**

Integrated Water Services manages 23 water supply dams, 15 of which are directly related to the Regional Water Supply System. The remaining eight dams are located within three other water services: Magic Lake Estates on North Pender Island (4), Lyall Harbour/Boot Cove on Saturna Island (1), and Wilderness Mountain near East Sooke (3).

Integrated Water Services is responsible for the operation, maintenance, and surveillance of the dams, as well as regulatory compliance activities and resolving safety issues through capital and operational safety improvements. Dams are essential for storing water for delivery to customers, but they are inherently risky. The failure of a dam can result in catastrophic consequences, including loss of life, economic impacts (e.g., property damage), and environmental and social impacts.

The Dam Safety program is currently led by the Infrastructure Engineering division, with support from various divisions in Integrated Water Services and other parts of the organization. In accordance with regulatory requirements, staff conduct regular safety reviews and studies to assess the state of the infrastructure and compare the CRD's dam management approaches against best management practices. This monitoring has highlighted that the number of safety issues has been trending up since 2017. It has now become clear that to successfully manage dam-related risks moving forward the department needs a proactive strategy and dedicated, experienced staff with a robust understanding of the complexities of dam safety projects.

Initiative 2b-1.1 seeks to consolidate resources and create a dedicated Dam Safety division with operational and engineering staff to operate, maintain and monitor dams in a 'safe condition', prioritize and resolve known deficiencies, identify and manage new risks, adapt to changing climatic conditions, and ensure compliance with the Dam Safety Regulation and Water Sustainability Act.

As a starting point, the division seeks to create two new regular ongoing positions in 2024 in the Infrastructure Engineering and the Water Infrastructure Operations divisions to start this process. Additional resources requests are expected to follow in 2025 and 2026 as the function becomes established.

#### *Planned changes in 2025*

There is one initiative planned for 2025, shown in Table 2. The CRD Board will consider approval next year.



Table 2. Forecast of Future Initiatives: Water Community Need

<b>Initiative</b>	<b>Implementation year(s)</b>	<b>Staff impacts (2025)</b>	<b>Incremental cost (2025)</b>	<b>Funding source</b>
2b-2.1 Utility Operator Team Lead – Water Operations	2025-ongoing	1 New Ongoing	\$153,000	Fee-for-service & Requisition

The information in Table 2 also reflects the business case costs.

**2b-2.1 Utility Operator - Water Operations**

The Water Operations division maintains and operates the Juan de Fuca Water Distribution system for Colwood, Langford, Metchosin, View Royal, Sooke, Highlands and the Juan de Fuca Electoral Area (East Sooke), serving approximately 60,000 customers. The system continues to expand due to development and, as the system ages, additional maintenance and infrastructure renewal is required. The Water Operations division has identified several challenges related to the system’s reliability, and efficiency including aging infrastructure, maintenance frequency, and increasing demand.

To address these challenges, initiative 2b-2.1 seeks to create one new regular ongoing Utility Operator position. This position will be responsible for ensuring operational activities are planned in a safe manner and compliant with regulatory requirements, while increasing the resilience of the drinking water systems.

**CONCLUSION**

Capital Regional District (CRD) staff are progressing initiatives identified in the 2023-2026 CRD Corporate Plan, including the Board Priorities. The CRD Board, and commissions with delegated authorities, determine resourcing through the annual review and approval of the provisional financial plan. To support decision-making, staff provide recommendations on funding, timing and service levels through the service and financial planning processes.

**RECOMMENDATION**

The Regional Water Supply Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:  
 That Appendix A, Community Need Summary – Water, be approved as presented and form the basis of the 2024-2028 Financial Plan.

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

**ATTACHMENT**

Appendix A: Community Need Summary – Water

## 2

# Water



Safe drinking water and a resilient water supply

## 01 Strategy

### STRATEGIES & PLANS

- › Regional Water Supply Strategic Plan
- › Regional Water Supply Master Plan 2022-2050
- › Regional Growth Strategy

### CORPORATE PLAN GOALS

- 2a High quality, safe drinking water
- 2b Reliable & efficient drinking water transmission system

## 02 Contacts

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## 03 Operating Context

### ACHIEVEMENTS IN 2023

#### Infrastructure Engineering:

1. Started procurement of a design consultant for replacement of sections of Regional Supply Main No.3 and No.4. These projects will replace aging infrastructure and improve seismic resilience in the regional transmission system. High quality, safe drinking water.
2. Completed Phase 1 and started Phase 2 of the Regional Water Development Cost Charge Program. The need for such a program was identified in the CRD 2023-2026 Corporate Plan and will be used to fund future growth-related regional water supply system improvements.
3. Completed major projects in the Juan de Fuca Water distribution system including two new pump stations and three water storage tanks. These projects replaced aging infrastructure and provided additional capacity for growth within the Juan de Fuca Water Distribution system.

#### Watershed Protection:

1. Completion of two autogates to prevent recreation driven trespass into the Greater Victoria Water Supply Area and public safety around the Goldstream Water Treatment Facilities.
2. Completion of an upgraded Goldstream Entrance to the Greater Victoria Water Supply Area to provide more functional access control, security and visible security presence.
3. Implementation of an infrared wildfire detection camera on a tower on Mount Healy for more effective surveillance and monitoring of any wildfire starts in the Sooke Water Supply Area (WSA).

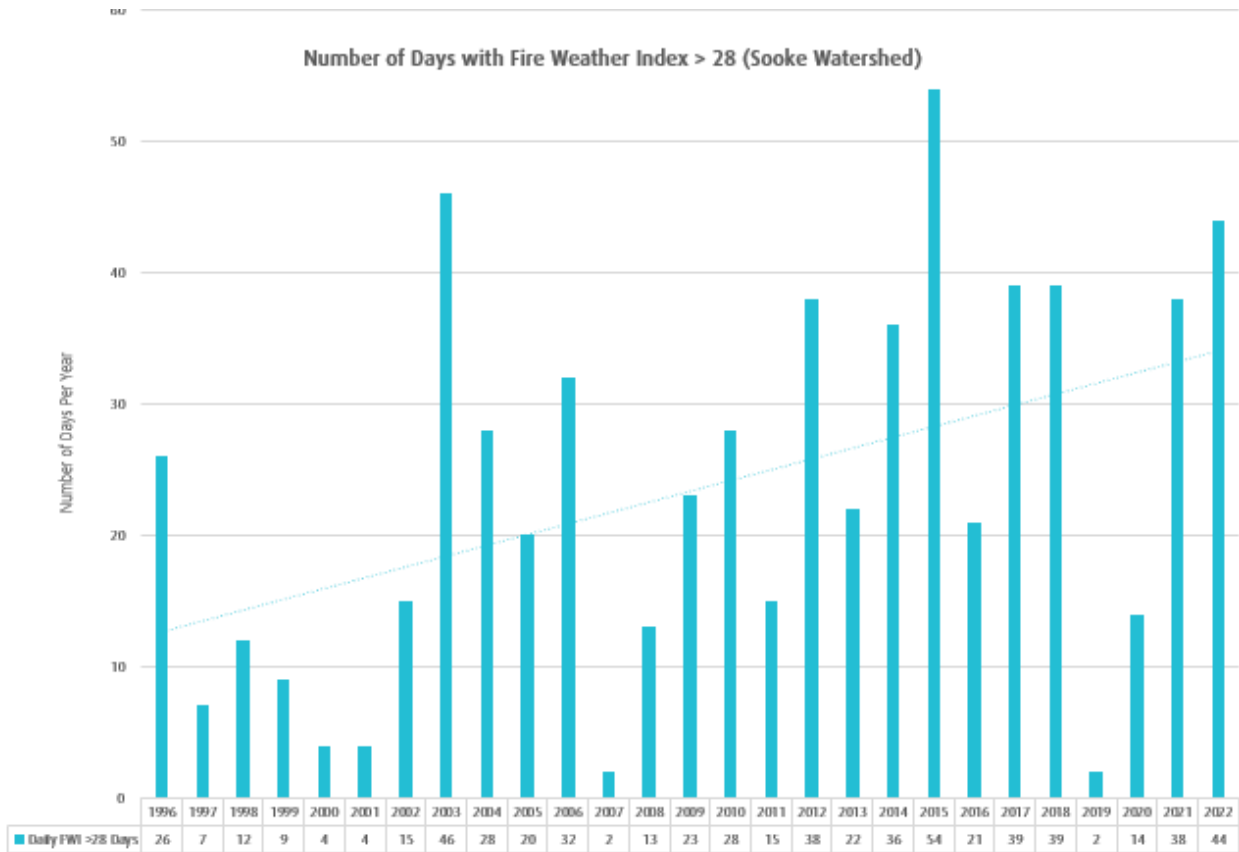
### FACTORS THAT WILL AFFECT OUR OPERATIONS IN 2024 AND BEYOND

- **Security and patrols:** there is an ongoing need to monitor for and respond to recreational pressure into the Greater Victoria Water Supply Area from Sooke Hills Wilderness Regional Park and from the rapidly developing residential area around Langford and Goldstream. During Extreme Fire Danger Rating, this creates additional risk to the Greater Victoria Water Supply Area and additional pressure on the Watershed team.
- **Climate Action:** the most significant risks for water services relate to climate and environmental changes. Predicted trends of drier, hotter summers will impact the water services in several ways:
  - Demand for water, including for local agricultural activities – this is monitored closely and evaluated against historical trends. Model predictions are updated for areas exhibiting higher than predicted demands. This will inform future infrastructure upgrades to meet growing demands.
  - Water quality may be affected due to increased biological growth in the source water and distribution system. The 2022 Regional Water Supply Master Plan recommends implementing filtration as a step in the treatment process by 2037.
  - In the Greater Victoria Water Supply Area, increasing periods of elevated wildfire risk, peak flows from winter storms, drought stress on trees which could lead to increased mortality and forest pests/diseases.
  - Increased risk of power outages.

- **Infrastructure Vulnerability, Resiliency, and Emergency Preparedness:** there are increases in operational and system maintenance demands from a growing region combined with aging infrastructure. The 2022 Regional Water Supply Master Plan identified a strategy to address supply (quantity) and critical delivery infrastructure (redundancy) needs over the next 30 years. In addition to continuing to replace and refresh our existing assets to ensure they remain in a state of good repair, preliminary studies will also commence on the large elements identified in the Regional Water Supply Master Plan.
- **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.
- **Operational cost increases:** the costs of essential water system operating supplies, such as disinfection chemicals, have been increasing 30-40% year over year which is impacting the cost-of-service delivery. This trend has been seen across North America.
- **Regional Water Supply Strategic Plan (2017):** Actions and initiatives to support the strategic priorities and commitments will be updated, starting in 2023. The revised plan, which will be published in 2024, will look to address future needs for the 2025-2029 period.
- **Rate Structure Review:** A new service delivery model for First Nations water servicing is being advanced with implementation expected in late 2023/early 2024. Through the agreement, the Regional Water Supply Service will become the service provider for participating First Nations governments.

**OPERATIONAL STATISTICS**

An example of the effect of climate change on the number of days of elevated wildfire risk for the Greater Victoria Water Supply Area:



## 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.

### Water Supply & Distribution

Wholesale water supply to approximately 400,000 consumers in Greater Victoria and residents in three municipalities on the Saanich Peninsula, water distribution system within Langford, Sooke, View Royal, Colwood, East Sooke, Metchosin and Highlands and the small water systems in the Electoral Areas (EAs) supported through the following key service areas:

#### SERVICE BUDGET REFERENCES<sup>1</sup>

- › 2.670 Regional Water Supply
- › 2.680 Juan de Fuca Water Distribution
- › 2.610 Saanich Peninsula Water
- › Small water systems in the Electoral Areas

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### 1. WATER SYSTEMS OPERATIONS AND MAINTENANCE

#### Description

Water treatment, supply and distribution system operation and monitoring. System and facility maintenance, consumables management and preventative maintenance. Respond to water main breaks and other system emergencies.

#### What you can expect from us

- ▶ 24/7 water treatment operations for two facilities for Greater Victoria
- ▶ Supply and distribution system operation
- ▶ System monitoring
- ▶ Customer service
- ▶ System and facility maintenance
- ▶ Consumables management
- ▶ Component preventative maintenance
- ▶ 24/7 emergency response to water main breaks and other system emergencies

#### Staffing Complement

Water Infrastructure Operations: **61 FTE (including 5 Managers and Administrative Support)**

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<sup>1</sup> Service budget(s) listed may fund other services

## 2. INFRASTRUCTURE PLANNING

### Description

Strategic asset management for all services/systems including modeling and capacity analysis, vulnerability assessment, infrastructure renewal plans.

### What you can expect from us

- ▶ Asset management and capital planning
- ▶ Adjust plans for 15 water services
- ▶ System expansion and growth planning
- ▶ Proactive capital planning for all 15 water services with a 15-year outlook
- ▶ Ongoing condition assessment to inform the capital program and ensure water systems assets remain in a state of good repair
- ▶ Incorporating growth and expansion demands into future plans

### Staffing Complement

Water Supply Engineering and Planning: **4 FTE**

Water Distribution Engineering and Planning: **6 FTE (including 1 Manager)**

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## 3. CAPITAL PROJECT DELIVERY

### Description

Project design, procurement and delivery of capital projects annually on time/budget. Main installations, dam upgrades, equipment replacement and capital projects support.

### What you can expect from us

- ▶ Infrastructure renewal and upgrades
- ▶ Capital Program for 15 water services (including Salt Spring Island)
- ▶ Engineering support of utility operations for the 15 water services.

### Staffing Complement

Capital Projects **8 FTE (including 1 Manager)**

## Watershed Protection

Forest land management of the 20,611 hectares of the Greater Victoria Water Supply Area to ensure high-quality source drinking water for the Regional Water Supply System through following service areas:

### SERVICE BUDGET REFERENCE<sup>2</sup>

- › 2.670 Regional Water Supply

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## 5. WILDFIRE, SECURITY & EMERGENCY RESPONSE

### Description

Watershed security, wildfire and spill preparedness, prevention and response.

### What you can expect from us

- ▶ 24/7 watershed emergency duty officer standby
- ▶ Security/wildfire patrols and standby (weekends and holidays; daily during elevated fire conditions)
- ▶ Wildfire detection air patrol during high and extreme fire hazard; infrared camera detection for the Sooke Water Supply Area.

### Staffing Complement

Watershed Protection: 8 FTE (including 1 Manager and Administrative Support) + leadership support

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## 6. WATERSHED OPERATIONS

### Description

Silviculture, forest health and forest fuel management; invasive plant management; vegetation management and road maintenance, upgrades and rehabilitation

### What you can expect from us

- ▶ Winter/summer road maintenance
- ▶ Culvert and bridge upgrades to accommodate higher peak flows to higher standards and changing climate
- ▶ Forest fuel and forest resilience treatments and fire smarting maintenance including brushing, thinning and chipping or burning of woody debris
- ▶ Brushing dam faces and around facilities, gates and fences
- ▶ Danger tree assessment and removal along roads and powerlines
- ▶ Invasive plants management

### Staffing Complement

Watershed Protection: 10 FTE (including 1 Manager) + leadership support

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<sup>2</sup> Service budget(s) listed may fund other services



## 7. RESOURCE PLANNING

### Description

Wildlife management, ecological inventories and analyses, risk assessment and management, and GIS and data management.

### What you can expect from us

- ▶ Development of a comprehensive watershed hydrology monitoring program
- ▶ Annual forest health survey
- ▶ Partnering in climate change and other research in the Greater Victoria Water Supply Area
- ▶ Management of beaver, Canada geese and bullfrogs
- ▶ School and public tours of the Water Supply Area and facilities

### Staffing Complement

Watershed Protection: **8 FTE (including 1 Manager) + leadership support**

## ENVIRONMENTAL PROTECTION

Regulatory and non-regulatory services and a support role across the organization that focuses on enhanced integration of drinking water quality protection programs and integration of communication initiatives.

### SERVICE BUDGET REFERENCES:<sup>3</sup>

- |   |   |
|---|---|
| › 1.531 Stormwater Quality Management - Sooke | › 3.707 On Site System Management Program                               |
| › 1.576 Environmental Engineering Services    | › 3.720 Saanich Peninsula Liquid Waste Management Plan - Implementation |
| › 1.578 & 1.579 Environmental Protection      | › 3.755 Regional Source Control Program                                 |
| › 3.701 Millstream Remediation                |   |

## 8. WATER QUALITY 1.0

### Description

Monitoring, data analysis, assessment, reporting and technical advice to meet water quality regulatory requirements.

### What you can expect from us

- ▶ Source water and distribution system monitoring, assessment and reporting
- ▶ Physical, chemical and biological analytical services, assessment and reporting

### Staffing Complement

Environmental Protection: **6 + lab staff FTE + leadership support**

<sup>3</sup> Service budget(s) listed may fund other services

## 9. DEMAND MANAGEMENT

### Description

Research and data to inform capital planning, water conservation, and communications and education.

### What you can expect from us

- ▶ Accurate data
- ▶ Per capita targets (residential and Industrial, Commercial and Institutional)

### Staffing Complement

Environmental Protection: **1.0 FTE + leadership support**

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## 10. CROSS CONNECTION CONTROL

### Description

Identification, registration, tracking and reporting of potential cross connection contamination sources in the Greater Victoria Drinking Water System.

### What you can expect from us

- ▶ Contamination prevention through facility inspections, testing and education for backflow prevention devices
- ▶ Monitor and track (>28,000) backflow prevention devices

### Staffing Complement

Environmental Protection: **4.6 FTE**

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## 11. COMMUNICATIONS & ENVIRONMENTAL EDUCATION

### Description

Public education and engagement in the region to promote sustainable behavior through campaigns, initiatives and services. Position is shared 80:20 with Wastewater communications support.

### What you can expect from us

- ▶ Increased public awareness of CRD messages and subsequent behavior changes (declining trend in per capita and per sector water use)

### Staffing Complement

Environmental Protection: **0.8 FTE + leadership support**

## 05 Initiatives

Below are the initiatives listed in the [Capital Regional District 2023-2026 Corporate Plan](#) and the related initiative business cases (IBCs), including financial and staffing impacts, proposed for 2024. The financial impacts reflect full program costs, including cost of staffing.

Initiative	Implementation year(s)	Impacts in 2024
2a-1 Update the Regional Water Supply Strategic Plan	2023	-
2a-2 Implement the 2022-2050 Regional Water Supply Master Plan	Ongoing	-
▶ <b>NEW IBC</b> 2a-2.1 Contracts Coordinator	2024-ongoing	\$92K fee-for-service 1 Auxiliary Converted
▶ <b>NEW IBC</b> 2a-2.2 Purchaser	2024-ongoing	\$205K fee-for-service + requisition 1 New Ongoing
2a-3 Review water rates in service agreements with First Nations	2024	Continued negotiation and implementation
2a-4 Review and determine appropriate level of water subsidy used for agriculture	2024	Ongoing, no change in subsidy in 2024
2a-5 Active forest/ecological management to enhance forest health and resilience in the Water Supply Areas	Planned for 2025	-
2a-6 Collect and analyze information for climate adaptation, reservoir management and the siting of new major infrastructure	Ongoing	-
2a-7 Implement a development cost charge program for the Regional Water Service	2024	-
▶ <b>NEW IBC</b> 2a-8.1 Water Quality Sampling Technician*	2024-ongoing	\$38K other Increase from 7 to 8-hour shifts

Initiative	Implementation year(s)	Impacts in 2024	
<p>2b-1 Enhance safety of aging dams, meet increasing regulatory requirements and mitigate against the risk of failures</p> <p>▶ <b>NEW IBC</b> 2b-1.1 Dam Safety Program – Integrated Water Services</p>	<p>2024</p> <p>2024-ongoing</p>	<p>\$375K fee-for-service</p>	<p>2 New Ongoing</p>
<p>2b-2 Invest in and maintain capital assets, and undertake regulatory monitoring, to service current and future population and climate adaptation</p> <p>▶ <b>FUTURE IBC</b> 2b-2.1 Utility Operator Team Lead – Water Operations</p>	<p>2024</p> <p>Planned for 2025</p>	<p>\$153K fee-for-service + requisition</p>	<p>1 New Ongoing</p>

*\*Not captured in the 2022-2026 Corporate Plan*

## 06 Performance

### GOAL 2A: HIGH QUALITY, SAFE DRINKING WATER

#### Targets & Benchmarks

The performance measures link to the CRD's goals of safe, sustainable and resilient water resources for the Capital Region.

#### Measuring Progress

Performance Measure(s)	Service	Type	2022 Actual	2023 Forecast	2024 Target
<b>1. Regulatory Compliance<sup>1</sup></b>	Regional Water Supply	Quantity	None	None	None
	Juan de Fuca Water Distribution	Quantity	None	None	None
	Saanich Peninsula Water Supply	Quantity	None	None	None
	Local Services	Quantity	8	3	None
<b>2. Water Quality Sampling (raw)<sup>2</sup></b>	Regional Water Supply	Quantity	15,589	17,174	17,174
	Local Services	Quantity	3,670	4,218	4,218
<b>3. Water Quality Sampling (treated)<sup>3</sup></b>	Regional Water Supply	Quality	1,787	1,888	1,888
	Juan de Fuca Water Distribution	Quality	7,531	7,378	7,762
	Saanich Peninsula Water Supply	Quality	2,102	3,701	3,701
	Local Services	Quality	24,904	17,893	17,893
<b>4. Demand<sup>4</sup></b>	Regional Water Supply	Quantity	359	340	340
	Juan de Fuca Water Distribution	Quantity	314	300	300
	Saanich Peninsula Water Supply	Quantity	479	420	420
	Local Services	Quantity	227.8	216.5	215.8

<sup>1</sup> Non-compliance with Island Health, provincial and federal regulatory requirements and operational certificates that result in Boil Water Advisories or Do Not Consume Events

<sup>2</sup> Water quality samples analyzed annually from source reservoirs (raw water)

<sup>3</sup> Water quality samples analyzed annually from transmission/distribution systems (treated water)

<sup>4</sup> Average day per capita water use (litres per capita per day)

#### Discussion

Measure 4. Demand: average day per capita water use (litres per capita per day)

- Regional Water Supply: Demand is plateauing due to the replacement of inefficient appliances and a surge of new high-density buildings with built-in water efficiencies
- Saanich Peninsula Water Supply: Driven by agricultural demand and lack of residential densification
- Local Services: Values represent the average of twelve services

**GOAL 2B: RELIABLE & EFFICIENT DRINKING WATER TRANSMISSION SYSTEM**

**Target & Benchmarks**

The performance measures link to the CRD’s goals of safe, sustainable and resilient water resources for the capital region.

**Measuring Progress**

Performance Measure(s)	Service	Type	2022 Actual	2023 Forecast	2024 Target
<b>5. Operating cost<sup>5</sup></b>	Regional Water Supply	Quantity	\$111	\$112	\$115
<b>6. Energy usage<sup>6</sup></b>	Regional Water Supply	Quantity	62.5	66	66
<b>7. Watershed water release<sup>7</sup></b>	Regional Water Supply	Quantity	11,229	11,500	12,000
<b>8. Water-main leak repairs<sup>8</sup></b>	Juan de Fuca Water Distribution	Quantity	8.2	10	8
	Local Services	Quantity	1	1	1
<b>9. Preventative maintenance<sup>9</sup></b>	Regional Water Supply	Quality	86%	96%	98%
	Juan de Fuca Water Distribution	Quality	84%	94%	96%
	Saanich Peninsula Water Supply	Quality	97%	98%	98%
	Local Services	Quality	91%	98%	98%

<sup>5</sup> Annual operating cost per megaliter of drinking water treated and supplied/distributed

<sup>6</sup> Annual energy use (kWh) per megaliter of drinking water treated and supplied/distributed

<sup>7</sup> Volume of raw water released annually from Regional Water Supply watersheds to rivers to support fish habitat (megaliters)

<sup>8</sup> Number of water-main leak repairs and service line leaks annually per 100 kilometers of pipe (distribution systems)

<sup>9</sup> Preventative maintenance completed (% of planned)

**Discussion**

- N/A

## 07 Business Model

### Water Supply & Distribution, Watershed Protection

**PARTICIPANTS** **Regional Water Supply:** All Municipalities, Juan de Fuca Electoral Area, First Nations (via Distribution Systems)

**Saanich Peninsula Water Supply:** Municipalities (Central Saanich, North Saanich, Sidney)

**JDF Water Distribution:** Langford, Colwood, View Royal, Metchosin, Highlands, Sooke, Juan de Fuca Electoral Area

**Local Water Service Areas in the Electoral Areas**

**FUNDING SOURCES** **Regional Water Supply:** Bulk water sales revenue

**Juan de Fuca Water Distribution System:** Retail water sales revenue in West Shore Municipalities

**Saanich Peninsula Water:** Wholesale water sales revenue

**GOVERNANCE** [Regional Water Supply Commission](#)  
[Water Advisory Committee](#)  
[Saanich Peninsula Water Commission](#)  
[Juan de Fuca Water Distribution Commission](#)  
[Various Local Services Commissions](#)

### Environmental Protection

**PARTICIPANTS** **Water Quality Service:** Allocation from Integrated Water Services and Local Service Areas (LSA) from the municipalities of Regional Water Supply area, Juan de Fuca and various local service areas, Sidney, North Saanich, Central Saanich and Peninsula First Nations

**Demand Management, Cross Connection Control Services:** water rate from all Municipalities and Electoral Areas

**Communications and Environmental Education:** all Municipalities and Electoral Areas

**FUNDING SOURCES** Water rate and requisition

**GOVERNANCE** [Regional Water Supply Commission](#)  
[Water Advisory Committee](#)  
[Saanich Peninsula Water Commission](#)  
[Juan de Fuca Water Distribution Commission](#)  
[Various Local Services Commissions](#)

**REPORT TO SAANICH PENINSULA WATER COMMISSION  
MEETING OF THURSDAY, OCTOBER 19, 2023**

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**SUBJECT**     **Service Planning 2024 – Water Community Need Summary**

**ISSUE SUMMARY**

To provide strategic context and an overview of services, initiatives and performance data related to the Water Community Need.

**BACKGROUND**

The Capital Regional District (CRD) Board approved the 2023-2026 Board Priorities on March 8, 2023. Staff then developed the 2023-2026 CRD Corporate Plan which was approved by the CRD Board on April 12, 2023.

The CRD Corporate Plan presents the work the organization needs to deliver over the four-year term, along with the critical regional, sub-regional and local services, to meet the region's most important needs (i.e., Community Needs) and advance the Board's Vision and Priorities. Board Priorities, Corporate Plan initiatives and core service delivery form the foundation of the five-year financial plan.

The 2024 planning cycle marks the first year of the implementation of the 2023-2026 CRD Corporate Plan. The CRD's annual service plans, known as Community Need Summaries, provide an overview of the operational and strategic context, services levels, initiatives, and performance data for each Community Need. They also provide details of the initiatives, associated staffing, timing and service levels required to advance the work in future years.

The Water Community Need Summary is attached as Appendix A. The desired outcome is safe drinking water and a resilient water supply.

The CRD reports on the progress of its initiatives and services on a regular basis. The Board receives updates about the Board Strategic Priorities through the Chief Administrative Officer Quarterly Progress Reports. The Board also receives an overview of progress made on delivering the Corporate Plan twice a year at the strategic check-in and provisional budget meetings, which take place in the spring and fall respectively. The next strategic check-in will take place in spring 2024. During the year, standing committees and commissions also fulfill an oversight and advisory role in relation to the work.

**ALTERNATIVES**

*Alternative 1*

The Saanich Peninsula Water Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:

That Appendix A, Community Need Summary – Water, be approved as presented and form the basis of the 2024-2028 Financial Plan.



*Alternative 2*

The Saanich Peninsula Water Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:

That Appendix A, Community Need Summary – Water, be approved as amended and form the basis of the 2024-2028 Financial Plan.

**IMPLICATIONS***Governance Implications*

In 2024, staff have prioritized programs and initiatives that:

- Advance 2023-2026 Board Priorities or Corporate Plan initiatives;
- Operationalize capital investments; and/or
- Are necessary to maintain a core service level following a regulatory change or where there is a safety risk to customers, communities, or staff.

The Executive Leadership Team (ELT) has reviewed and assessed all business cases and confirmed alignment with the criteria. ELT has determined that the consolidated package of work is appropriate and a proportional response to the CRD Board's and communities' expectations of the organization.

*Financial Implications*

To exercise constraint and cost containment, the CRD Board directed staff to keep the core inflationary adjustment to 3.5% through the 2024 Service and Financial Planning Guidelines. Staff and management have taken the necessary steps to mitigate the financial impact of proposed initiatives as well as cost escalation and high inflation rate experienced in 2022 through to 2023.

The 2024 operating costs include non-negotiable collective agreement increases that were effective for 2024, as well as retroactively capturing increases from 2023 which were finalized after the 2023 water rate approval. As a result, the 2024 core operating cost increase exceeds the 3.5% threshold.

Financial and staff impacts for initiatives will be summarized and included in the provisional budget which will be presented at the Committee of the Whole meeting scheduled for October 25, 2023. Starting this year, this will also include a five-year forecast of staffing level changes, which will be reviewed annually.

*Service Delivery Implications*

Appendix A includes information about existing service delivery, operational considerations and performance. Additional information has been provided below about the proposed changes for 2024/2025.

*1. Proposed changes for 2024*

Staff are proposing to advance four new initiatives for the Water Community Need that have financial implications for 2024, as shown in Table 1. The key drivers for the initiatives are:

1. advancing a Board or Corporate Plan Priority;
2. operationalizing capital investments; and
3. adjustments to core service levels to maintain safety.

Table 1. Water Community Need Initiatives (2024)

Initiative	Implementation year(s)	Staff impacts (2024)	Incremental cost (2024)	Funding source
2a-2.1 Contracts Coordinator	2024–ongoing	1 Auxiliary Converted	\$92,000	Fee-for-service
2a-2.2 Purchaser	2024–ongoing	1 New Ongoing	\$205,000	Fee-for-service & Requisition
2a-8.1 Water Quality Sampling Technician	2024-ongoing	Increase to daily hours	\$38,000	Fee-for-service & Requisition
2b-1.1 Dam Safety Program – Integrated Water Services	2024–ongoing	2 New Ongoing	\$375,000	Fee-for-service

The information in Table 1 reflects the business case costs which ELT reviewed as part of their annual assessment of initiatives. The financial impacts reflect full program costs, including cost of staffing.

### 2a-2.1 Contracts Coordinator

Timely contract assembly and completion is essential to reducing financial risks (e.g., from rapid increases in material costs) and schedule risks (e.g., from inability to start projects as planned). The Integrated Water Services Administration division has experienced an exponential increase in the volume of contract-related work due to the growth of the water and wastewater capital programs, the expanded core area wastewater service and the adoption of the 30-year Regional Water Supply 2022 Master Plan.

Initiative 2a-2.1 seeks to convert existing auxiliary hours to one regular ongoing Contracts Coordinator position to meet the increasing demand for contract management, coordination and related contracts and records management functions within the department.

### 2a-2.2 Purchaser

The Integrated Water Services purchasing division has operated with one purchaser for over a decade. Integrated Water Services' staff, budgets, and purchasing needs, both for operating and capital, have increase significantly over that period. With more buying comes more legal and financial risk, and trained purchasers provide critical first-stage advice to avoid later stage disputes or litigation matters.

Initiative 2a-2.2 seeks to create a new regular ongoing Purchaser position in the Legal & Risk Management division to increase support for the Integrated Water Services centralized purchasing function and increase organizational capacity by freeing up specialized staff to focus on service delivery and spend less time on procurement activities.

### 2a-8.1 Water Quality Sampling Technician (Regular)

The CRD is required to meet drinking water monitoring requirements to ensure compliance with provincial laws. Keeping monitoring and system oversight in step with regional growth in drinking water is part of its commitment to provide high-quality and safe drinking water to the region. The

Greater Victoria Drinking Water System is rapidly expanding to meet the region's growth. Regulatory requirements for drinking water monitoring are growing relative to population growth and additional water sampling staff resources are needed to keep up.

Initiative 2a-8.1 seeks to increase existing Environmental Protection staff hours from a 7 hour workday to 8 hour workday to achieve this.

### **2b-1.1 Dam Safety Program - Integrated Water Services**

Integrated Water Services manages 23 water supply dams, 15 of which are directly related to the Regional Water Supply System. The remaining eight dams are located within three other water services: Magic Lake Estates on North Pender Island (4), Lyall Harbour/Boot Cove on Saturna Island (1), and Wilderness Mountain near East Sooke (3).

Integrated Water Services is responsible for the operation, maintenance, and surveillance of the dams, as well as regulatory compliance activities and resolving safety issues through capital and operational safety improvements. Dams are essential for storing water for delivery to customers, but they are inherently risky. The failure of a dam can result in catastrophic consequences, including loss of life, economic impacts (e.g., property damage), and environmental and social impacts.

The Dam Safety program is currently led by the Infrastructure Engineering division, with support from various divisions in Integrated Water Services and other parts of the organization. In accordance with regulatory requirements, staff conduct regular safety reviews and studies to assess the state of the infrastructure and compare the CRD's dam management approaches against best management practices. This monitoring has highlighted that the number of safety issues has been trending up since 2017. It has now become clear that to successfully manage dam-related risks moving forward the department needs a proactive strategy and dedicated, experienced staff with a robust understanding of the complexities of dam safety projects.

Initiative 2b-1.1 seeks to consolidate resources and create a dedicated Dam Safety division with operational and engineering staff to operate, maintain and monitor dams in a 'safe condition', prioritize and resolve known deficiencies, identify and manage new risks, adapt to changing climatic conditions, and ensure compliance with the Dam Safety Regulation and Water Sustainability Act.

As a starting point, the division seeks to create two new regular ongoing positions in 2024 in the Infrastructure Engineering and the Water Infrastructure Operations divisions to start this process. Additional resources requests are expected to follow in 2025 and 2026 as the function becomes established.

### *2. Planned changes in 2025*

There is one initiative planned for 2025, shown in Table 2. The CRD Board will consider approval next year.

Table 2. Forecast of Future Initiatives: Water Community Need

Initiative	Implementation year(s)	Staff impacts (2025)	Incremental cost (2025)	Funding source
2b-2.1 Utility Operator Team Lead – Water Operations	2025-ongoing	1 New Ongoing	\$153,000	Fee-for-service & Requisition

The information in Table 2 also reflects the business case costs.

### **2b-2.1 Utility Operator - Water Operations**

The Water Operations division maintains and operates the Juan de Fuca Water Distribution system for Colwood, Langford, Metchosin, View Royal, Sooke, Highlands and the Juan de Fuca Electoral Area (East Sooke), serving approximately 60,000 customers. The system continues to expand due to development and, as the system ages, additional maintenance and infrastructure renewal is required. The Water Operations division has identified several challenges related to the system's reliability, and efficiency including aging infrastructure, maintenance frequency, and increasing demand.

To address these challenges, initiative 2b-2.1 seeks to create one new regular ongoing Utility Operator position. This position will be responsible for ensuring operational activities are planned in a safe manner and compliant with regulatory requirements, while increasing the resilience of the drinking water systems.

### **CONCLUSION**

Capital Regional District (CRD) staff are progressing initiatives identified in the 2023-2026 CRD Corporate Plan, including the Board Priorities. The CRD Board, and commissions with delegated authorities, determine resourcing through the annual review and approval of the provisional financial plan. To support decision-making, staff provide recommendations on funding, timing and service levels through the service and financial planning processes.

### **RECOMMENDATION**

The Saanich Peninsula Water Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:

That Appendix A, Community Need Summary – Water, be approved as presented and form the basis of the 2024-2028 Financial Plan.

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

### **ATTACHMENT(S)**

Appendix A: Community Need Summary – Water

## 2

# Water

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Safe drinking water and a resilient water supply

## 01 Strategy

### STRATEGIES & PLANS

- › Regional Water Supply Strategic Plan
- › Regional Water Supply Master Plan 2022-2050
- › Regional Growth Strategy

### CORPORATE PLAN GOALS

- 2a High quality, safe drinking water
- 2b Reliable & efficient drinking water transmission system

## 02 Contacts

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## 03 Operating Context

### ACHIEVEMENTS IN 2023

#### Infrastructure Engineering:

1. Started procurement of a design consultant for replacement of sections of Regional Supply Main No.3 and No.4. These projects will replace aging infrastructure and improve seismic resilience in the regional transmission system. High quality, safe drinking water.
2. Completed Phase 1 and started Phase 2 of the Regional Water Development Cost Charge Program. The need for such a program was identified in the CRD 2023-2026 Corporate Plan and will be used to fund future growth-related regional water supply system improvements.
3. Completed major projects in the Juan de Fuca Water distribution system including two new pump stations and three water storage tanks. These projects replaced aging infrastructure and provided additional capacity for growth within the Juan de Fuca Water Distribution system.

#### Watershed Protection:

1. Completion of two autogates to prevent recreation driven trespass into the Greater Victoria Water Supply Area and public safety around the Goldstream Water Treatment Facilities.
2. Completion of an upgraded Goldstream Entrance to the Greater Victoria Water Supply Area to provide more functional access control, security and visible security presence.
3. Implementation of an infrared wildfire detection camera on a tower on Mount Healy for more effective surveillance and monitoring of any wildfire starts in the Sooke Water Supply Area (WSA).

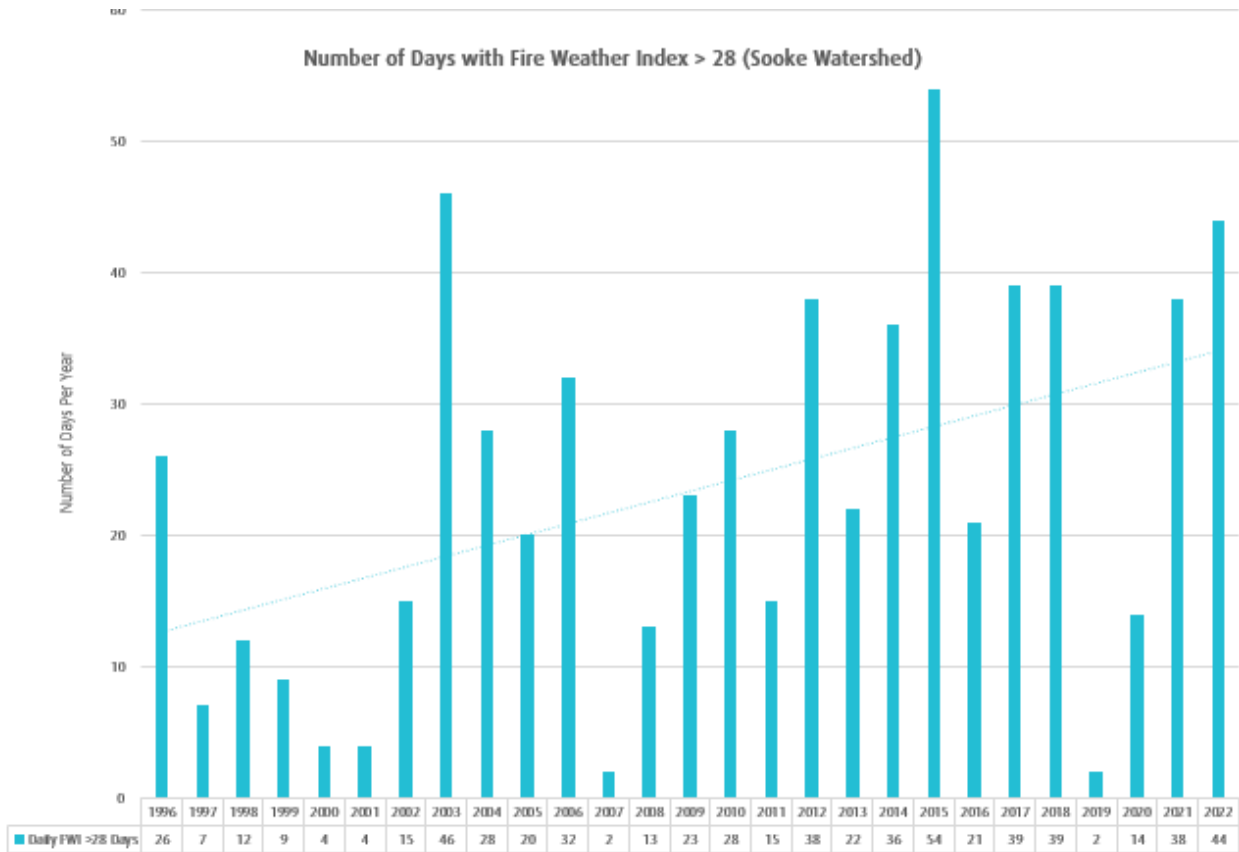
### FACTORS THAT WILL AFFECT OUR OPERATIONS IN 2024 AND BEYOND

- **Security and patrols:** there is an ongoing need to monitor for and respond to recreational pressure into the Greater Victoria Water Supply Area from Sooke Hills Wilderness Regional Park and from the rapidly developing residential area around Langford and Goldstream. During Extreme Fire Danger Rating, this creates additional risk to the Greater Victoria Water Supply Area and additional pressure on the Watershed team.
- **Climate Action:** the most significant risks for water services relate to climate and environmental changes. Predicted trends of drier, hotter summers will impact the water services in several ways:
  - Demand for water, including for local agricultural activities – this is monitored closely and evaluated against historical trends. Model predictions are updated for areas exhibiting higher than predicted demands. This will inform future infrastructure upgrades to meet growing demands.
  - Water quality may be affected due to increased biological growth in the source water and distribution system. The 2022 Regional Water Supply Master Plan recommends implementing filtration as a step in the treatment process by 2037.
  - In the Greater Victoria Water Supply Area, increasing periods of elevated wildfire risk, peak flows from winter storms, drought stress on trees which could lead to increased mortality and forest pests/diseases.
  - Increased risk of power outages.

- **Infrastructure Vulnerability, Resiliency, and Emergency Preparedness:** there are increases in operational and system maintenance demands from a growing region combined with aging infrastructure. The 2022 Regional Water Supply Master Plan identified a strategy to address supply (quantity) and critical delivery infrastructure (redundancy) needs over the next 30 years. In addition to continuing to replace and refresh our existing assets to ensure they remain in a state of good repair, preliminary studies will also commence on the large elements identified in the Regional Water Supply Master Plan.
- **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.
- **Operational cost increases:** the costs of essential water system operating supplies, such as disinfection chemicals, have been increasing 30-40% year over year which is impacting the cost-of-service delivery. This trend has been seen across North America.
- **Regional Water Supply Strategic Plan (2017):** Actions and initiatives to support the strategic priorities and commitments will be updated, starting in 2023. The revised plan, which will be published in 2024, will look to address future needs for the 2025-2029 period.
- **Rate Structure Review:** A new service delivery model for First Nations water servicing is being advanced with implementation expected in late 2023/early 2024. Through the agreement, the Regional Water Supply Service will become the service provider for participating First Nations governments.

### OPERATIONAL STATISTICS

An example of the effect of climate change on the number of days of elevated wildfire risk for the Greater Victoria Water Supply Area:





## 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.

### Water Supply & Distribution

Wholesale water supply to approximately 400,000 consumers in Greater Victoria and residents in three municipalities on the Saanich Peninsula, water distribution system within Langford, Sooke, View Royal, Colwood, East Sooke, Metchosin and Highlands and the small water systems in the Electoral Areas (EAs) supported through the following key service areas:

#### SERVICE BUDGET REFERENCES<sup>1</sup>

- › 2.670 Regional Water Supply
- › 2.680 Juan de Fuca Water Distribution
- › 2.610 Saanich Peninsula Water
- › Small water systems in the Electoral Areas

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### 1. WATER SYSTEMS OPERATIONS AND MAINTENANCE

#### Description

Water treatment, supply and distribution system operation and monitoring. System and facility maintenance, consumables management and preventative maintenance. Respond to water main breaks and other system emergencies.

#### What you can expect from us

- ▶ 24/7 water treatment operations for two facilities for Greater Victoria
- ▶ Supply and distribution system operation
- ▶ System monitoring
- ▶ Customer service
- ▶ System and facility maintenance
- ▶ Consumables management
- ▶ Component preventative maintenance
- ▶ 24/7 emergency response to water main breaks and other system emergencies

#### Staffing Complement

Water Infrastructure Operations: **61 FTE (including 5 Managers and Administrative Support)**

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<sup>1</sup> Service budget(s) listed may fund other services

## 2. INFRASTRUCTURE PLANNING

### Description

Strategic asset management for all services/systems including modeling and capacity analysis, vulnerability assessment, infrastructure renewal plans.

### What you can expect from us

- ▶ Asset management and capital planning
- ▶ Adjust plans for 15 water services
- ▶ System expansion and growth planning
- ▶ Proactive capital planning for all 15 water services with a 15-year outlook
- ▶ Ongoing condition assessment to inform the capital program and ensure water systems assets remain in a state of good repair
- ▶ Incorporating growth and expansion demands into future plans

### Staffing Complement

Water Supply Engineering and Planning: **4 FTE**

Water Distribution Engineering and Planning: **6 FTE (including 1 Manager)**

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## 3. CAPITAL PROJECT DELIVERY

### Description

Project design, procurement and delivery of capital projects annually on time/budget. Main installations, dam upgrades, equipment replacement and capital projects support.

### What you can expect from us

- ▶ Infrastructure renewal and upgrades
- ▶ Capital Program for 15 water services (including Salt Spring Island)
- ▶ Engineering support of utility operations for the 15 water services.

### Staffing Complement

Capital Projects **8 FTE (including 1 Manager)**

## Watershed Protection

Forest land management of the 20,611 hectares of the Greater Victoria Water Supply Area to ensure high-quality source drinking water for the Regional Water Supply System through following service areas:

### SERVICE BUDGET REFERENCE<sup>2</sup>

- › 2.670 Regional Water Supply

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## 5. WILDFIRE, SECURITY & EMERGENCY RESPONSE

### Description

Watershed security, wildfire and spill preparedness, prevention and response.

### What you can expect from us

- ▶ 24/7 watershed emergency duty officer standby
- ▶ Security/wildfire patrols and standby (weekends and holidays; daily during elevated fire conditions)
- ▶ Wildfire detection air patrol during high and extreme fire hazard; infrared camera detection for the Sooke WSA

### Staffing Complement

Watershed Protection: 8 FTE (including 1 Manager and Administrative Support) + leadership support

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## 6. WATERSHED OPERATIONS

### Description

Silviculture, forest health and forest fuel management; invasive plant management; vegetation management and road maintenance, upgrades and rehabilitation

### What you can expect from us

- ▶ Winter/summer road maintenance
- ▶ Culvert and bridge upgrades to accommodate higher peak flows to higher standards and changing climate
- ▶ Forest fuel and forest resilience treatments and fire smarting maintenance including brushing, thinning and chipping or burning of woody debris
- ▶ Brushing dam faces and around facilities, gates and fences
- ▶ Danger tree assessment and removal along roads and powerlines
- ▶ Invasive plants management

### Staffing Complement

Watershed Protection: 10 FTE (including 1 Manager) + leadership support

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<sup>2</sup> Service budget(s) listed may fund other services

## 7. RESOURCE PLANNING

### Description

Wildlife management, ecological inventories and analyses, risk assessment and management, and GIS and data management.

### What you can expect from us

- ▶ Development of a comprehensive watershed hydrology monitoring program
- ▶ Annual forest health survey
- ▶ Partnering in climate change and other research in the Greater Victoria Water Supply Area
- ▶ Management of beaver, Canada geese and bullfrogs
- ▶ School and public tours of the Water Supply Area and facilities

### Staffing Complement

Watershed Protection: **8 FTE (including 1 Manager) + leadership support**

## ENVIRONMENTAL PROTECTION

Regulatory and non-regulatory services and a support role across the organization that focuses on enhanced integration of drinking water quality protection programs and integration of communication initiatives.

### SERVICE BUDGET REFERENCES:<sup>3</sup>

- |   |   |
|---|---|
| › 1.531 Stormwater Quality Management - Sooke | › 3.707 On Site System Management Program                               |
| › 1.576 Environmental Engineering Services    | › 3.720 Saanich Peninsula Liquid Waste Management Plan - Implementation |
| › 1.578 & 1.579 Environmental Protection      | › 3.755 Regional Source Control Program                                 |
| › 3.701 Millstream Remediation                |   |

## 8. WATER QUALITY 1.0

### Description

Monitoring, data analysis, assessment, reporting and technical advice to meet water quality regulatory requirements.

### What you can expect from us

- ▶ Source water and distribution system monitoring, assessment and reporting
- ▶ Physical, chemical and biological analytical services, assessment and reporting

### Staffing Complement

Environmental Protection: **6 + lab staff FTE + leadership support**

<sup>3</sup> Service budget(s) listed may fund other services

## 9. DEMAND MANAGEMENT

### Description

Research and data to inform capital planning, water conservation, and communications and education.

### What you can expect from us

- ▶ Accurate data
- ▶ Per capita targets (residential and Industrial, Commercial and Institutional)

### Staffing Complement

Environmental Protection: **1.0 FTE + leadership support**

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## 10. CROSS CONNECTION CONTROL

### Description

Identification, registration, tracking and reporting of potential cross connection contamination sources in the Greater Victoria Drinking Water System.

### What you can expect from us

- ▶ Contamination prevention through facility inspections, testing and education for backflow prevention devices
- ▶ Monitor and track (>28,000) backflow prevention devices

### Staffing Complement

Environmental Protection: **4.6 FTE**

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## 11. COMMUNICATIONS & ENVIRONMENTAL EDUCATION

### Description

Public education and engagement in the region to promote sustainable behavior through campaigns, initiatives and services. Position is shared 80:20 with Wastewater communications support.

### What you can expect from us

- ▶ Increased public awareness of CRD messages and subsequent behavior changes (declining trend in per capita and per sector water use)

### Staffing Complement

Environmental Protection: **0.8 FTE + leadership support**

## 05 Initiatives

Below are the initiatives listed in the [Capital Regional District 2023-2026 Corporate Plan](#) and the related initiative business cases (IBCs), including financial and staffing impacts, proposed for 2024. The financial impacts reflect full program costs, including cost of staffing.

Initiative	Implementation year(s)	Impacts in 2024
2a-1 Update the Regional Water Supply Strategic Plan	2023	-
2a-2 Implement the 2022-2050 Regional Water Supply Master Plan	Ongoing	-
▶ <b>NEW IBC</b> 2a-2.1 Contracts Coordinator	2024-ongoing	\$92K fee-for-service 1 Auxiliary Converted
▶ <b>NEW IBC</b> 2a-2.2 Purchaser	2024-ongoing	\$205K fee-for-service + requisition 1 New Ongoing
2a-3 Review water rates in service agreements with First Nations	2024	Continued negotiation and implementation
2a-4 Review and determine appropriate level of water subsidy used for agriculture	2024	Ongoing, no change in subsidy in 2024
2a-5 Active forest/ecological management to enhance forest health and resilience in the Water Supply Areas	Planned for 2025	-
2a-6 Collect and analyze information for climate adaptation, reservoir management and the siting of new major infrastructure	Ongoing	-
2a-7 Implement a development cost charge program for the Regional Water Service	2024	-
▶ <b>NEW IBC</b> 2a-8.1 Water Quality Sampling Technician*	2024-ongoing	\$38K other Increase from 7 to 8-hour shifts

Initiative	Implementation year(s)	Impacts in 2024	
<p>2b-1 Enhance safety of aging dams, meet increasing regulatory requirements and mitigate against the risk of failures</p> <p>▶ <b>NEW IBC</b> 2b-1.1 Dam Safety Program – Integrated Water Services</p>	<p>2024</p> <p>2024-ongoing</p>	<p>\$375K fee-for-service</p>	<p>2 New Ongoing</p>
<p>2b-2 Invest in and maintain capital assets, and undertake regulatory monitoring, to service current and future population and climate adaptation</p> <p>▶ <b>FUTURE IBC</b> 2b-2.1 Utility Operator Team Lead – Water Operations</p>	<p>2024</p> <p>Planned for 2025</p>	<p>\$153K fee-for-service + requisition</p>	<p>1 New Ongoing</p>

*\*Not captured in the 2022-2026 Corporate Plan*

## 06 Performance

### GOAL 2A: HIGH QUALITY, SAFE DRINKING WATER

#### Targets & Benchmarks

The performance measures link to the CRD's goals of safe, sustainable and resilient water resources for the Capital Region.

#### Measuring Progress

Performance Measure(s)	Service	Type	2022 Actual	2023 Forecast	2024 Target
<b>1. Regulatory Compliance<sup>1</sup></b>	Regional Water Supply	Quantity	None	None	None
	Juan de Fuca Water Distribution	Quantity	None	None	None
	Saanich Peninsula Water Supply	Quantity	None	None	None
	Local Services	Quantity	8	3	None
<b>2. Water Quality Sampling (raw)<sup>2</sup></b>	Regional Water Supply	Quantity	15,589	17,174	17,174
	Local Services	Quantity	3,670	4,218	4,218
<b>3. Water Quality Sampling (treated)<sup>3</sup></b>	Regional Water Supply	Quality	1,787	1,888	1,888
	Juan de Fuca Water Distribution	Quality	7,531	7,378	7,762
	Saanich Peninsula Water Supply	Quality	2,102	3,701	3,701
	Local Services	Quality	24,904	17,893	17,893
<b>4. Demand<sup>4</sup></b>	Regional Water Supply	Quantity	359	340	340
	Juan de Fuca Water Distribution	Quantity	314	300	300
	Saanich Peninsula Water Supply	Quantity	479	420	420
	Local Services	Quantity	227.8	216.5	215.8

<sup>1</sup> Non-compliance with Island Health, provincial and federal regulatory requirements and operational certificates that result in Boil Water Advisories or Do Not Consume Events

<sup>2</sup> Water quality samples analyzed annually from source reservoirs (raw water)

<sup>3</sup> Water quality samples analyzed annually from transmission/distribution systems (treated water)

<sup>4</sup> Average day per capita water use (litres per capita per day)

#### Discussion

Measure 4. Demand: average day per capita water use (litres per capita per day)

- Regional Water Supply: Demand is plateauing due to the replacement of inefficient appliances and a surge of new high-density buildings with built-in water efficiencies
- Saanich Peninsula Water Supply: Driven by agricultural demand and lack of residential densification
- Local Services: Values represent the average of twelve services



## GOAL 2B: RELIABLE & EFFICIENT DRINKING WATER TRANSMISSION SYSTEM

### Target & Benchmarks

The performance measures link to the CRD's goals of safe, sustainable and resilient water resources for the capital region.

### Measuring Progress

Performance Measure(s)	Service	Type	2022 Actual	2023 Forecast	2024 Target
<b>5. Operating cost<sup>5</sup></b>	Regional Water Supply	Quantity	\$111	\$112	\$115
<b>6. Energy usage<sup>6</sup></b>	Regional Water Supply	Quantity	62.5	66	66
<b>7. Watershed water release<sup>7</sup></b>	Regional Water Supply	Quantity	11,229	11,500	12,000
<b>8. Water-main leak repairs<sup>8</sup></b>	Juan de Fuca Water Distribution	Quantity	8.2	10	8
	Local Services	Quantity	1	1	1
<b>9. Preventative maintenance<sup>9</sup></b>	Regional Water Supply	Quality	86%	96%	98%
	Juan de Fuca Water Distribution	Quality	84%	94%	96%
	Saanich Peninsula Water Supply	Quality	97%	98%	98%
	Local Services	Quality	91%	98%	98%

<sup>5</sup> Annual operating cost per megaliter of drinking water treated and supplied/distributed

<sup>6</sup> Annual energy use (kWh) per megaliter of drinking water treated and supplied/distributed

<sup>7</sup> Volume of raw water released annually from Regional Water Supply watersheds to rivers to support fish habitat (megaliters)

<sup>8</sup> Number of water-main leak repairs and service line leaks annually per 100 kilometers of pipe (distribution systems)

<sup>9</sup> Preventative maintenance completed (% of planned)

### Discussion

- N/A

## 07 Business Model

### Water Supply & Distribution, Watershed Protection

**PARTICIPANTS** **Regional Water Supply:** All Municipalities, Juan de Fuca Electoral Area, First Nations (via Distribution Systems)

**Saanich Peninsula Water Supply:** Municipalities (Central Saanich, North Saanich, Sidney)

**JDF Water Distribution:** Langford, Colwood, View Royal, Metchosin, Highlands, Sooke, Juan de Fuca Electoral Area

**Local Water Service Areas in the Electoral Areas**

**FUNDING SOURCES** **Regional Water Supply:** Bulk water sales revenue

**Juan de Fuca Water Distribution System:** Retail water sales revenue in West Shore Municipalities

**Saanich Peninsula Water:** Wholesale water sales revenue

**GOVERNANCE** [Regional Water Supply Commission](#)  
[Water Advisory Committee](#)  
[Saanich Peninsula Water Commission](#)  
[Juan de Fuca Water Distribution Commission](#)  
[Various Local Services Commissions](#)

### Environmental Protection

**PARTICIPANTS** **Water Quality Service:** Allocation from Integrated Water Services and Local Service Areas (LSA) from the municipalities of Regional Water Supply area, Juan de Fuca and various local service areas, Sidney, North Saanich, Central Saanich and Peninsula First Nations

**Demand Management, Cross Connection Control Services:** water rate from all Municipalities and Electoral Areas

**Communications and Environmental Education:** all Municipalities and Electoral Areas

**FUNDING SOURCES** Water rate and requisition

**GOVERNANCE** [Regional Water Supply Commission](#)  
[Water Advisory Committee](#)  
[Saanich Peninsula Water Commission](#)  
[Juan de Fuca Water Distribution Commission](#)  
[Various Local Services Commissions](#)