

Service Plan for Infrastructure Operations

2016-2019
(2019)

Capital Regional District

Date Updated: July 24, 2018



Making a difference...together

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1 Overview

1.1 Division & Service Summary

The Infrastructure Operations Division operates a number of drinking water and wastewater systems across the Capital Region, with a focus on providing clean and safe potable water, and wastewater collection and disposal services, while ensuring compliance with public health and environmental regulations.

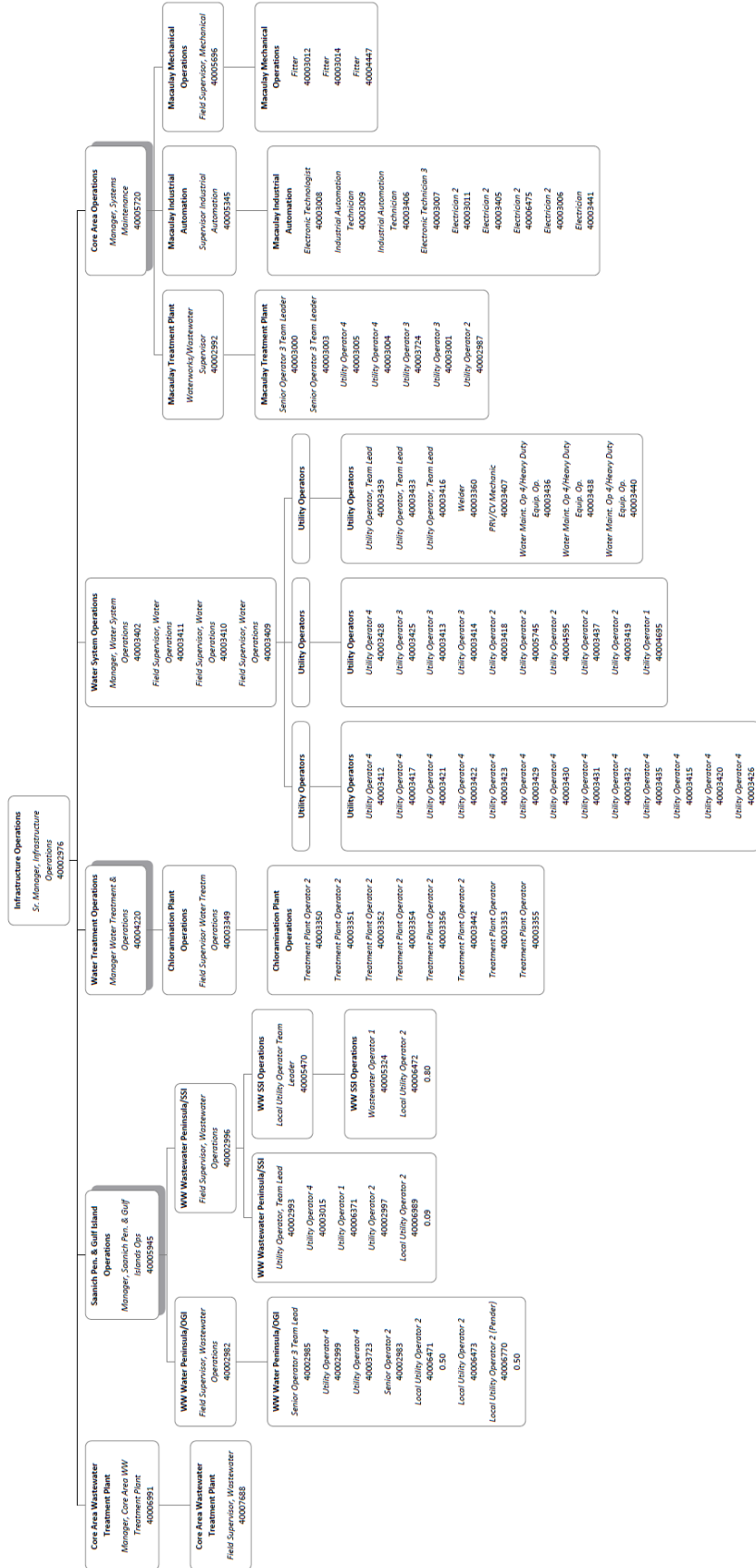
The Division operates and proactively manages our infrastructure assets that exist in the following service areas: Regional Water Supply System, Juan de Fuca Water Distribution System Saanich Peninsula Water Supply System, Regional Trunk Wastewater, Saanich Peninsula Wastewater System, as well as 18 Local Service Area Small Water and Wastewater Systems in the electoral areas.

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p>Regional Water Supply Wholesale water supply to the 350,000 consumers in Greater Victoria supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works</p>	<p>4 Core Municipalities (Saanich, Victoria, Esquimalt, Oak Bay)</p> <p>Saanich Peninsula</p> <p>JDF Distribution</p>	<p>Funded through bulk water sales revenue</p>	<p>Regional Water Supply Commission (Standing)</p>
<p>Juan de Fuca Water Distribution Retail water supply to the six municipalities in the Western Communities, Sooke, and 4 First Nations supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works</p>	<p>6 Municipalities (Langford, Colwood, View Royal, Metchosin, Sooke, portion of Highlands)</p> <p>4 First Nations</p> <p>JDF Electoral Area</p>	<p>Funded through retail water sales revenue</p>	<p>Juan de Fuca Water Distribution Commission (Standing)</p>
<p>Saanich Peninsula Water Wholesale water supply to residents in the three municipalities on the Saanich Peninsula supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works</p>	<p>3 Municipalities (Central Saanich, North Saanich, Sidney)</p>	<p>Funded through wholesale water sales revenue</p>	<p>Saanich Peninsula Water Commission (Standing)</p>

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p>Core Area Wastewater Sub-regional wastewater conveyance, treatment, and disposal services in the Core Area supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works</p>	<p>7 Municipalities (Colwood, Langford, Esquimalt, Oak Bay, Saanich, Victoria, View Royal)</p> <p>Songhees Nation</p> <p>Esquimalt Nation</p>	<p>Funded through tax requisition based on each participant's flow or design capacity</p>	<p>Core Area Liquid Waste Management Committee (Standing)</p>
<p>Saanich Peninsula Wastewater Sub-regional wastewater conveyance, treatment, and disposal services for the Saanich Peninsula municipalities, and other participants supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works</p>	<p>3 Municipalities (Central Saanich, North Saanich, Sidney)</p> <p>Peninsula First Nations</p> <p>IOS and Victoria Airport</p>	<p>Funded through tax requisition based on each participant's flow or design capacity</p>	<p>Saanich Peninsula Wastewater Commission (Standing)</p>
<p>Local Services Local services in the JDF, SGI, and SSI Electoral Areas including 12 water systems, 4 sewer systems, 1 septage facility, and 11 harbour facilities supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works</p>	<p>Small service area customers within JDF, SGI, and SSI Electoral Areas</p>	<p>Funded through parcel tax and user charges (fixed and variable)</p>	<p>Various Harbour, Water and Wastewater Local Service Commissions (Advisory Commissions)</p>

1.2 Organization Chart

Infrastructure Operations



1.3 Key Trends, Issues & Risks – Service Specific

- **Core Area Wastewater Treatment Project:** It is anticipated that Infrastructure Operations staff will be involved in the project, providing design input from an operational perspective in the early phases, to eventual commissioning and operation of the new facilities in the completion phases. Staffing requirements will increase as new facilities are completed.
- Infrastructure Operations is anticipating increased staffing requirements related to the large amount of wastewater infrastructure planned or under construction in the Core Area. This staffing requirement will begin to roll out in 2018 and continue through to full commissioning and optimization of the facilities with the full staff compliment expected by the end of 2021. The next few years will involve a combination of full-time permanent position development, as well as auxiliary positions in order to build the internal skill set in anticipation of hiring for permanent wastewater positions in 2019-2021. With the expanded wastewater function and growing water distribution system, dedicated water and wastewater operations divisions will be established in order to effectively manage system operations, but with a continued focus on integrated service delivery.
- **Local Service Area Operations and Capital Improvements:** It is anticipated that Infrastructure Operations staff will be directly involved in the planning and completion of the many infrastructure improvement projects that are required across the Local Service Area water and wastewater systems, to address failing/aging infrastructure. The expected level of involvement will have an impact on available staff resources.
- **Worker Safety Regulatory Changes:** Increasing worker safety regulatory changes result in increased training and certification requirements (i.e. crane safety training and certification, fleet service vehicle driver training) and operating procedural changes (i.e. confined space work procedures and safe excavation requirements) that have an impact on field productivity, but are critical to the work environment.
- **Workforce Planning** – A focus on divisional workforce planning will be important to identify knowledge transfer opportunities and staffing levels necessary to operate new facilities requiring higher levels of EOCP certification and to backfill retirements in operating areas.
- **Water Operations:** Additional financial resources are required to maintain the current level of service of operation and maintenance programs within the Greater Victoria Water Systems. The Juan de Fuca Water Distribution system is experiencing a high rate of water infrastructure expansion to accommodate the high rate of development and population growth. Some assets within the Regional Water Supply system infrastructure are aging which is resulting in an increased amount of maintenance attention.
- **Water Treatment Operations:** The Japan Gulch Water Treatment Plant upgrade will be completed in 2018. The upgraded plant in addition to the recently commissioned emergency generator, will result in extra operating costs to the RWS.

1.4 Link to Priorities

CLIMATE CHANGE

- Realign resources to effectively deliver on Board directives relating to climate change and implement policy and practices to demonstrate leadership in operations
- Develop a climate framework to guide decision-making, establish a working group to identify climate change priorities and maximize partnerships

INTEGRATED WASTE MANAGEMENT

- Realign resources to effectively deliver on Board directives relating to integrated waste management and develop an overarching integrated plan
- Implement an assessment framework on integration opportunities, consider innovative approaches and report on the effectiveness of programs

DRINKING WATER

- Protect and maintain an adequate supply of safe, reliable drinking water
- Invest in the renewal and replacement of aging infrastructure to deliver an adequate supply of safe, reliable drinking water

REGIONAL INFRASTRUCTURE

- Ensure that resources are available for investment in current and future infrastructure, demonstrating efficiency and value for money and meeting regulatory and service requirements
- Develop and implement asset management planning framework and tools to continue proactive and responsible management of assets and infrastructure, both natural and engineered

CORPORATE DEVELOPMENT

- Evaluate the use of innovative technologies and corporate support systems for continuous improvement and effective service delivery
- Ensure CRD service delivery is effectively supported through the development of best practices
- Enhance and ensure effective financial and audit reporting practices
- Support continued investments in workforce education, training and development

2 Services

2.1 Service Levels

Service Level Adjustments in Role/Scope		
Service	Base Year	Year 4 (2019)
Water and Wastewater System Operations	Water and wastewater treatment	Adjust to meet service delivery needs, as required
	Supply and distribution system operation	
	Collection and transmission system operation	
	System monitoring	
	Customer service	
Water and Wastewater System Maintenance	System and facility maintenance	Adjust to meet service delivery needs, as required
	Consumables management	
	Component preventative maintenance	
Emergency Response / System Failure	Water main breaks	Adjust to meet service delivery needs, as required
	Wastewater overflows	
	Unplanned service interruptions	
Capital Works	Main installations	Adjust to meet service delivery needs, as required
	Equipment replacement	
	Capital projects support	

2.2 Workforce Considerations

Workforce (FTEs)					
Service	Base Year	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Water Operations (includes .5 Sr Mgr)	36.5	36.5	36.5	36	36
Core Area Wastewater Operations (includes .5 Sr Mgr)	23.5	23.5	23.5	25	26*
Saanich Peninsula & Gulf Islands Operations	15.89	15.89	15.89	16.39	16.39
Water Treatment Operations	10	10	10	10	10
Total	85.89	85.89	85.89	87.39	88.39

*Request: 1 FTE Scada tech

3 Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Priority	Budget Implications
2019			
Water and Wastewater Asset Management Plans	As part of the comprehensive asset management planning work, develop long term operations and maintenance plans and corresponding financial plans for each utility – JDF Water, Saanich Peninsula Water, Core Area Wastewater, 18 local services	Integrated Waste Management Drinking Water Regional Infrastructure	Core Budget
Disaster Response Plan for water supply and distribution	Establish and implement disaster response plan and emergency water supply and distribution plan in collaboration with Infrastructure Engineering	Drinking Water Regional Infrastructure Protective Services	Capital Budget
Cross-Sectional Training and Development Project	Work with employees that are interested in opportunities to enhance their skills and abilities in other Infrastructure Operations work sections	Corporate Development	Core Budget
Standard Master Operating Procedure Manuals	Develop master operating procedure manuals for the major and small utility systems – Regional Water Supply System, Juan de Fuca Water, Saanich Peninsula Water, Core Area Waste Water, Saanich Peninsula Waste Water, Local Service Areas	Drinking Water Regional Infrastructure	Core Budget

Title & Estimated Completion Date	Description	Priority	Budget Implications
Water Operations Review	Review of Operations and Maintenance programs to determine balance between preventative maintenance and capital projects in terms of labour and costs	Drinking Water Regional Infrastructure	Core Budget
Local Service Area Water Systems Drinking Water Safety Plans	Complete risk assessment by employing the Drinking Water Safety Plan framework for all of the Local Service Area Water Systems.	Drinking Water	Core Budget

4 Goals & Performance Indicators

Service Goals	Indicators or Measures
Maintain High-Quality Water and Wastewater Infrastructure	<ul style="list-style-type: none"> Sustainable asset funding plans in place* Complete 94% planned maintenance projects annually Reduce the number of unplanned non-weather related wastewater overflows/bypasses annually (target no more than 1 overflow/bypasses annually by 2019) Reduction in number of unplanned interruptions to water services each year* (baseline 2015)
Ensure Compliance with All Regulatory Requirements	<ul style="list-style-type: none"> Annual volume of drinking water supplied in compliance with water quality guidelines and regulations* 100% Compliance with Island Health, Provincial and Federal drinking water health guidelines in all water service areas 100% Compliance rate with operating permit conditions for all wastewater system operating permits
Contribute to Integrated Resource Management Objectives	<ul style="list-style-type: none"> Qualitative observations on demonstrated progress toward integration of liquid and solid wastes*

*Corporate indicator – multiple divisions may contribute to this measure

Please see updated table of Performance Indicators below.

Key Performance Indicators: (linked to section 4 of the detailed service plan)			
Indicator Name	2018 Planned	2018 Projected	2019 Planned
Maintain High-Quality Water and Wastewater Infrastructure			
Maintenance: Planned Maintenance Completed	96%	94%	97%

Ensure Compliance with All Regulatory Requirements Regulatory Compliance: # Regulatory Contraventions for drinking water quality	<table border="1"> <tr><td>GVWS</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SIGI EA</td><td>0</td></tr> </table>	GVWS	0	JDF EA	0	SSI EA	0	SIGI EA	0	<table border="1"> <tr><td>GVWS</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>1</td></tr> <tr><td>SIGI EA</td><td>1</td></tr> </table>	GVWS	0	JDF EA	0	SSI EA	1	SIGI EA	1	<table border="1"> <tr><td>GVWS</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SIGI EA</td><td>0</td></tr> </table>	GVWS	0	JDF EA	0	SSI EA	0	SIGI EA	0
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Regulatory Compliance: # Regulatory Contraventions for wastewater effluent quality exceedance (non-weather related)	<table border="1"> <tr><td>SPWWTP</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td></td><td></td></tr> </table>	SPWWTP	0	JDF EA	0	SSI EA	0			<table border="1"> <tr><td>SPWWTP</td><td>0</td></tr> <tr><td>JDF EA</td><td>1</td></tr> <tr><td>SSI EA</td><td>3</td></tr> <tr><td>SIGI EA</td><td>0</td></tr> </table>	SPWWTP	0	JDF EA	1	SSI EA	3	SIGI EA	0	<table border="1"> <tr><td>SPWWTP</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SIGI EA</td><td>0</td></tr> </table>	SPWWTP	0	JDF EA	0	SSI EA	0	SIGI EA	0
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Financial Indicator: ¹ Cost Recovery (Total Revenue/Total Cost) By Water Utility	<table border="1"> <tr><td>RWS</td><td>1.000</td></tr> <tr><td>JDFWD</td><td>1.000</td></tr> <tr><td>SPWS</td><td>1.000</td></tr> </table>	RWS	1.000	JDFWD	1.000	SPWS	1.000	<table border="1"> <tr><td>RWS</td><td>1.001</td></tr> <tr><td>JDFWD</td><td>1.018</td></tr> <tr><td>SPWS</td><td>1.008</td></tr> </table>	RWS	1.001	JDFWD	1.018	SPWS	1.008	<table border="1"> <tr><td>RWS</td><td>1.000</td></tr> <tr><td>JDFWD</td><td>1.000</td></tr> <tr><td>SPWS</td><td>1.000</td></tr> </table>	RWS	1.000	JDFWD	1.000	SPWS	1.000						
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¹ Data provided by Finance department. Note that this financial indicator is presented for each of the three Water Utility services, and is not limited solely to Infrastructure Operations. It relates to the expected financial performance of the relevant service as a whole.

Contact

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