

# Service Plan for Environmental Resource Management

2016-2019



Capital Regional District

*Date submitted:*      *October 2015*

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# 1 Overview

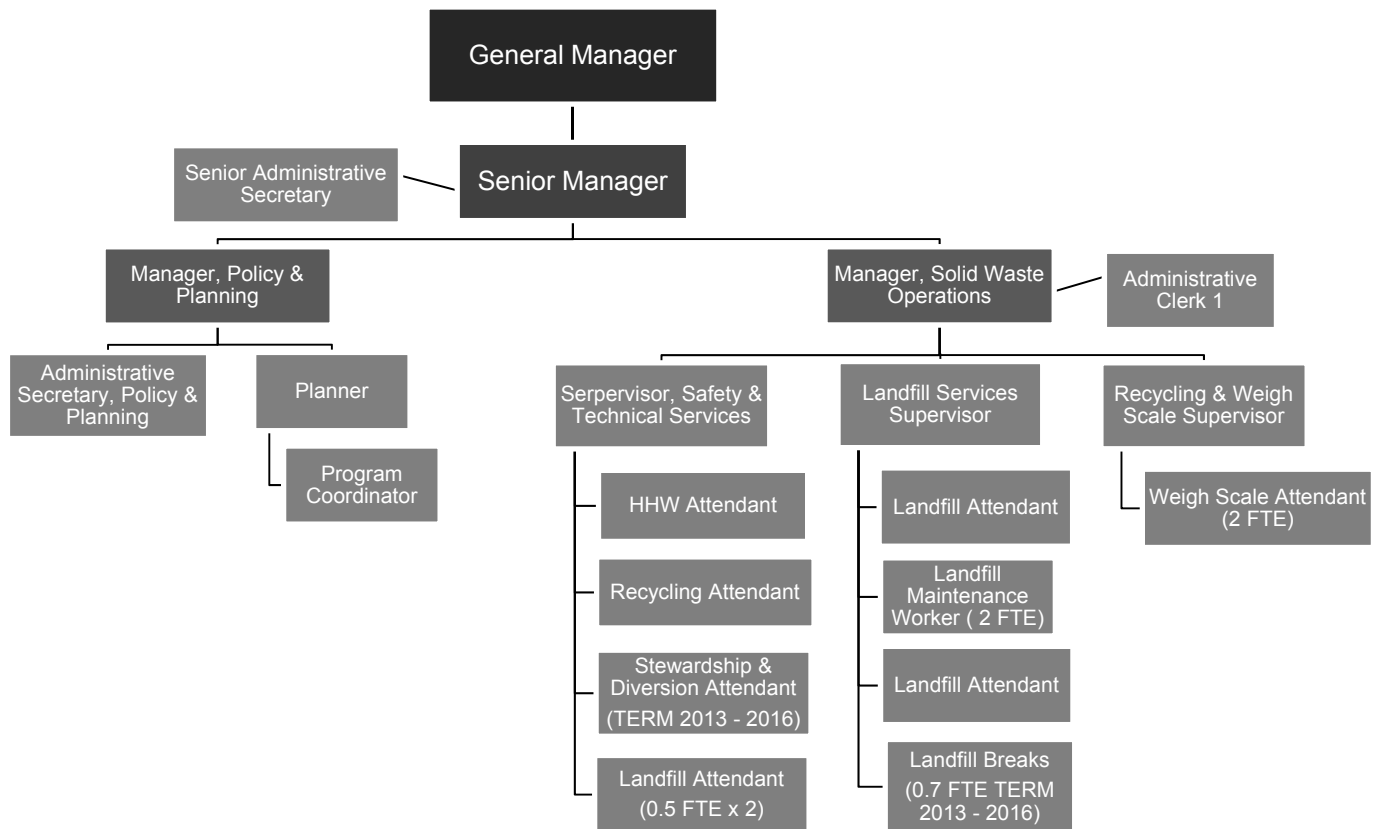
## 1.1 Division & Service Summary

Environmental Resource Management's (ERM) mission is to efficiently and effectively manage the region's solid waste resources in an environmentally, socially and economically responsible manner. The ERM division is responsible for municipal solid waste management in the Capital Region, including waste reduction, recycling programs and operation of Hartland landfill.

The CRD sees waste as a commodity and seeks the highest and best use for these resources by applying the 5R hierarchy of Reduce, Reuse, Recycle, Resource Recovery and Residual Management. Services range from planning and policy development, bylaw and contract administration to landfill operations. The division is responsible for the a new solid waste management plan, facility licensing, recycling and household hazardous waste collection programs, the regional kitchen scraps strategy, community education and support programs, landfill bans, as well as leachate and landfill gas management.

Service Purpose , Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<b>Diversion Services</b> Planning, Policy Recycling Programs	All jurisdictions in region	Landfill tipping fees Funding from product stewardship programs	Environmental Services Committee (ESC)
<b>Landfilling Services</b> Disposal Services and Environmental Compliance	All jurisdictions in region	Landfill tipping fees	ESC
<b>Recovery Services</b> Landfill gas recovery and electricity generation	All jurisdictions in region	Landfill tipping fees Sale of electricity	ESC

## 1.2 Organization Chart



## 1.3 Key Trends, Issues & Risks – Service Specific

Landfill tipping fee revenues are no longer sufficient to fully cover the costs of both landfill operations and diversion programs. A new long term financial model is required.

### Diversion Services

- The CRD's current per capita disposal rate aligns with the Ministry's new waste disposal service target of 350kg/capita by 2020. The remaining waste materials in the landfill will be more difficult and costly to divert.
- Lifecycle management of consumer products is shifting from local governments to producers through Extended Producer Responsibility (EPR) programs, but not always at full cost recovery. There are opportunities to divert more stewardship materials from the landfill.
- Planning and development of in-region kitchen scraps processing capacity is ongoing. A new Solid Waste Management Plan (SWMP) will provide direction for the future.

### Landfilling Services

- The potential movement of garbage out of region for disposal remains a concern due to possible loss of revenue and reduced environmental oversight.

- Residual material is becoming more costly and difficult to manage as WorkSafe BC identifies an increasing variety of materials that need to be managed with heightened worker safety standards.

### Recovery Services

- Staff are continually investigating new integration and recovery opportunities to optimize landfill gas recovery and maximize resource recovery revenue.

## 1.4 Link to Board Strategic Priorities

The Division has a link to the following strategic priorities:

### 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.

### CLIMATE CHANGE

- Realign resources to effectively deliver on Board directives relating to climate change and implement policy and practices to demonstrate leadership in operations

### AGRICULTURAL LAND AND FOOD SECURITY

- Review opportunities for regional agricultural incentives and initiate food security educational programming

### PUBLIC ENGAGEMENT AND COMMUNICATIONS

- Develop public participation strategies, including implications and performance metrics, as a part of all major initiatives and implement more options for two-way dialogue.

## 2 Services

### 2.1 Service Levels

	Service Level Adjustments in Role/Scope				
Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
<b>Diversion Services</b>					
<b>Planning and Policy Development</b>	SWMP development (currently at Stage 2)	Complete Stage 3 of SWMP	New SWMP determines service levels	Adjust to meet service delivery needs, as required	Review and Assess

Service Level Adjustments in Role/Scope					
Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
	Administer 49 agreements and contracts	The number of agreements will increase as the Ministry of Environment adds new Extended Producer Responsibility (EPR) programs (e.g., mattresses, construction & demolition waste)	Adjust to meet service delivery needs, as required	Adjust to meet service delivery needs, as required	Adjust to meet service delivery needs, as required
	Administer 5 licensed transfer stations on Salt Spring under the Transfer Station Bylaw	The number of licensed transfer stations will increase if other areas (e.g., North Pender Island) request similar bylaws during the SWMP process	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess
	Administer Compost Facilities Bylaw (no licensed facilities as of June 2014)	Compost bylaw administration varies with number/types of unlicensed and licensed facilities	Review and Assess	Review and Assess	Review and Assess
<b>Recycling Programs Delivery</b>	Curbside collection of packaging & printed paper (PPP)	Glass to be collected as a separate third stream, as per Multi Material BC (MMBC) requirements	Review and Assess	Review and Assess	Review of MMBC agreement may result in further service level changes
	Curbside collection from 123,000 households (HH)	Add new HH (approx. 1,000 HH/year) to collection	No change	Review and Assess	Adjust to meet service delivery needs, as required
	PPP collection from 6 Electoral Area depots	No change	MMBC incentive review may increase depot funding	Review and Assess	Review of MMBC agreements may result in further service level changes
	Hartland recycling facility collects over 80 items from 28 product categories	Increase number of items if Ministry mandates more collection under EPR legislation	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess
	Education to	Reduce & revise	No change	Review and	Adjust to meet

Service Level Adjustments in Role/Scope					
Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
	support all recycling programs	Hotline service to reflect MMBC funding (reduce to 0.5 FTE)		Assess	service delivery needs, as required
	Kitchen scraps strategy in place (15,000 tonnes diverted in 2014)	Increase tonnage diverted beyond 15,000 tonnes	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess
	Household Hazardous Waste (HHW) program (Hartland, mobile events on Salt Spring and Gulf Islands as well as off-site pickup of orphan HHW materials)	Discontinue HHW collection from Salt Spring and Gulf Islands locations as well as off-site pickup of orphan HHW materials	No change	No change	No change
<b>Landfilling Services</b>					
<b>Disposal services</b>	Administer five contracts and agreements	Adjust to meet service delivery needs, as required	Adjust to meet service delivery needs, as required	Adjust to meet service delivery needs, as required	Adjust to meet service delivery needs, as required
	Residential service at bin area (Mon – Fri 9 am to 5 pm, Sat 9 am to 2 pm) 45,000 vehicles	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess	Adjust to meet service delivery needs, as required
	Commercial service at active face (Mon – Fri 7 am to 5 pm, Sat 9 am to 2 pm) 120,000 tonnes @\$110/tonne	Potential new EPR and SWMP diversion programs will decrease tonnages. Maintain tip fee rate to prevent leakage of garbage	Review and Assess	Review and Assess	Tervita landfill (Highlands) is reaching capacity. Construction & demolition tonnage at Hartland may increase.
	Controlled waste 7,500 tonnes @\$157/tonne	Amend tipping fee rate for asbestos to reflect increased handling costs	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess
<b>Environmental Compliance</b>	Leachate management (meet or exceed	No change	No change	No change	No change

Service Level Adjustments in Role/Scope					
Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
	Regional Source Control Program)				
	Environmental monitoring (meet or exceed Ministry requirements)	No change	No change	No change	No change
<b>Recovery Services</b>					
<b>Provide Recovery Services</b>	Landfill gas capture (current capture rate 55%)	Increase capture rate to 75% to meet Ministry guideline	Review and assess	Adjust to meet service delivery needs, as required	Review and Assess
	Electricity generation equivalent to powering 1,100 homes	Facility upgrade to maintain or exceed generation	Review and assess	Adjust to meet service delivery needs, as required	Review and assess

## 2.2 Workforce Considerations

Service	Workforce (FTEs)				
	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
<b>Diversion</b>	12.25	12.25	12.25	12.25	12.25
<b>Landfilling</b>	8.26	8.26	8.26	8.26	8.26
<b>Recovery</b>	1.19	1.19	1.19	1.19	1.19
<b>Total</b>	<b>21.7</b>	<b>21.7</b>	<b>21.7</b>	<b>21.7</b>	<b>21.7</b>
<b>Supplementary</b>	1.7	1.7	1.7	1.7	1.7
<b>Total</b>	<b>21.7</b>	<b>21.7</b>	<b>21.7</b>	<b>21.7</b>	<b>21.7</b>

In the 2013 budget, there were two 3-year term positions created. One was a 0.7 FTE Landfill Breaks position to provide daily break relief for up to six landfill employees. The second was a 1.0 FTE Stewardship and Diversion Attendant to address an increasing number of stewardship commodities collected at the Hartland Depot as well as conduct on-site maintenance.

For 2016 the 0.7 FTE Landfill Breaks position has been added as a permanent position. There is a demonstrated ongoing need to provide break relief to maintain service levels during regular operating hours.

For 2016 the 1.0 FTE Stewardship and Diversion Attendant has been continued for a further 4-year term, renewed annually, and will now provide labour in relation to stewardship commodities as well as the operation of the new Kitchen Scraps Transfer Station at Hartland. The work associated with this position will continue at a full time capacity, and be extended annually until 2019, until a long term decision is made regarding a regional kitchen scraps processing.



# 3 Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Priority Reference	Budget Implications
<b>2016</b>			
<p><b>Financial Review</b></p> <p>ERM expenditure adjustments to transition from a growth business model to a program maintenance model</p> <p>Ongoing</p>	<p>2016 budget was adjusted to maintain existing programs</p> <p>Primary Budget Drivers:</p> <p>Service Reductions</p> <ul style="list-style-type: none"> <li>Reduction to Blue Box administration and hotline service levels as a result of new MMBC funded collection contract</li> <li>Consolidation of CRD Household Hazardous Waste program at Hartland and elimination of offsite collection programs</li> </ul> <p>Program Adjustments/Efficiencies</p> <ul style="list-style-type: none"> <li>Adjustment of kitchen scraps diversion and processing volumes based on current trends</li> <li>Reduction of wood waste diversion and processing costs by using optimizing onsite re-use at Hartland</li> </ul>	n/a	<p>\$1.44 M reduction overall</p> <p>(\$250,000) continuous</p> <p>(\$140,000) continuous</p> <p>(\$550,000) continuous</p> <p>(\$100,000) continuous</p>
<p><b>Solid Waste Management Plan Stage 3</b></p> <p>To be completed in 2016</p>	<p>Conduct public consultation and complete plan for approval by Board and Ministry</p>	<p>Integrated Waste Management</p>	<p>Core budget</p>
<p><b>Blue Box Glass Collection</b></p> <p>To be completed in 2016</p>	<p>Address potential issues arising from separate collection of glass at the curb</p>	<p>Environmental Protection</p>	<p>Supplementary as required</p>
<p><b>Kitchen Scraps Processing</b></p> <p>Ongoing</p>	<p>Develop regional kitchen scraps processing capacity</p>	<p>Integrated Waste Management</p> <p>Regional Infrastructure</p>	<p>Supplementary as required</p>

Title & Estimated Completion Date	Description	Priority Reference	Budget Implications
<b>Waste Stream Analysis</b>  To be completed in 2016	Conduct waste stream analysis as per Ministry guidelines	Integrated Waste Management	\$125,000 Single supplementary Waste stream analysis
<b>Hartland Landfill &amp; Recycling Facility Operations</b>  To be reviewed annually	Maintain service levels by providing break relief. Complete work associated with stewardship materials and kitchen scraps management.	Education, Outreach and Information	\$121,700 Continuous supplementary  0.7 FTE Landfill Breaks position 1.0 Term (up to 4 years) Stewardship and Kitchen Scraps Attendant position
<b>Hartland Landfill Security</b>  Ongoing	Review security arrangements	Corporate Development	\$100,000 Continuous supplementary Increased security
<b>Controlled Waste</b>  Complete in 2016	Amend controlled waste fees to cover costs of more difficult to manage materials	Environmental Protection	Core budget (cost recovery)
<b>2017 - 2019</b>			
<b>SWMP</b>	Implement strategies identified in the new plan	Integrated Waste Management	Supplementary items as required by the SWMP

## 4 Goals & Performance Indicators

Service Goals	Indicators or Measures
<p><b>Diversion Services</b></p> <p>Manage solid waste in an environmentally, socially and economically responsible manner</p>	<ul style="list-style-type: none"> <li>• Adoption of Solid Waste Management Plan by Board and approval of plan by provincial ministry in 2016</li> <li>• Revenue to cost ratio <math>\geq 1</math> by 2020 (current ratio is <math>&lt;1</math>)</li> <li>• Decrease waste disposal per capital (target <math>&lt;369</math> kg)</li> </ul>
<p><b>Landfilling Services</b></p> <p>Continue to optimize landfill operations</p>	<ul style="list-style-type: none"> <li>• Optimize use of landfill cover material at Hartland (target 5:1 garbage to cover ratio)</li> <li>• Increase compaction rate at Hartland (target minimum 850kg/m<sup>3</sup>)</li> </ul>
<p><b>Recovery Services</b></p> <p>Optimize landfill gas resource recovery at Hartland</p>	<ul style="list-style-type: none"> <li>• Percentage of methane gas captured at Hartland Landfill* (75% target)</li> </ul>

\*Corporate indicator – multiple divisions may contribute to this measure.

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# Service Plan for Environmental Partnerships

2016-2019

Capital Regional District

*Date submitted:*      *October 2015*



Making a difference...together

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# 1 Overview

## 1.1 Division & Service Summary

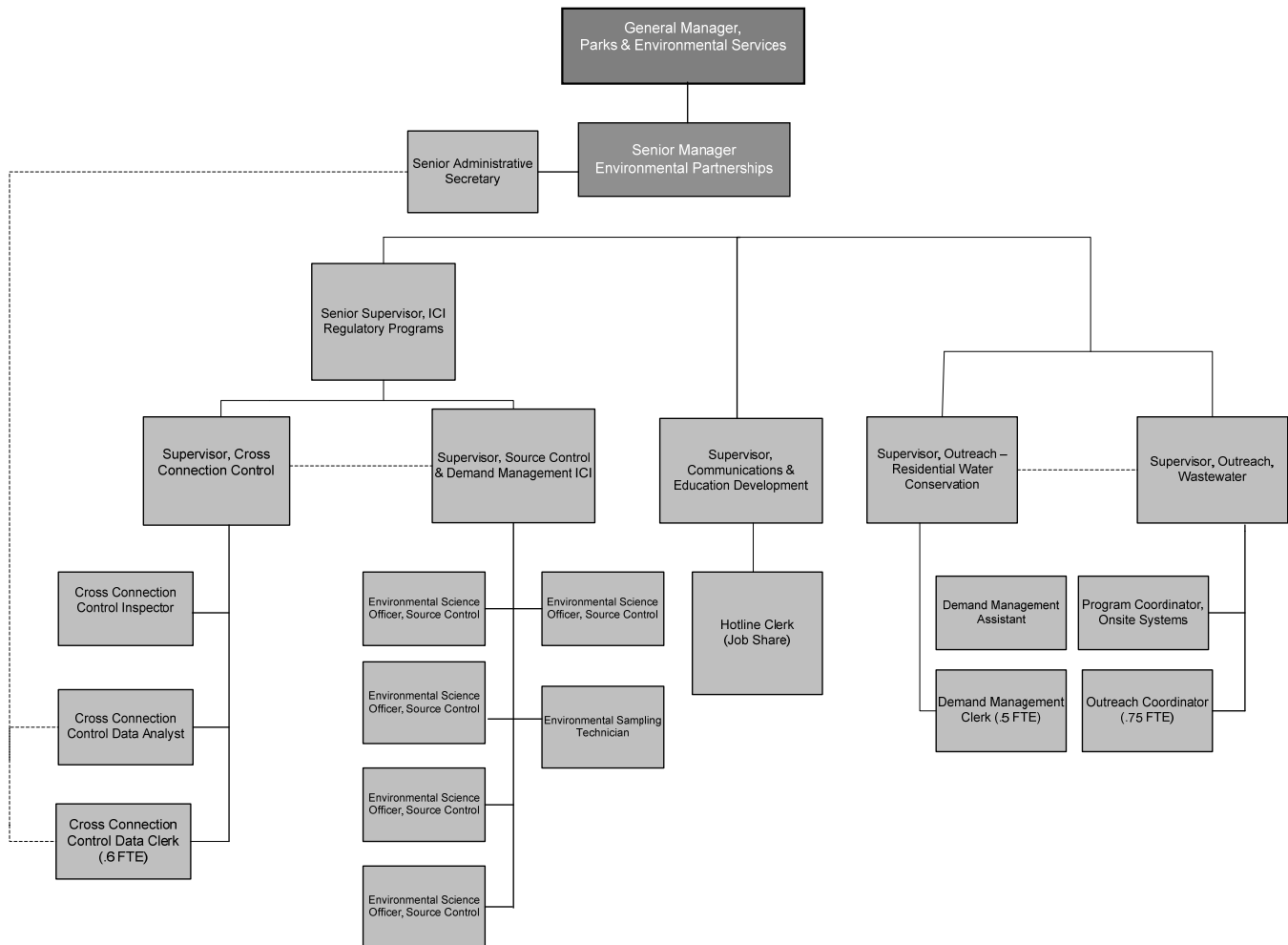
Environmental Partnerships Division is responsible for integrating environmental compliance with outreach and education to deliver services that foster sustainable environmental behavior. The division uses a comprehensive tool box approach, including social marketing, education and environmental compliance to provide services and resources that inform, motivate and engage citizens, businesses and local government partners. The division delivers services in five main areas:

- Demand Management
- Regional Source Control
- Cross Connection Control
- Onsite Wastewater Management
- Communications and Environmental Education

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p><b>Demand Management</b></p> <p>Promotes the wise and efficient use of water to defer costs of infrastructure expansion</p>	<p>13 municipalities 3 electoral areas</p>	<p>Requisition through water rate</p>	<p>Regional Water Supply Commission (RWRC)</p> <p>Water Advisory Committee (WAC)</p>
<p><b>Regional Source Control</b></p> <p>Protects the marine receiving environment, sewage collection and treatment facilities and public health and safety by reducing contaminants discharged into the region's sanitary sewer systems</p>	<p>10 municipalities 3 electoral areas</p> <p>4 First Nations</p> <p>2 federal facilities</p>	<p>Requisition</p>	<p>Environmental Services Committee (ESC)</p> <p>Core Area Liquid Waste Management Committee (CALWMC)</p> <p>Saanich Peninsula Wastewater Commission</p> <p>Ganges Sewer Local Service Commission</p> <p>Highland Water and Sewer Local Services Commission</p> <p>Magic Lake Estates Water and Sewer Local Services Committee</p>

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p><b>Cross Connection Control</b></p> <p>Protects public health by removing or isolating sources of contamination that may flow in a reverse direction into the Regional Water Supply</p>	<p>13 municipalities 3 electoral areas</p>	<p>Requisition through water rate</p>	<p>RWSC WAC</p>
<p><b>Onsite Wastewater Management Monitoring &amp; Compliance</b></p> <p>Protects public health and safety and the environment by reducing the number of malfunctioning onsite treatment systems through monitoring and bylaw compliance</p>	<p>4 municipalities</p>	<p>Requisition</p>	<p>CALWMC</p>
<p><b>Onsite Wastewater Outreach &amp; Education</b></p> <p>Supports owners and operators of onsite treatment systems by promoting proper care and maintenance and providing educational tools and resources</p>	<p>13 municipalities 1 electoral area</p>	<p>Internal recoveries</p>	<p>ESC</p>
<p><b>Communications and Environmental Education</b></p> <p>Engages and educate residents, businesses and students in the region to promote sustainable behavior through departmental campaigns, initiatives and services</p>	<p>13 municipalities 3 electoral areas</p>	<p>Internal recoveries</p>	<p>ESC</p>

## 1.2 Organization Chart



## 1.3 Key Trends, Issues & Risks – Service Specific

### Trends:

#### Demand Management

- There continues to be an ongoing decline of indoor water consumption due to regulatory changes in the BC Building Code which may impact future water conservation program development and delivery.
- Climate change impacts may affect water supply levels due to longer, drier weather; as such future water conservation efforts may need to be increased.

#### Communications and Education

- Demand for educational activities and programs to promote sustainable behavior is increasing. Integrated messaging and coordinated outreach activities are critical to help residents understand and address environmental issues in a cost-effective manner.



**Issues:**

**Regional Source Control**

- Public education will need to continue to reinforce the message that source control is an important first step in sewage treatment, even following installation of enhanced sewage treatment in the core area.

**Cross Connection Control**

- The first round of audits and re-audits of facilities will require additional capacity to insure a timely completion.

**Onsite Systems Management**

- The current regulatory framework for onsite wastewater management requires pump-out of septic tanks but does not address malfunctioning systems, which means environmental contamination, health concerns, nuisance to neighbours and nutrient enrichment of sensitive water bodies may not be addressed.
- There is no consumer protection information for the onsite wastewater industry.

**Communications and Education**

- The funding reduction for blue box outreach means that the Hotline service to the public is being reduced to half-time and transformed to an automated information service supported by online tools.

## 1.4 Link to Strategic Priorities

The division has a link to the following strategic priorities:

**INTEGRATED WASTE MANAGEMENT**

- Ensure responsible management of wastewater for the entire capital region

**DRINKING WATER**

- Protect and maintain an adequate supply of safe, reliable drinking water

**EDUCATION, OUTREACH & INFORMATION**

- Expand on successful education partnerships and program delivery to include innovative in-person outreach and educational programs
- Demonstrate transparency and increase visibility through the provision of accessible, relevant, timely and useable data

**PUBLIC ENGAGEMENT AND COMMUNICATIONS**

- Develop public participation strategies, including implications and performance metrics, as a part of all major initiatives and implement more options for two-way dialogue and engagement
- Share stories of collaboration and accomplishments

## 2 Services

### 2.1 Service Levels

	Service Level Adjustments in Role/Scope				
Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
<b>Demand Management</b>	Administer water conservation bylaw Respond to 1700 public enquiries per year	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
	Deliver 24 water conservation educational workshops	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
	Coordinate 25 community outreach events	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
	Coordinate water cart presence at 15 community events	No change	Adjust to meet service delivery needs, as required	No change	Adjust to meet service delivery needs, as required
	Conduct 5-10 water audits for local businesses	10 water audits/yr	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
<b>Regional Source Control</b>	Conduct inspections, monitoring and enforcement for 2,000 businesses and institutions connected to sanitary sewer	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
	Conduct 150 sampling events	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
	Conduct 1,000 coordinated inspections	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess

	Service Level Adjustments in Role/Scope				
Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
	Deliver 55 outreach campaigns, events and educational initiatives for residents, businesses and schools	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
<b>Cross Connection Control</b>	Conduct 350 facility audits for backflow prevention devices	900/yr	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
	Monitor and track 20,000 back flow prevention devices	23,000/yr	25,000/yr	28,000/yr	30,000/yr
<b>Onsite Wastewater Management</b>	Outreach to 27,000 households with onsite sewage systems	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
	Monitor and promote the compliance of onsite systems regulated by bylaw to achieve a minimum of 80% compliance	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
	Deliver pilot maintenance assessment program (25 system assessments)	No change	20 system assessments per year	Review & Assess	Adjust to meet service delivery needs, as required
<b>Communications and Environmental Education</b>	Deliver outreach and education through participation in 52 facility tours and 74 school presentations	40 tours & 59 presentations	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
	Deliver Hotline service – currently 7 hours per day	3.5 hours/day	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess

## 2.2 Workforce Considerations

Service	Workforce (FTEs)				
	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Senior Manager	1	1	1	1	1
Administration	1	1	1	1	1
Demand Management	2.5	3	3	3	3
Regional Source Control	8	8	8	8	8
Cross Connection Control	3.6	4.6	4.6	4.6	4.6
Onsite Wastewater Management	2.75	2.75	2.75	2.75	2.75
Communications and Environmental Education	2	1.5	1.5	1.5	1.5
<b>Total</b>	<b>20.85</b>	<b>21.85</b>	<b>21.85</b>	<b>21.85</b>	<b>21.85</b>
Supplemental FTEs		1.0	1.0	1.0	1.0
<b>Combined Total</b>	<b>20.85</b>	<b>21.85</b>	<b>21.85</b>	<b>21.85</b>	<b>21.85</b>

Cross Connection Control – includes the addition of 1.0 FTE inspector for a four-year term

Communications and Environmental Education – reduction of 0.5 FTE in Hotline staffing

Demand Management – includes the addition of 0.5 FTE for water cart outreach and support for ICI program

## 3 Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Strategic Priority Reference	Budget Implications
<b>2016</b>			
<b>Edible Gardening Workshop</b> To be completed in 2019	To deliver a workshop to encourage residents to convert lawns / yard to edible gardens	Agriculture Land & Food Security	Core budget
<b>Residential Water Survey</b> To be completed in 2016	Conduct residential water surveys	Drinking Water	Core budget
<b>Business Water Conservation Outreach Campaign</b> To be completed in 2017	New online assessment tools developed; launch of “Just Ask” campaign, continued collaborations with external partners	Drinking Water	Core budget

Title & Estimated Completion Date	Description	Strategic Priority Reference	Budget Implications
<b>RSCP Four-Year Action Plan</b>  To be completed in 2019	Implement four-year plan which includes coordinated program strategies, outreach and education, inspections and monitoring, program review and metrics, bylaw amendments and research of emerging treatment technologies	Integrated Waste Management	Core budget
<b>Source Control: First Step in Sewage Treatment</b>  To be completed in 2019	Campaign to promote source control practices in general and counter the perception that source control will no longer be relevant once sewage treatment is in place in the core area	Integrated Waste Management	Core budget
<b>Grease Interceptor Compliance-Tracking Technologies</b>  To be completed in 2017	Research and pilot compliance tracking technologies to increase efficiency and effectiveness of food service inspections and increase bylaw compliance	Integrated Waste Management	Core budget
<b>Business Sector One-Window Approach</b>  To be completed in 2019	Ongoing campaign to promote and increase awareness of the Capital Regional District services offered to businesses and to promote environmental best practices and regulatory requirements to operate within the capital region.	Education, Outreach and Information	Core budget
<b>Cross Connection Control Audits</b>  To be completed in 2022	Complete the first round of Cross Connection Control facility audits and undertake the re-audits of severe hazard facilities	Drinking Water	Continuous four year supplementary for \$174,000.00.
<b>Outreach and Public Engagement Centre</b>  To be completed in 2018	Research, develop, and launch a centre in the Fiscard building dedicated to outreach, education and engagement on CRD initiatives, successes, and collaborations	Public Engagement & Communications	2016 - core budget to develop conceptual plan;  2017 & 2018 continuous supplementary
<b>Strategic Communications Services for Environmental Services</b> Ongoing from 2016	Implement a new communications service for Environmental Services which will include media relations, social media, website and strategic communications campaigns	Public Engagement & Communications	Core budget
<b>2017</b>			
<b>Multi-residential Integrated Outreach Campaign</b>  To be completed in 2018	Reaching and engaging multi-residential property owners, landlords and tenants to encourage water and energy conservation, pollution prevention, technologies and behavioral change	Education, Outreach and Information	Core budget
<b>Maintenance Assessment Program</b>	Encourage residents to develop and adhere to a site-specific maintenance plan and provide a financial incentive to do so	Integrated Waste Management	Continuous supplementary for \$20,000 with

Title & Estimated Completion Date	Description	Strategic Priority Reference	Budget Implications
To be completed in 2019			matching funds from industry
<b>2018</b>			
<b>Leak Detection Initiative for Business</b> To be completed in 2019	Identify eligible businesses through auditing and retail data analysis to conduct leak detection services	Drinking Water	Core budget
<b>2019</b>			
No new initiatives			

## 4 Goals & Performance Indicators

Service Goals	Indicators or Measures
<p><b>Demand Management</b></p> <p>To defer infrastructure expansion of region's drinking water supply system for 50 years</p>	<ul style="list-style-type: none"> <li>• Annual reduction in water consumption by ICI sector (target 100,000 cubic meters)</li> <li>• Number of community outreach events CRD participates in and/or supports annually* (target 25)</li> <li>• Number of community events that are supported with the Drinking Water Cart (target 15 annually)</li> <li>• Number of CRD educational workshops delivered or partnered on annually* (target 24)</li> </ul>
<p><b>Regional Source Control</b></p> <p>To protect public health and safety, sewage collection and treatment facilities, and the marine receiving environment by reducing the discharge of contaminants</p>	<ul style="list-style-type: none"> <li>• Percentage of businesses in compliance with CRD codes of practice* (target 95%)</li> <li>• # of coordinated facility inspections conducted annually (target 1000)</li> <li>• Inspect 33% of all food service facilities annually for compliance with source control bylaw</li> <li>• Decrease or maintain priority contaminant loadings to the core area marine environment on 3-5 year trend assessment cycles</li> </ul>
<p><b>Cross Connection Control</b></p> <p>To protect public health by removing or isolating sources of contamination that may back flow into the Regional Water Supply System</p>	<ul style="list-style-type: none"> <li>• # of annual backflow incidents reported in Regional Water Supply (target is 0)</li> <li>• # of cross-control audits conducted annually (target 900)</li> </ul>

<p><b>Onsite Wastewater Management</b></p> <p>To protect public health and environmental by ensuring residents properly maintain their onsite wastewater treatment systems.</p>	<ul style="list-style-type: none"> <li>• 80% or better compliance rate with bylaw for Type 1, 2 and 3 onsite systems</li> <li>• Increased participation in Onsite Wastewater Management workshops over 2015 levels (target 50 residents; 50 industry members)</li> </ul>
<p><b>Communications and Education</b></p> <p>To educate businesses and residents about sustainable environmental behaviours</p>	<ul style="list-style-type: none"> <li>• Participation rates of residents in two-way dialogue and engagement opportunities*</li> <li>• % of social media inquiries/posts responded to within 4 business hours of initial contacts</li> <li>• Number and impact of projects and partnerships that demonstrate support for reductions in greenhouse gas emissions and support increased climate resiliency*</li> <li>• Number of partnerships focused on local food education*</li> </ul>

\*Corporate indicator – multiple divisions may contribute to this measure.

## Contact

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# Service Plan for Environmental Protection

2016-2019

Capital Regional District

*Date submitted:*      *October 2015*



Making a difference...together



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# 1 Overview

## 1.1 Division & Service Summary

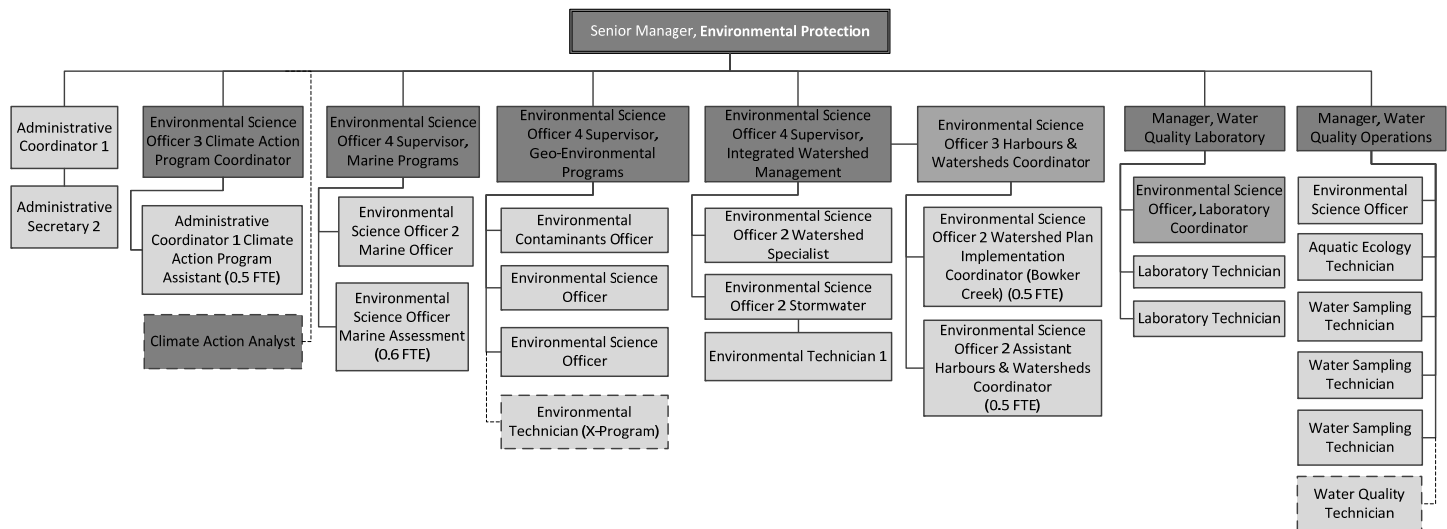
The Environmental Protection Division provides environmental support and expertise to the organization, municipalities and electoral areas, with a key focus on climate action, drinking water quality, contaminant monitoring and assessment associated with both liquid and solid waste treatment, and integrated watershed management. Staff provide scientific, technical and regulatory expertise, and work with all internal departments and divisions, municipalities and electoral areas, external regulators and stakeholders, as well as community stewardship groups. The division assists the CRD's various services to meet human health and environmental protection requirements, along with providing environmental data for local government commitments.

Service Purpose , Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p><b>Climate Action (mitigation and adaptation)</b></p> <p>Support local governments in climate goals/commitments</p> <p>Support CRD in corporate climate goals/commitments</p> <p>Climate data and indicators</p> <p>Liaise and advocate to senior levels of government</p> <p>Public education and outreach</p>	<p>All municipalities, electoral areas (EA) and First Nations (FN) (regulatory via Local Government Act)</p>	<p>Requisitions and Grants</p>	<p>Environmental Services Committee (ESC)</p>
<p><b>GeoEnvironmental Programs</b></p> <p>Environmental Contaminants</p> <p>Hartland Environmental Programs</p> <p>Millstream Meadows Remediation</p>	<p>All municipalities and electoral areas(regulatory)</p> <p>All municipalities and electoral areas (regulatory)</p> <p>Core municipalities, Ministry of Forests, Lands and Natural Resources Operations (cost-share)</p>	<p>Allocation from IWS and ES</p> <p>Allocation from ERM</p> <p>Capital project Requisition</p>	<p>ESC</p> <p>ESC</p> <p>ESC</p>
<p><b>Wastewater &amp; Marine Environmental Programs</b></p> <p>Core Area (Macaulay and Clover points)</p>	<p>Core municipalities (regulatory)</p>	<p>Allocation from IWS</p>	<p>Core Area Liquid Waste Management Committee (CALWMC)</p>

Service Purpose , Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
Saanich Peninsula Wastewater Treatment Plant	Sidney, North Saanich, Central Saanich (regulatory)	Allocation from IWS	Saanich Peninsula Wastewater Commission (SPWWC)
Ganges Harbour WWTP	Salt Spring Island (regulatory)	Allocation from IWS	Ganges Sewer Local Services Committee (LSC)
Maliview Estates WWTP	Salt Spring Island (regulatory)	Allocation from IWS	Highland Water and Sewer LSC
Magic Lake Estates (Schooner Way WWTP and Cannon Crescent WWTP)	Pender Island (regulatory)	Allocation from IWS	Magic Lake Estates Water and Sewer LSC
Port Renfrew WWTP	Port Renfrew (regulatory)	Allocation from IWS	Port Renfrew Utility Services Committee
Biosolids (Sludge) - Saanich Peninsula WWTP	Sidney, North Saanich, Central Saanich, (regulatory)	Allocation from IWS	SPWWC
Biosolids (Sludge) - Ganges Harbour WWTP	Salt Spring Island (regulatory)	Allocation from IWS	Ganges Sewer LSC
Biosolids (Sludge) - Burgoyne Bay, Ganges Harbour Wastewater Treatment Plant, SGI septage	Salt Spring Island, Pender Island, Mayne Island and Galiano Island (regulatory)	Allocation from IWS	Salt Spring Island Liquid Waste Disposal LSC
<b>Integrated Watershed Management Programs</b>			
Harbours & Watersheds	Core municipalities (not Oak Bay)	Requisition and Grants	ESC or CALWMC
Bowker Creek Initiative	Oak Bay, Saanich, Victoria	Direct invoice	ESC or CALWMC
Stormwater Core Area	Core municipalities, Esquimalt FN and Songhees FN	Requisition	ESC or CALWMC
Stormwater Saanich Peninsula	Sidney, North Saanich, Central Saanich and Peninsula FN	Requisition	SPWWC
Stormwater Source Control Saanich Peninsula	Sidney, North Saanich, Central Saanich	Requisition	SPWWC
Stormwater Salt Spring Island	Salt Spring Island (SSI)	Requisition	Salt Spring Island Director, Electoral Areas Services

Service Purpose , Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
Stormwater Southern Gulf Islands  Stormwater Juan de Fuca  Stormwater Sooke	Southern Gulf Islands Electoral Area (SGI)  Juan de Fuca Electoral Area (JDF)  Sooke	Requisition  Requisition  Requisition	Committee (EASC)  Southern Gulf Islands Director, EASC  Juan de Fuca Director, EASC  Sooke Council
<b>Water Quality</b>  Water Quality Monitoring  Water Quality Laboratory Services  Aquatic Ecology Laboratory Services  Saanich Peninsula Wastewater Treatment Plant Laboratory Services	Municipalities of Regional Water Supply (RWS) area, JDF and various local service areas  Municipalities of RWS area, JDF and various local service areas  Municipalities RWS area, JDF and various local service areas  Sidney, North Saanich, Central Saanich and Peninsula FN	Allocation from IWS and Local Service Areas (LSA)  Allocation from IWS and LSA  Allocation from IWS and LSA  Allocation from IWS and LSA	Regional Water Supply Commission (RWSC) , Regional Water Advisory Committee (RWAC) and various LSA Commissions  RWSC, RWAC and various LSA Commissions  RWSC, RWAC and various LSA Commissions  SPWWC

## 1.2 Organization Chart



## 1.3 Key Trends, Issues & Risks – Service Specific

**Climate Action Demand:** In 2008, the region and corporation set greenhouse gas emission (GHG) reduction (mitigation) targets for 2020 and beyond; however, community and corporate GHG trends remain stagnant. The region should also anticipate climate change effects (adaptation) such as shifting weather patterns and sea level rise in the coming decades. *Demand for climate action support will continue to increase* as energy prices increase, deadlines for emission reduction targets approach, impacts on local services and assets are identified, and regulatory direction from higher levels of government are implemented

**Meeting Regulatory Requirements:** The Hartland Landfill monitoring program confirms that the landfill remains in compliance for its regulatory obligations. *Proposed regulatory changes* (i.e., new landfill criteria) *or landfill upgrades* (expansion or expanded services) *have the potential to significantly impact the level of monitoring required for both operational and compliance requirements.* Further, additional requirements may result from planning and implementation of integrated waste management decisions as they relate to the liquid waste management project for the core area municipalities. Federal wastewater monitoring requirements are dependent upon flow volumes. Currently, the Macaulay and Clover systems require weekly monitoring, but the flow volumes of these two facilities are approaching the threshold that would require monitoring three times per week. *If this flow threshold is exceeded in the 2016-2019 time period, additional funds would be required for the extra wastewater monitoring.*

**Changing Service Needs:** The regional water supply remains unfiltered (i.e., no filtration plant required at this time). A new *chloramination treatment plant* is underway which should stabilize water quality in the distribution system. Despite ongoing capital works, aging infrastructure and expanding new distribution, combined with variable chlorine residuals in the distribution network, will require additional water quality monitoring resources to ensure the public health is protected at all times over the near to medium term. *The acquisition and preparation of the Leech River watershed* for future drinking water use *requires expansion of existing water quality monitoring services* to include this potential new water source in the medium to long-term timeline. There is a lack of sufficient baseline data on the Leech River water quality and quantity, which will need to be gathered prior to strategic planning.

**Lab Accreditation:** The analytical labs will seek accreditation to *ISO 17025: General Requirements for the Competence of Testing and Calibration Laboratories* to meet current industry standards and maintain regulatory and public confidence in our drinking water quality. To provide more efficient and effective support to CRD-owned systems on Salt Spring Island and the Southern Gulf Islands, the laboratory services will also bring most analyses in-house. This will lead to an increase in overall workload by 30%, making *expansion and updating of the CRD Water Quality Labs* a key issue for 2016-2019.

## 1.4 Link to Board Strategic Priorities

The Division will provide support to all departments across a variety of services on corporate projects and in support of core service delivery, and as such may have a role in supporting numerous priorities. Specifically the division has a direct link to the following priorities:

### ENVIRONMENTAL PROTECTION

- undertake monitoring, education and remediation programs to support decision-making and management of natural resources

### 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

### 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

### BIODIVERSITY & ECOSYSTEM HEALTH

- assess service needs, respond to issues that threaten ecological health such as wildlife and invasive species, and profile best practices
- integrate a climate lens in our land acquisition strategies
- establish a working group to identify ecosystem health priorities

### PUBLIC ENGAGEMENT & COMMUNICATIONS

- develop public participation strategies, including implications and performance metrics, as part of all major initiatives and implement more options for two-way dialogue and engagement
- share stories of collaboration and accomplishments

### OUTREACH, EDUCATION & INFORMATION

- expand on successful education partnerships and program delivery to include innovative in-person outreach and educational programs
- demonstrate transparency and increase visibility through the provision of accessible, relevant, timely and usable data and information

## 1.5 Service Levels

		Service Level Adjustments in Role/Scope				
Service		Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Climate Action	<b>Mitigation and Adaptation</b>  Support to municipalities and internal CRD departments	Advance local and regional climate mitigation and adaptation goals  Facilitate regional coordination	Accelerate corporate climate action efforts (planning, implementation, reporting).  Engage in 2 climate mitigation or adaptation projects	Review and Assess	Review and Assess	Adjust to meet service delivery needs, as required.
	<b>Environmental Contaminants</b>  Trucked Liquid Waste compliance monitoring, stakeholder outreach and reporting  Controlled Waste permitting and reporting  Septage contract management, monitoring and reporting  Odour monitoring and reporting	Manage 1 septage disposal contract servicing approximately 30 truck liquid waste service providers  Odour monitoring of regional sewer trunk system	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
Geo-Environmental Programs	<b>Hartland Environmental</b>  Compliance monitoring, assessment and reporting  Operational support	Regulatory compliance monitoring at 178 locations	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.

		Service Level Adjustments in Role/Scope				
Service		Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Geo- Environmental Programs	<b>Millstream Meadows Remediation</b>  Monitoring, site management and reporting	Implement remediation and investigation to achieve Certificate of Compliance  Rezoning	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	<b>Core Area 2 outfalls</b>  Compliance monitoring, assessment and reporting  5-year dynamic monitoring cycle	Provide wastewater compliance monitoring and reporting and marine outfall monitoring, assessment and reporting services	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	<b>Saanich Peninsula 1 outfall</b>  Compliance monitoring, assessment and reporting 4-year dynamic monitoring cycle	Provide wastewater compliance monitoring and reporting and marine outfall monitoring, assessment and reporting services	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	<b>Electoral Areas (JDF, SGI, SSI) 5 outfalls</b>  Compliance monitoring, assessment and reporting 4-year dynamic monitoring cycle	Provide wastewater compliance monitoring and reporting and marine outfall monitoring, assessment and reporting services (wastewater assessment monitoring – Ganges Harbour only)	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
Wastewater & Marine Environmental Programs	<b>Biosolids Monitoring Saanich Peninsula,</b>	Sludge assessment monitoring	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.



		Service Level Adjustments in Role/Scope				
Service		Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
	<b>Electoral Areas facilities</b>  Compliance monitoring, assessment and reporting  Annual monitoring program					
Integrated Watershed Management	<b>Harbours &amp; Watersheds</b>  Facilitation of multi-stakeholder engagement for Bowker Creek Initiative, Gorge Waterway Initiative, Esquimalt Lagoon Initiative, Victoria and Esquimalt harbours	Provide monitoring, assessment, reporting and coordination services for 5 harbour systems and various multi-use watersheds	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	<b>Stormwater Core Area</b>  Compliance monitoring, assessment and reporting	Monitor 650 discharges	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
		Hold 6 IWM inter-municipal meetings	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
		Monitor all high public-use beaches in winter for enterococci	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	<b>Stormwater Saanich Peninsula</b>	Monitor 290 discharges	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.

		Service Level Adjustments in Role/Scope				
Service		Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
	Compliance monitoring, assessment and reporting	Monitor all high public-use beaches in winter for enterococci	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
Integrated Watershed Management	<b>Stormwater Source Control Saanich Peninsula</b>  Compliance monitoring, assessment and reporting	Monitor and oversee all industrial and commercial connections to the Saanich Peninsula stormwater sewer system	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	<b>Stormwater- Salt Spring Island</b>  Compliance monitoring, assessment and reporting	Support watershed protection initiatives as required through the Salt Spring Watershed Protection Authority	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	<b>Stormwater - Southern Gulf Islands</b>  Compliance monitoring, assessment and reporting	Monitor 80 discharges	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	<b>Stormwater Juan de Fuca</b>  Compliance monitoring, assessment and reporting	Monitor 97 discharges	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	<b>Stormwater Sooke</b>  Compliance monitoring, assessment and reporting	Provide monitoring services Modify program to meet Ministry of Environment (MOE) requirements for Sooke	Year 1 – 5 year cycle	Year 2 – 5 year cycle	Year 3 – 5 year cycle	Year 4 – 5 year cycle

		Service Level Adjustments in Role/Scope				
Service		Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Water Quality	<b>Drinking Water Quality Monitoring</b>  Source water and distribution system monitoring, assessment and reporting	Provide monitoring, assessment, reporting and operation support services to the Greater Victoria Regional Water System, the JDF, SSI and SGI local service areas	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	<b>Drinking Water Quality (Main) Laboratory Services</b>  Physical and chemical analytical services, assessment and reporting	Provide laboratory analytical and reporting services to the Greater Victoria Regional Water System, the JDF, SSI and SGI local service areas, and Regional Parks campgrounds and regional trail fountains	Laboratory accreditation  30% increase in workflow through in-house LSA monitoring	Consolidation with SPWWTP Lab	Review and Assess	Adjust to meet service delivery needs, as required.
	<b>Drinking Water Quality Aquatic Ecology (AE) Laboratory Services</b>  Biological analytical services, assessment and reporting	Provide laboratory analytical and reporting services to the Greater Victoria Regional Water System, the JDF, SSI and SGI local service areas, and Regional Parks campgrounds and regional trail fountains	Laboratory accreditation  30% increase in workflow through in-house LSA monitoring	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess
	<b>SPWWTP Laboratory Analytical Services</b>  Physical and chemical analytical services,	Provide laboratory analytical and reporting services for SPWWTP, and CRD-operated wastewater treatment	Review and Assess	Consolidation with main WQ Lab	Review and Assess	Adjust to meet service delivery needs, as required.

		Service Level Adjustments in Role/Scope				
Service		Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
	assessment and reporting	facilities and outfalls on SSI and SGI				

## 2 Services

### 2.1 Service Levels

	Work force (FTEs)				
Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
<b>Senior Manager and Administration</b>	3	3	3	3	3
<b>Climate Action Program</b>	1.5	1.7	1.7	1.7	1.7
<b>GeoEnvironmental Programs</b>	4	4	4	4	4
<b>Integrated Watershed Management Program</b>	6	6	6	6	6
<b>Wastewater &amp; Marine Environmental Program</b>	2.6	2.6	2.6	2.6	2.6
<b>Water Quality Operations and Laboratories</b>	10	11	11	11	11
<b>Subtotal FTEs</b>	<b>27.1</b>	<b>28.3</b>	<b>28.3</b>	<b>28.3</b>	<b>28.3</b>
<b>Supplementary FTEs</b>	3 <sup>1</sup>	1 <sup>2</sup>	1	1	1
<b>Combined TOTAL FTEs</b>	<b>30.1</b>	<b>29.3</b>	<b>29.3</b>	<b>29.3</b>	<b>29.3</b>

Climate Action Program will increase by 0.2 FTE

Water Quality Operations will increase by 1 FTE (in 2016 term position changes to regular FTE)

Supplementary:

1: in 2015 currently using 3 full time term/auxiliary positions; (Climate Action Analyst, Water Quality Technician, Wastewater Technician)

2: in 2016 Climate Action program will decrease by 1 FTE term (Analyst moved to Corporate Climate Action); Water Quality term position changes to regular FTE; Wastewater & Marine Environmental program will continue 1 FTE term (extension of existing term position)

## 3 Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Priority Reference	Budget Implications
<b>2016</b>			
<b>Support Board Strategic Priorities for Climate Action</b>  Ongoing	Provide additional support to address Board Strategic Priorities on topic of climate action	Climate Change	\$26,000 continuous supplemental for 0.2 FTE
<b>Millstream Meadows Remediation Land Management Planning &amp; Implementation</b>  To be completed in 2020	Plan and implement property improvements (temporary property use and long term rezoning) to balance remediation costs and prepare the property for sale; Implement remediation plan and investigations to achieve Certificate of Compliance	Environmental Protection	Capital budget
<b>Harbours Inventory</b>  Ongoing	Updating of 1999/2000 habitat survey of Core harbours sub-surface, and intertidal zones	Biodiversity and Ecosystem Health	\$20,000 continuous supplemental – 4 years (2016-2019)
<b>Stormwater Quality on the Saanich Peninsula</b> ongoing	Increase efforts to identify contaminant sources and work with municipalities to resolve issues	Environmental Protection	\$10,000 continuous supplemental at direction of Saanich Peninsula Wastewater Commission
<b>Water Quality Analytics</b> ongoing	Increase capacity of operational and analytical service levels	Drinking Water	\$70,250 continuous supplemental for 1 FTE
<b>Laboratory Equipment Upgrade</b>  To be completed in 2016	Replacement and upgrading of essential analytical equipment	Drinking Water  Environmental Protection	\$60,000 single supplemental  Capital budget
<b>pH and Corrosion Study</b>  To be completed in 2016	Undertake a pH and corrosion study of distribution system to evaluate risks to infrastructure and compliance with Drinking Water Guidelines	Regional Infrastructure  Environmental Protection	\$30,000 single supplemental  Capital budget
<b>Laboratory Accreditation</b>  To be achieved in 2017 with maintenance ongoing	Accreditation to the internationally recognized standard, <i>ISO 17025 General Requirements for the Competence for Testing and Calibration Laboratories</i>	Environmental Protection  Corporate Development	\$30,000 single supplemental  (\$20,000 continuous supplemental 2017)  Capital budget

Title & Estimated Completion Date	Description	Priority Reference	Budget Implications
<b>EQIS Database Enhancements</b>  To be completed in 2017 with maintenance ongoing	Develop functional improvements to the existing water quality database	Corporate Development	\$31,000 single supplemental (\$15,000 continuous supplemental 2017)  Capital budget
<b>Chlorine Residual Online Monitoring</b>  To be completed in 2017	Install two additional chlorine online monitors per year for assessing adequate water quality in the Juan de Fuca Electoral Area and Regional Water Supply area	Drinking Water	\$30,000 single supplemental each year (2 years)  Capital budget
<b>Water Quality Sampling and Operational Support</b>  Ongoing	Increase role in reviewing and recommending on IWS activities	Drinking Water Environmental Protection	\$10,000 continuous supplemental
<b>2017</b>			
<b>Drinking Water Safety Plan (DWSP)</b>  To be completed in 2018	Develop and implement a DWSP for JDF and RWS as "best management practice" for efficiently addressing risks in a water system; Phase 1	Drinking Water	2017: \$40,000 single supplemental  2018: \$30,000 single supplemental  Capital budget
<b>2018</b>			
<b>Laboratory Renovations</b>  To be completed in 2018	In preparation for combining the water and wastewater laboratories, the laboratory space at 479 Island Hwy will be redesigned to accommodate both labs and SPWWTP equipment will be moved as necessary	Environmental Protection  Regional Infrastructure	\$75,000 single supplemental  Capital budget
<b>2019</b>			
<b>Nutrient Analyzer</b>  To be completed in 2019	Expand and improve capital for internal analysis	Environmental Protection  Regional Infrastructure	\$60,000 single supplemental  Capital budget

# 4 Goals & Performance Indicators

Service Goals	Indicators or Measures
Contribute to community and corporate climate action goals	<ul style="list-style-type: none"> <li>Number and impact of projects and partnerships that demonstrate support for reductions in greenhouse gas (GHG) emissions and for increased climate resiliency*</li> </ul>
Provide specialized information and technical support	<ul style="list-style-type: none"> <li>Percentage of environmental water quality sampling plans reviewed and updated*</li> <li>Achieve lab accreditation to ISO 17025</li> <li>Provide monitoring for streams with continuous flows and/or water flows annually (target 9 streams by 2019)</li> <li>90% of sewer odor monitoring assessment stations monitored and reported on annually</li> </ul>
Maintain regulatory compliance monitoring activities for government agencies, member municipalities or other stakeholders	<ul style="list-style-type: none"> <li>Provide sampling, analysis, and reporting of in-house drinking water samples within 5 business days 95% of the time.</li> <li>100% of operational and compliance samples (outfall, stormwater, landfill) collected, analyzed and reported annually</li> <li>Conduct a minimum of 4 landfill gas ambient, foundation and perimeter well monitoring activities annually</li> </ul>
Maintain assessment requirements for government agencies, member municipalities or other stakeholders	<ul style="list-style-type: none"> <li>90% of sludge assessment samples collected and reported</li> <li>20% of all stormwater discharges sampled annually</li> <li>80% of all high-rated stormwater discharges investigated annually</li> <li>15% of businesses inspected annually as a part of Stormwater Source Control on Saanich Peninsula</li> <li>Conduct a minimum of 12 controlled waste audits annually</li> </ul>
Increase community and municipal engagement opportunities	<ul style="list-style-type: none"> <li>Number of community outreach events the CRD participates in and/or supports annually*</li> <li>Participation rates of residents in two-way dialogue and engagement opportunities *</li> <li>Number of CRD educational workshops delivered or partnered on annually *</li> <li>Number of Inter-Municipal Meetings held each year</li> <li>Number of stakeholders engaged through educational programming on biodiversity and ecological health issues *</li> <li>Number of volunteer hours leveraged in restoration or stewardship activities (target 300 hours annually)*</li> </ul>

\* Corporate indicator – more than one division may contribute to this measure.

## Contact

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# Service Plan for Environmental Planning & Engineering

2016-2019

Capital Regional District

**Date submitted:**      **October 2015**



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# 1 Overview

## 1.1 Division & Service Summary

The Environmental Planning and Engineering Division is responsible for providing professional engineering and construction management services to a number of CRD divisions and departments and ensuring CRD engineering and project stewardship standards are maintained throughout the organization. The division is also responsible for the preparation and management of the CRD liquid waste management plans, integrated waste management and resource recovery plans, and ensuring the implementation of the commitments made under the plans.

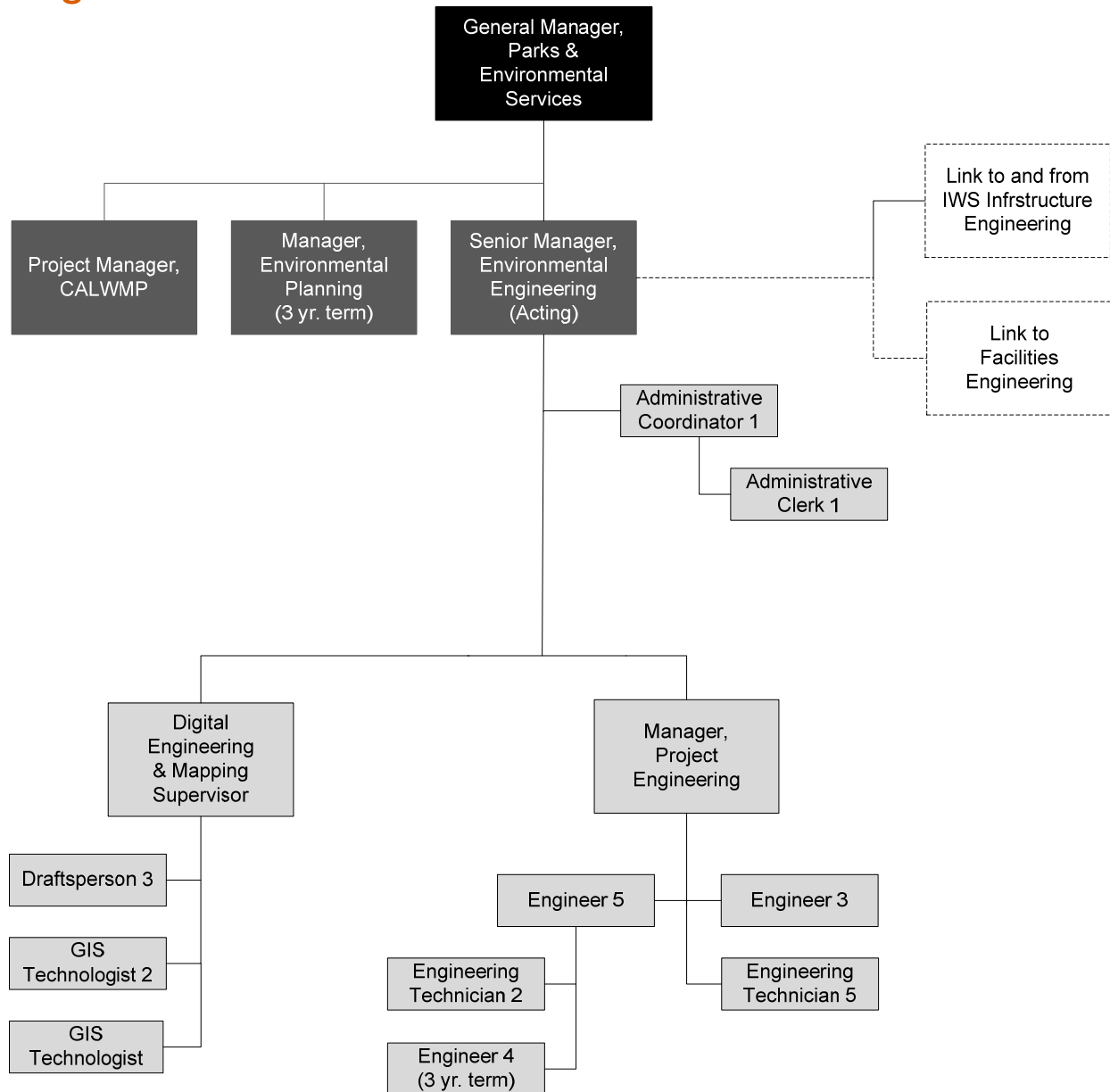
Administrative and contract management staff provide administrative, financial and clerical support to all divisional functions.

Service Purpose, Role or Overview		Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<b>Engineering &amp; Project Management Services</b>  Provide engineering feasibility studies, detailed design, tendering, construction management and commissioning services	<b>Integrated Water Services Department</b>  (Regional Odour Control Program, Capital Projects)	Core Area municipalities	Requisition from participating municipalities	Core Area Liquid Waste Management Committee (CALWMC) and CRD Board
	<b>Environmental Resources Management Division</b>  (Capital Projects at Hartland Landfill)  (Development and implementation of solid Waste Management Plans)	All 13 municipalities and 3 electoral areas	Requisition and landfill tipping fees	Environmental Services Committee (ESC), Solid Waste Advisory Committee and CRD Board
	<b>Regional Parks Division</b>  (Capital projects)  (Asset management program)	All 13 municipalities and 3 electoral areas	Requisition, capital funds and grants	Regional Parks Committee and CRD Board
	<b>Planning and Protective Services</b>  (Capital projects)	All 13 municipalities and 3 electoral areas	Requisition, capital funds and grants	Electoral Area Services Committee and CRD Board

Service Purpose, Role or Overview		Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
	<p><b>Environmental Protection/Partnerships Division</b></p> <p>(Develop and implement strategies for regional odour management originating from sewer trunk system and treatment plants)</p> <p>(Remediation Projects- Millstream Meadows)</p>	All 13 municipalities and 3 Electoral areas	Service requisitions	Service area dependent
	<p><b>Core Area Liquid Waste</b></p> <p>(Provide engineering support on as-needed basis to the Core Area Wastewater treatment Program)</p>	Core Area municipalities	Requisition, Capital Funds and Grants	CALWMC, CRD Board
<b>Develop &amp; Implement Liquid Waste Management Plans</b>	<p><b>Inflow &amp; Infiltration Program</b></p> <p>Develop and implement strategies to reduce I&amp;I into sewers to minimize conveyance, treatment and disposal costs to provide reliable sewer service for the community in compliance with regulations related to sewer overflows</p>	Core Area municipalities	Requisition from participating municipalities	CALWMC and CRD Board
	<p><b>Core Area Liquid Waste Management Plan</b></p> <p>Ensure implementation of the commitments set out in the Core Area Liquid Waste Management Plan</p>	Core Area municipalities	Requisition from participating municipalities	CALWMC and CRD Board

Service Purpose, Role or Overview		Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
	<p><b>Saanich Peninsula Liquid Waste Management Plan</b></p> <p>Ensure implementation of the commitments as set out in the Saanich Peninsula Liquid Waste Management Plan</p>	Saanich Peninsula municipalities	Requisition from participating municipalities	Saanich Peninsula Wastewater Commission and CRD Board
<b>Corporate Project Stewardship</b>	<p><b>CRD Project Stewardship Initiative</b></p> <p>Develop and implement CRD-wide project stewardship framework to standardize project leadership and management across all CRD departments</p>	All CRD Divisions	Internal recoveries	Executive Leadership Team

## 1.2 Organization Chart



## 1.3 Key Trends, Issues & Risks – Service Specific

Many of the capital projects that the division works on are funded through grants from senior levels of government. Increasingly, grant applications require comprehensive project information including detailed design. This requires the division to plan projects well in advance and have shovel ready projects in hand.

The enhanced focus on resource recovery and the integration of liquid and solid wastes offers an opportunity for the division to provide specialized technical support (e.g., district energy and heat recovery system design and operation) to achieve Board objectives on climate action.

The divisional work load is likely to increase over the next few years with more capital upgrades being planned as part of the Asset Management Program implementation across the organization.

Project information needs are continuing to grow around GPS and terrestrial laser surveys, and the geomatics group of the division has been able to respond by rapidly adapting to newer technology and getting the job done more efficiently and cost-effectively.

## 1.4 Link to Strategic Priorities

The Environmental Engineering Division provides project management services in completing a wide range of capital projects for Parks & Environmental Services and other CRD departments that contribute to achieving Board Strategic Priorities. Specific linkages to the Board Strategic Priorities are listed below.

### INTEGRATED WASTE MANAGEMENT

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

### CLIMATE CHANGE

- Realign resources to effectively deliver on Board directives related to climate change and implement policy and practices to demonstrate leadership in operations

### ACTIVE & MULTI-MODAL TRANSPORTATION

- Build and manage trails as transportation corridors

### 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

### 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

### PUBLIC ENGAGEMENT & COMMUNICATIONS

- Develop public participation strategies, including implications and performance metrics, as a part of all major initiatives and implement more options for two-way dialogue.

## 2 Services

### 2.1 Service Levels

Service Areas	Service Levels				
	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
<b>Integrated Water Services</b>	Core Area Liquid Waste Management Plan	No Change	Provide additional Planning and Project Management on the CALWMP	Provide additional Planning and Project Management on the CALWMP	Provide additional Planning and Project Management on the CALWMP
	Regional Odour Management Program	No Change	No Change	No Change	No Change
	Capital Projects	No Change	Number of Capital Projects to upgrade odour control systems will increase	Number of Capital Projects to upgrade odour control systems will increase	Number of Capital Projects to upgrade odour control systems will increase
	Operations Support	No Change	No Change	No Change	No Change
<b>Environmental Resource Management</b>	Capital Projects	No Change	No Change	No Change	No Change
	Operations Support	No Change	No Change	No Change	No Change
<b>Regional Parks</b>	Capital Projects: E&N Rail Trail and TransCanada Trail	Construction of TCT and next Phase of E&N to start	Construction of next Phase of E&N to continue along with other capital projects.	No Change	No Change
	Operations Support	Increase in condition assessments on critical infrastructure	Increase in condition assessments on critical infrastructure	No Change	No Change
<b>Planning &amp; Protective Services</b>	Capital Projects	No Change	No Change	No Change	No Change
	Operations Support	No Change	No Change	No Change	No Change

Service Areas	Service Levels				
	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
<b>Environmental Partnerships/ Protection</b>	Capital Projects: Provide Eng. support on the Millstream Remediation Project	No Change	No Change	No Change	No Change
	Operations Support	TBD	TBD	TBD	TBD

## 2.2 Workforce Considerations

Service	Workforce				
	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
<b>FTEs</b>	14	13	13	13	13
<b>Supplementary FTEs</b>	1	2	2	2	1
<b>Combined Total</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>14</b>

A 3-year term position in project management was required 2014-2016 to meet the increased workload associated with implementation of Regional Parks Projects, addition of landfilling contract management at the Hartland landfill and an overall growth in the number of corporate capital projects. The subsequent 3-year term position in Engineering Project Management will be required 2017-2019 to continue with the increased workload previously handled by the 2014-2016 term position.

A new 3-year term position will be required from 2016-2018 to provide environmental planning support for the Core Area Wastewater Treatment Program.



### 3 Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Board Strategic Priority Reference	Budget Implications
<b>2016 – 2019</b>			
<b>I&amp;I Private Property Sewer Lateral Initiative</b>  December 2016	Develop a model Private Property Bylaw for municipalities to adopt and concurrently set up a rebate program for sewer lateral smoke testing.	Integrated Waste Management  Regional Instructure	Core Budget
<b>East Sooke Fire Hall</b>  December 2016	Complete, commission and turn over facility to East Sooke Fire Commission	Protective Services  Regional Infrastructure	EAS Capital Reserves and Grants
<b>E&amp;N Rail Trail and Trans-Canada Trail Development Projects</b>  December 2016	Complete design, construction and commissioning of these two important capital projects	Active & Multi-Modal Transportation	Capital Reserves (Parks) and Grants
<b>Core Area Wastewater Treatment Program</b>  TBD	Realign resources to deliver on Core Area Wastewater Treatment Project and acquire additional expertise on technologies and solutions  Environmental Engineering will be an active participant in the design, construction and commissioning of this project.	Integrated Waste Management	TBD
<b>Integrated Waste Management Plan</b>  TBD	Investigate an overarching Liquid and Solid Waste Management Plan	Integrated Waste Management	TBD

# 4 Goals & Performance Indicators

Service Goals	Indicators or Measures
Ensure preparation, management, and implementation of liquid waste management plans	<ul style="list-style-type: none"><li>• Qualitative observations on demonstrated progress toward integration of liquid and solid wastes*</li><li>• Submit amendment no. 10 of Core Area Liquid Waste Management Plan to Ministry of Environment by Spring 2016.</li></ul>
Provide specialized engineering and project management support to multiple divisions	<ul style="list-style-type: none"><li>• Percentage of capital projects completed on time and on budget* (i.e., phase 2 &amp; phase 3 of E&amp;N Rail Trail; East Sooke Fire Hall; projects at Hartland)</li><li>• Number of infrastructure replacement projects*</li><li>• Sustainable asset funding plans in place*</li></ul>

\*Corporate indicator – multiple divisions may contribute to this measure

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