



# REGIONAL DISTRICT OF NANAIMO LIQUID WASTE MANAGEMENT PLAN

## 2017 ANNUAL REPORT

Submitted to the Ministry of Environment and Climate Change Strategy  
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## 1 INTRODUCTION

The Regional District of Nanaimo (RDN) Liquid Waste Management Plan (LWMP) is a commitment to manage wastewater in a manner that aligns with the provincial Municipal Wastewater Regulation and meets the goals and needs of our residents and environment now and into the future. The LWMP organizes specific commitments into ten programs. Within each program are a series of actions which provide the tools to achieve program goals and objectives. The ten LWMP Programs include:

1. Public Wastewater Systems Program
2. Private Onsite Systems Program
3. Source Control Program
4. Odour Control Program
5. Rainwater Management / Drinking Water & Watershed Protection (DWWP) Program
6. Volume Reduction Program
7. Inflow & Infiltration (I&I) Program
8. Pollution Control Centres Program<sup>1</sup>
9. Resource Recovery Program
10. Biosolids Program

Some of the commitments in the LWMP are short-term goals while others are intended to be implemented in the future.

This report was prepared by RDN staff, with the oversight of the LWMP monitoring committee, to document LWMP implementation in 2017. An independent audit of the LWMP is scheduled for every five years; the first audit will be completed in 2020 for the previous five years.

## 2 APPROVAL CONDITIONS

The RDN's original LWMP was approved in 1999. An amendment was approved by the Minister of Environment on October 30, 2014 with two conditions.

Condition #1 states:

*Within 30 days of receipt of this letter, provide terms of reference, plan and schedule for completion of Stages 1 & 2 of an Environmental Impact Study for each of the GNPCC, NBPCC and French Creek Pollution Control Centre (FCPCC) sewage treatment and disposal facilities.*

Condition #2 states:

*By January 31, 2015, provide the Environmental Impact Study for the marine portion of the GNPCC outfall replacement project.*

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<sup>1</sup> The RDN's four wastewater treatment facilities are Greater Nanaimo Pollution Control Centre (GNPCC), French Creek Pollution Control Centre (FCPCC), Nanoose Bay Pollution Control Centre (NBPCC), Duke Point Pollution Control Centre (DPPCC)

The RDN fulfilled the conditions and responded to the Ministry of Environment regarding Condition 1 on November 24, 2014, and regarding Condition 2 on January 30, 2015.

## 3 MEETINGS AND WORKING GROUPS

### 3.1 LWMP MONITORING COMMITTEE MEETINGS

The Ministry of Environment’s *Interim Guidelines for Preparing Liquid Waste Management Plans* recommend that LWMP monitoring begin shortly after the approved plan implementation begins, once the scope of work for the monitoring committee has been defined and committee members have been established.

The LWMP Monitoring Committee was established in 2015. In 2017, committee meetings were held on:

- March 17
- June 12
- November 2

Meeting minutes are attached in Appendix A and available online at [rdnlwmp.ca](http://rdnlwmp.ca).

### 3.2 W3C MEETINGS

In 2011, the RDN began holding biannual meetings with the City of Nanaimo, District of Lantzville, City of Parksville and Town of Qualicum Beach to achieve the commitments within the LWMP by bringing together staff from the RDN and member municipalities to advance regional programs and policies. In October 2012, the meeting was renamed the “W3C: Wastewater and Water Collaborative Meeting”.

In 2017, W3C meetings were held on:

- April 21
- September 22.

Meeting minutes are attached in Appendix B.

### 3.3 W3C WORKING GROUPS

Working groups meet as needed to advance initiatives between regular W3C meetings. In 2017, W3C initiatives advanced without working group meetings.

## 4 PROGRAM IMPLEMENTATION

### 4.1 HIGHLIGHTS

A detailed summary of 2017 implementation by LWMP Program is described in Sections 4.2 through 4.11. Key accomplishments in 2017 include:

- Continued to deliver the communication strategy to inform residents of major projects and key initiatives via numerous resource tools such as a website, newsletters, letters to residents, education programs, etc.
- Awarded the general contract for the GNPCC Secondary Treatment Upgrade Project. Construction began in 2017 and will continue through 2019.
- Completed year 1 of the 2017-2019 GNPCC Receiving Environment Monitoring Program.
- Entered into a new land use agreement with TimberWest and a Shared Used Agreement with the Nanaimo Mountain Bike Club to enable the continuation of the RDN Biosolids Forest Fertilization Program in the Doumont Trails area.
- Established a contingency biosolids management site at the Harmac mill so biosolids can continue to be beneficially used during times where the TimberWest lands are inaccessible (i.e. winter road conditions).
- Beneficially reused 4,588 wet tonnes of biosolids.
- Completed the sewer servicing study for Bowser Village Centre.
- Delivered four SepticSmart workshops to a total of 112 participants.
- Continued the Septic Maintenance Rebate Program which, over three years, has stimulated an investment of over \$788,000 to maintain septic systems in the region.
- Held three LWMP Monitoring Committee meetings.
- Held two W3C meetings to advance LWMP implementation.

Table 1 below is adapted from Table 12 of the 2014 LWMP and outlines key non-capital LWMP deliverables. A detailed summary of program implementation is provided in the sections below.

**Table 1. Cost Estimates and Timelines for Key Non-capital LWMP Deliverables**

Program	Report or Deliverable	Cost Estimate	Target Date/Completion
Public Wastewater Systems	Village Centre Review	\$10,000	Complete in 2013
	Review and update DCC bylaws where necessary	\$49,000	A review and update of the Southern and Northern Communities' Wastewater Development Cost Charges was started in 2015. DCC Amendment Bylaws Nos. 1547.01 and 1442.03 received first and second reading on December 6, 2016. They received third reading on April 25, 2017 and approval of the Inspector of Municipalities on June 19, 2017. The bylaws were adopted on June 27, 2017. (Revised from 2015-2016 target date)
Private Onsite Systems	Mandatory Maintenance Feasibility Study	\$15,000	Complete in 2012
	Revise Pump & Haul Bylaw (No. 975)	\$2,000	Bylaw 1732 replaced Bylaw 975 and 1217 and was given three readings in 2016 and adopted on January 23, 2017

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Program	Report or Deliverable	Cost Estimate	Target Date/Completion
Source Control	Enhanced Public Education Program	\$10,000	Improvements are ongoing. In 2017 the RDN partnered with MetroVancouver to share material on their “Don’t Flush Wipes” campaign. The RDN also participated in the new BCWWA Source Control Community meetings.
Odour Control	Review the odour management system at GNPCC	\$15,000	Complete in 2013
Rainwater Management	Revised Rainwater Management Strategy	\$15,000	2017-2019 (Revised from 2016-2018)
Volume Reduction	Study of overflow potential and elimination strategies	\$10,000	The Nanaimo Interceptor Hydraulic Modeling Study was completed in 2017
Inflow and Infiltration	CCTV monitoring of the GNPCC Interceptor	\$15,000	Sections of the GNPCC interceptor are CCTV monitored annually. In 2017 the RDN monitored a section of the Chase River Forcemain along Haliburton Street
	CCTV monitoring of the FCPCC Interceptor	\$23,000	FCPCC interceptor is CCTV monitored every 5 years. In 2017 the outfall was monitored and repairs were made on manholes 39, 36, 30 and 12 to enable access for CCTV inspection
	Set up an I&I monitoring function for FCPCC and GNPCC	n/a	FlowWorks data are reviewed regularly. Catchments with high flows are further investigated by municipal staff as needed
	I&I Study	\$15,000	2017 – 2018 (revised from 2016-2017)
Biosolids	Biosolids Management Plan	\$15,000	A Biosolids Management Plan was completed in 2011. A Biosolids Options Study was completed in 2016. Recommended options included continuation of land application at the TimberWest woodlot and production of a fabricated soil for use in the closure of the Harmac and RDN landfills. The Study was included in 2016 Annual Report
Resource Recovery	Resource Recovery Options Study	\$25,000	Resource recovery options were considered in the GNPCC Secondary Treatment Upgrade Project engineering design, completed in 2016. The final design includes a water system to reuse effluent as operational wash water in place of potable water, an increase in the production of biogas, and an increase in the use of biogas as an energy source for the boilers. The heat will be transferred through the hydronic system to heat the occupied spaces and the treatment process
Emerging Issues	Climate Change Vulnerability Study	\$15,000	In 2016, Wastewater Services contributed \$10,000 RDN Long Range Planning to capture LIDAR data necessary to complete the study, which continued into 2017. In December 2017, the RDN was awarded a \$150,000 grant to acquire coastal floodplain mapping. Phase 1 of the mapping study is scheduled for completion in 2019.



Program	Report or Deliverable	Cost Estimate	Target Date/Completion
LWMP	5-year Audit	\$5,000	Report will be completed in 2020 for years 2015-2019. It will be repeated every 5 years.

Table 2 below is adapted from Table 13 of the 2014 LWMP and outlines key capital projects. A detailed summary of program implementation is provided in the sections below.

**Table 2. Cost Estimates and Timelines for Major Wastewater Capital Projects**

Service Area	Major Capital Projects	Cost Estimate	Target Completion
GNPCC	Outfall Replacement	\$18,000,000	Complete
	Maintenance and Storage Facilities	\$2,200,000	2018
	Digester #2 Refurbishment	\$1,400,000	2018
	Centrifuge 2 and Polymer System	\$1,400,000	2018
	Primary Headworks	\$3,400,000	2018
	Odour Control Upgrades	\$2,200,000	2018
	Secondary Treatment <sup>a</sup>	\$81,700,000	2019
	Departure Bay Pump Station Upgrade	\$2,400,000	2016-2023
	Departure Bay Forcemain Replacement and Expansion	\$18,000,000	Monitor
FCPCC	Reversal of the air flow through the trickling filter	\$600,000	Complete
	Seacrest Place forcemain repairs	\$660,000	Complete
	Lee Road Pump Station Expansion and Upgrade	\$659,000	Complete
	Grit Channel Expansion	\$677,000	Complete
	Outfall repairs	\$600,000	Complete
	Hall Road Pump station upgrade	\$900,000	Complete
	Increasing effluent pumping capacity	\$350,000	2018-2025
	Commission 5 <sup>th</sup> digester cell	\$200,000	2018-2025
	Chemically Enhanced Primary Treatment works	\$930,000	2018-2025
	Interceptor / pump station expansion	\$5,000,000	2025
	Treatment plant capacity expansion, outfall replacement	\$32,000,000	2018-2025
NBPCC	Odour management improvements at outfall manhole	\$10,000	Complete
	Secondary Treatment for 2,000 residents <sup>b,c</sup>	\$4,100,000	2023
DPPCC	No major changes planned for the next 20 years	–	–

**NOTE:** a. The 2014 LWMP provided a Class C cost estimate of \$67,500,000 and an estimated 2018 completion date  
b. Cost estimates provided by AECOM (2012)  
c. 2012 dollars

## 4.2 PUBLIC WASTEWATER SYSTEMS

The Public Wastewater Systems Program objectives are to:

- 1) address Official Community Plan (OCP) goals of providing wastewater services in growth containment areas, and
- 2) reduce the threat to human and environmental health from failing onsite systems.

Table 3 summarises progress towards the LWMP commitments.

**Table 3. Public Wastewater Systems Program Commitments**

Target: A strategy to achieve wastewater servicing in growth containment areas	
Commitment	Progress
i. A study to identify Village Centres with the development potential to warrant an investment in wastewater infrastructure	A <a href="#">Rural Village Centres Study</a> was completed in 2013. It concluded that Cedar Village has the greatest potential to develop as a complete community with an investment in sewer. Bowser, Red Gap, Coombs, and Fairwinds were ranked second (Fairwinds is already serviced by sewer)
ii. Complete sewer servicing engineering studies for Bowser and Cedar villages	In 2014, the RDN dedicated \$350,000 in Gas Tax Funds to complete sewer servicing studies for Bowser Village and Cedar Village. The <i>Capacity and Cost Review of the Duke Point Pollution Control Centre</i> (for Cedar Village Centre sewer servicing) was complete in 2016 and was included in the 2016 Annual Report. The <a href="#">Bowser Village Sewer Servicing Study</a> was completed in 2017
iii. Coordinate with Development Services through the OCP review process to identify property owners in growth containment boundaries who are interested in establishing public wastewater services	Ongoing, as needed by the OCP review process.  The Area H OCP review began in November 2015. Wastewater Services worked closely with Development Services through 2016 and 2017 to coordinate the review with the Bowser Sewer Servicing Study
Target: A strategy to achieve wastewater servicing for properties with failing private onsite systems	
Commitment	Progress
i. Draft a bylaw to allow properties with failing onsite systems to connect to sewer services, where available	Requires an update to several sewage rates and regulations bylaws. This will be addressed in a larger bylaw review project which started in 2015 and continued through 2016, with completion anticipated in 2018
ii. Improve public awareness of areas which may connect to RDN sewer systems for health and environmental reasons (failing onsite system) and create a guide which walks homeowners through the sewer connection application process	Still to come. Requires completion of bylaw update, above
iii. Work with property owners, as needed, in locations where there are known onsite system failures to establish connections to public wastewater infrastructure	Ongoing, as needed

<p>iv. Develop a webpage to inform the public of historic sewer servicing studies and of the criteria for the provision of future sewer services.</p>	<p>A website was developed and maintained for the Bowser Village Sewer Servicing Study in 2015. In 2017, the site was upgraded to the RDN Get Involved platform hosted at <a href="http://getinvolved.rdn.ca/bowser-village-sewer">getinvolved.rdn.ca/bowser-village-sewer</a></p>
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### 4.3 PRIVATE ONSITE SYSTEMS

The Private Onsite Systems Program objective is to protect the environment and human health from failing private onsite systems. Table 4 summarises progress towards the LWMP commitments.

**Table 4. Private Onsite Systems Program Commitments**

<b>Target: Enhance the SepticSmart education program content to encourage regular onsite system maintenance with the intent of prolonging the life of functioning systems and reducing the number of failing systems</b>	
<b>Commitment</b>	<b>Progress</b>
<p>i. Annually review the SepticSmart education program; update where necessary</p>	<p>Ongoing. The Septic Maintenance Rebate Program was revised in 2017. See Section 3.6.1 for more information</p>
<p>ii. Enhance the source control component of the SepticSmart program</p>	<p>Ongoing. Updates to the workshop component of SepticSmart were completed in 2013</p>
<p>iii. Work with VIHA and Water Services to develop area-specific communications or newsletters for areas at high risk for groundwater contamination</p>	<p>A SepticSmart newsletter was sent to electoral area residents in 2014, 2016 and 2017</p>
<p>iv. Host at least four SepticSmart education workshops annually</p>	<p>In 2017, 112 people participated in one of four workshops held on April 6, April 10, October 2, and October 5. Since 2008, more than 1,400 people have attended an RDN SepticSmart workshop</p>
<p>v. Evaluate the potential for a mandatory onsite system maintenance program in the RDN</p>	<p>A Mandatory Maintenance Feasibility study was completed in 2012. A Mandatory Maintenance program was not supported by the Board, which carried a motion instead to continue with an educational role through the existing SepticSmart program</p>
<b>Target: At the request of the owner, allow RDN acquisition of privately owned onsite systems which serve a minimum of 60 parcels</b>	
<b>Commitment</b>	<b>Progress</b>
<p>i. Work with Development Services to adopt draft changes to Land Use and Subdivision Bylaw (No. 500) which would enable the RDN to acquire privately-owned onsite systems serving at least 60 parcels, if petitioned</p>	<p>Still to come</p>

Target: Limit holding tanks in the RDN	
Commitment	Progress
i. Review and revise the Pump & Haul Local Service Establishment Bylaw (No. 975) and the Sewage Disposal Regulation Bylaw (No. 1224) so only grandfathered properties and properties with failed onsite systems qualify for the septage receiving rate reduction	A review of the trucked liquid waste and pump & haul bylaws began 2015 to clarify the role of Wastewater Services and to make the service delivery more efficient. Pump and Haul is now regulated under Bylaw No. 1732 which was adopted in January 2017. Repeal of Bylaws No. 975, 988, 1217, and 1224 occurred in 2017. Key points are summarized in the 2016 Annual Report.
ii. Work with VIHA and Building Inspection Services to limit holding tanks on new developments.	Still to come

#### 4.3.1 SEPTIC MAINTENANCE REBATE

In September 2014, the RDN launched the Septic Maintenance Rebate program with the goals of

- 1) making it easier for residents to manage their septic system maintenance
- 2) promoting long-term maintenance habits, and
- 3) maximizing the longevity of existing onsite systems.

In 2017, the RDN provided over \$33,000 in Septic Maintenance Rebates to help residents maintain their septic systems. Rebates were offered in the following four categories:

- Category 1: Performance Assessment (maximum rebate of \$500)
- Category 2: Riser Installation (maximum rebate of \$300)
- Category 3: Effluent Filter Installation (maximum rebate of \$100)
- Category 4: Replace a Malfunctioning System (\$500 flat rate).

A bonus rebate increased the maximum rebate amount by up to \$100 for applicants who attended a SepticSmart workshop.

The RDN rebate covered 75% of eligible expenses, to a maximum amount, for Category 1, 2, 3, and the Bonus. The RDN provided a flat rate for Category 4.

From 2014 to 2017, the program stimulated an investment of \$789,000 to maintain septic systems in the region. The breakdown of the investment is as follows:

RDN Investment	\$100,000
WCOWMA-BC Investment <sup>2</sup>	\$ 17,000
Homeowner Investment	\$672,000
<b>TOTAL</b>	<b>\$789,000</b>

<sup>2</sup> In 2014 and 2015, the RDN partnered with the Western Canadian Onsite Wastewater Management Association of BC (WCOWMA-BC) to deliver the septic maintenance incentive program. For the two years, WCOWMA-BC contributed \$8,500 each year to boost the SepticSmart incentive program. In 2016 and 2017, the RDN continued the rebate program funded entirely from revenue generated from septage receiving fees.

Applications to the Septic Maintenance Rebate program have come from every electoral area plus the City of Nanaimo, City of Parksville and District of Lantzville.

#### 4.4 SOURCE CONTROL

The Source Control Program objective is to reduce contaminants at the source to improve the quality of influent, effluent and biosolids. Progress towards the LWMP commitments is summarized in Table 5.

**Table 5. Source Control Program Commitments**

**Target: Enhance regional source control through a single unified bylaw similar to the Sewer Use Regulatory Bylaw (No. 1225) or through consistent municipal bylaws**

Commitment	Progress
i. Work with the municipalities to develop similar source control bylaws or adopt a single bylaw	The W3C Source Control working group formed in 2015. Regional Sewage Source Control Bylaw No. 1730, 2015 and Bylaw Enforcement Ticket Regulation Amendment Bylaw No. 1418.04, 2015 were adopted on November 24, 2015 and replace Bylaw No. 1225, and include updated and improved contaminant restrictions, user fees for waste discharge permits. Legal advice regarding the use or reference of Bylaw 1730 by each of the RDN's four member municipalities was provided to municipal wastewater staff in 2016
ii. Amend the Trucked Liquid Waste Disposal Bylaw (No. 988) to allow marinas to apply for reduced holding tank waste disposal rates if they provide free pump-out services to discourage marine dumping	Trucked Liquid Waste Bylaw No. 1732 was adopted in January 2017, and repealed and replaced Bylaw No. 988. Bylaw No. 1732 allows a reduced rate of \$0.01/gallon for holding tank waste from marine sewage reception facilities, with approved application
iii. Work with municipalities, marinas, and/or harbour authorities to accept wastewater from marine vessels as opportunities arise	The RDN accepts wastewater from BC Ferries' ships docking at the Departure Bay, Gabriola Island and Duke Point terminals. In 2016 the RDN began accepting wastewater from Seaspan vessels.

**Target: Enhance the education and outreach strategy, as required**

Commitment	Progress
i. Collaborate with other RDN departments to promote pollution prevention strategies	In 2013, the RDN (led by Wastewater Services) launched a unified outreach website called "RDN Get Involved" with a goal of promoting RDN outreach strategies including pollution prevention. In 2017, the RDN Get Involved program was replaced with a new platform at <a href="http://getinvolved.rdn.ca/">getinvolved.rdn.ca/</a> .
ii. Liaise with other local governments to share source control strategies	Source control is addressed at the W3C meetings held on: <ul style="list-style-type: none"> <li>• April 15 and October 16, 2014</li> <li>• March 12 and September 25, 2015</li> <li>• March 4 and September 30, 2016</li> <li>• April 21 and September 22, 2017</li> </ul>
iii. Promote source control through the SepticSmart program	Source control content was revised in 2013. Septic Maintenance Rebates were offered since 2014
iv. Encourage green boating practices	Still to come

<p>v. Target the outreach program on RDN residents, medical clinics, the hospital, and businesses to address pharmaceuticals, personal care products, organics, fat, oil, grease, and I&amp;I</p>	<p>The RDN teams with the BC Pharmacy Association to encourage residents to take part in the BC Medications Return program, which allows for the return of medication to participating pharmacies. On May 17, 2016, the RDN and the BC Pharmacy Association issued a <a href="#">joint media release</a> on the topic of safe disposal of unused medications</p>
<p>vi. Partner with RDN community members with an interest in promoting source control (e.g. non-governmental organizations; local stewardship groups)</p>	<p>The RDN partnered with WCOWMA-BC to provide rebates for septic system maintenance in 2014 and 2015</p> <p>ONGOING – In 2017, RDN Team WaterSmart partnered with community groups in the Region to host two “Water Day” events. These events were held March 12, 2017 in Parksville and April 23, 2017 in Nanaimo, coupled with the Earth Day celebration. These events featured interactive displays on a variety of water-related topics, educational activities for children and a total of 6 workshops on topics related to water conservation and watershed protection.</p> <p>ONGOING – Team WaterSmart performed 20 residential irrigation check-ups in 2017 to help residents reduce outdoor water use</p> <p>ONGOING – 13 community stewardship groups participated in the RDN’s Community Watershed Monitoring Network surface water quality monitoring program (see Action 2 ii in Section 4.6)</p> <p>See <a href="http://www.teamwatersmart.ca">www.teamwatersmart.ca</a></p>
<p>vii. Consider publishing regular articles (e.g. newspaper or Regional Perspectives) promoting source control</p>	<p>Regular RDN newspaper articles are scheduled for 2018.</p>
<p>viii. Update the RDN website information on source control</p>	<p>Ongoing – <a href="http://rdn.bc.ca/pollution-prevention">rdn.bc.ca/pollution-prevention</a> is updated periodically</p>
<p><b>Target: Monitor wastewater influent</b></p>	
<p><b>Commitment</b></p>	<p><b>Progress</b></p>
<p>i. Monitor influent and biosolids quality and review discharge permits to assess potential contaminant sources</p>	<p>Biosolids quality is monitored and reviewed regularly according to the Organic Matter Recycling Regulation</p>
<p>ii. Work with RDN Bylaw Services to provide enforcement as needed.</p>	<p>As needed. In 2017 Wastewater Services worked by Bylaw Services to enforce Bylaw 1730 and correct an unauthorized discharge to the DPPCC.</p>

#### 4.5 ODOUR CONTROL

The Odour Control Program objective is to reduce nuisance odours from RDN wastewater infrastructure, including the wastewater treatment plants and associated facilities. Progress towards the LWMP commitments is summarized in Table 6.

**Table 6. Odour Control Program Commitments**

Target: Maintain and upgrade equipment so <10 nuisance odour complaints are made per facility per year	
Commitment	Progress
i. Continue using current odour control measures; consider new control technologies as required	Ongoing
ii. Address odour at Bay Ave Pump Station	Completed 2011
iii. Replace biofilter media at GNPCC and FCPC	Completed 2011 & 2012
iv. Reverse the air flow through the trickling filter at FCPC	Completed 2012
v. Install ion generators at Hall Road and Chase River Pump Stations	Completed 2011 & 2012
vi. Review the odour management system at GNPCC to identify potential improvements	Completed 2013
vii. Complete improvements to the NBPC outfall manhole odour management system	Completed 2013
viii. Incorporate odour controls into the design phase of future capital works projects including upgrade of GNPCC, NBPC and expansion of FCPC	<p>The GNPCC Secondary Treatment Upgrade Project will improve the odour control system with the intent that odours will be undetectable outside the property boundary. Upgrades include carbon scrubbers for the headworks and dewatering building bin loading area; new synthetic media biofilters for the primary tanks and thickeners; and covers over the primary sedimentation tank weirs.</p> <p>Preliminary design of the FCPC expansion began in March 2017 and will include a significant odour control upgrade.</p>
ix. Seek resident input before upgrading or expanding facilities	<p>The RDN completed extensive public consultation during the LWMP amendment process and continues to seek input through open houses, public meetings and through the LWMP Monitoring Committee.</p> <p>The RDN offered open houses specific to the GNPCC upgrade before the construction tender was awarded in early 2017 for the Secondary Treatment Upgrade Project. Open houses were held on February 10<sup>th</sup> and 11<sup>th</sup>, 2015, July 8, 2015 and June 11, 2016.</p> <p>The RDN offered an open house at FCPC on May 9, 2015 and April 30, 2016.</p>
Target: Investigate, document, and respond to odour complaints within 24 hours	
Commitment	Progress
i. Investigate, document, and respond to odour complaints within 24 hours	Ongoing. In 2017, there were 39 foul odour reports for FCPC, 11 for GNPCC, two for NBPC, and no reports for DPPCC. The 2017 annual report for each facility provides more detail

4.6 RAINWATER MANAGEMENT / DRINKING WATER & WATERSHED PROTECTION

The Rainwater Management / Drinking Water & Watershed Protection (DWWP) Program objectives are:

- 1) use rain as a resource
- 2) promote the maintenance of hydrologic function, and
- 3) protect the quality of water.

Progress towards the LWMP commitments is summarized in Table 7.

**Table 7. Rainwater Management / Drinking Water & Watershed Protection Program Commitments**

**Target: Develop a regional strategy on rainwater management in coordination with member municipalities**

Commitment	Progress
i. Collaborate with Development Services, Water Services, Energy & Sustainability Services, and member municipalities to create a Rainwater Management Plan	Regional Rainwater Management is a topic of the biannual W3C meetings.
ii. Liaise with other local governments to share rainwater management strategies	The W3C Rainwater Management Working group was established in 2015 and has met twice since
iii. When developing the plan, consider subdivision development standards (i.e. low impact development principles, green infrastructure policies, erosion and control standards, onsite rainwater management, watercourse protection, and wetland protection) and non-point source control (i.e. runoff pollution)	Still to come – 2018 and onwards (revised from 2016 and onwards). Building First Nations relationships and continuing with project based initiatives is the current focus
iv. Support Building Code changes that remove barriers to rainwater harvesting	<p>In 2010, the RDN completed the study <i>Overcoming Barriers to Green Buildings in the RDN</i>. In 2012, the RDN published the <a href="#">Rainwater Harvesting Guidebook</a>. In 2014, the RDN reviewed the current land use bylaws and regulations to identify potential barriers to green building features, including rainwater harvesting, and to propose regulatory changes. Green building bylaw amendments received first and second reading in October 2014 and were adopted in February 2015.</p> <p>In 2016, the RDN Board submitted a resolution to AVICC urging the Province to develop rainwater-specific standards for sourcing, treatment, and infrastructure to further enable the implementation and approval of rainwater sources for potable water. This resolution was enabled at the AVICC Conference in April 2016, and subsequently at the Union of BC Municipalities (UBCM) Conference in September 2016.</p>
v. Subject to Board approval of the Rainwater Management Plan, Wastewater Services and Water Services will coordinate the plan, administer the budget, and oversee collaboration with other departments and jurisdictions	Still to come – 2018 and onwards (revised from 2016 and onwards)
vi. Establish watershed performance targets and standards to mitigate the impacts of land development	



Target: Implement rainwater management initiatives as detailed in DWWP Action Plan	
Commitment	Progress
i. Develop a regional Water Budget to increase our understanding of ground and surface water resources	Phase 1 Completed (2013) – see <a href="http://rdnwaterbudget.ca">rdnwaterbudget.ca</a>  Phase 2 (expanded data collection in priority areas) Underway – added additional groundwater and surface water monitoring sites in 2017, in target areas including Cedar-Yellowpoint, Nanoose and French Creek.
ii. Monitor water quality in selected streams to study the impact of land use on watershed health (e.g. Community Watershed Monitoring)	COMPLETED / ONGOING – Community Watershed Monitoring Network monitors water quality during low flow and fall flush periods by collecting grab samples at 62 sites on 36 watercourses in 25 watersheds. Program completed its 7th year in 2017.
iii. Monitor the impacts of climate change on hydrology in the RDN to identify flood risks	Ongoing – regional hydrometric and climate monitoring review, list of priority data gaps to fill and partners interested in expanding data network completed in 2014. In 2015 a snowpillow/ weather station at Mt. Arrowsmith was installed in collaboration with several partners. A hydrometric monitoring station on Haslam Creek was installed in 2016 and on Nanoose Creek in 2017, to address those priority data gaps. A geodatabase has been put together to house all the climate/hydrometric stations for ease of access to information for long term planning or to monitor flood risk / intense rain events.
iv. Continue to implement the seven programs detailed in the DWWP Action Plan including integrated watershed management planning	Ongoing – All 7 programs underway. As of 2017, out of 25 action categories, 19 are fully initiated and ongoing, and 6 are partially initiated/explored/in preliminary discussion. In 2018 a review of DWWP Action Plan implementation to-date will be formally reported on, leading to efforts in 2019 to update the Action Plan for the next operational period.
v. Implement the Water Conservation Plan	Ongoing – graphical billing was piloted in 2014 and 2015. A WaterSmart Garden Rebate program for efficient irrigation and soil improvements was piloted in all RDN Water Service Areas in 2016 and ran region-wide in 2017. The Watershed Friendly Yard campaign started in 2014 and continued in 2015 and 2016, using attractive yard signs and a draw for a rain barrel to encourage and highlight water efficient landscape practices in the community.
vi. Refine the Water Budget Study to assist in land use and development decisions	Started (March 2015) – in Nanoose (Area E) a water monitoring plan was developed in 2016, to outline how to gain more data and refine water availability assessment. This will be a multi-year monitoring and analysis project. French Creek, Cedar/ Yellowpoint are other priority areas that had a monitoring plan developed in 2016 for further data collection to support a phase two water budget. Expanded monitoring in those locations was implemented in 2017 and data collection is ongoing, leading to the next phase Water Budget Analysis.

<p>vii. Continue to provide water education, incentive programs and watershed monitoring partnerships</p>	<p>ONGOING:</p> <ul style="list-style-type: none"> <li>• Team WaterSmart educational workshops,</li> <li>• Team WaterSmart community booths,</li> <li>• School presentations and field trips,</li> <li>• Rainwater harvesting incentive program (for systems with a min. 1,000 imperial gallons of rainwater storage),</li> <li>• Rural Water Quality Protection incentive program (for well water testing, wellhead construction upgrades, well closure)</li> <li>• WaterSmart Garden Rebate Program piloted with incentives for homeowners to upgrade to efficient irrigation hardware / controls and to augment their soil/mulch.</li> </ul>
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#### 4.7 VOLUME REDUCTION

The Volume Reduction Program objective is to reduce wastewater production by promoting water conservation measures. Progress towards the LWMP commitments is summarized in Table 8.

**Table 8. Volume Reduction Program Commitments**

Target: Promote a reduction in per capita water consumption	
Commitment	Progress
<p>i. Promote water conservation incentives like low-flow toilet rebates</p>	<p>The RDN offered a low-flow toilet rebate from 2009 to 2013. This program is now complete. Over 1,500 toilets were replaced under this program, for a total of over 50 million litres of water saved each year, from here forward</p>
<p>ii. Work with provincial regulators to provide public with information around opportunities for greywater reuse, as supported by the BC Building code and provincial regulations</p>	<p>The BC Ministry of Health published the Manual of Composting Toilet and Greywater Practice in 2016.</p>
<p>iii. Educate the public through free workshops and online information</p>	<p>ONGOING – In 2017, RDN Team WaterSmart partnered with community groups in the Region to host two “Water Day” events. These events were held March 12, 2017 in Parksville and April 23, 2017 in Nanaimo, coupled with the Earth Day celebration. These events featured interactive displays on a variety of water-related topics, educational activities for children and a total of 6 workshops on topics related to water conservation and watershed protection.</p> <p>ONGOING – Team WaterSmart performed 20 residential irrigation check-ups in 2017 to help residents reduce outdoor water use</p> <p>COMPLETED / ONGOING Team WaterSmart’s website was updated in 2016 to include an interactive map showing the watering restrictions in effect in each water service area, municipality and improvement district within the region.</p> <p>See <a href="http://dwwp.ca">dwwp.ca</a> and <a href="http://teamwatersmart.ca">teamwatersmart.ca</a></p>

iv. Hold semi-annual meetings with the City of Nanaimo, District of Lantzville, City of Parksville, and Town of Qualicum Beach to develop a regional volume reduction strategy	W3C meetings were held on April 21 and September 22, 2017
v. Continue to develop and implement water conservation measures through the DWWP service, with a target of reducing per capita water consumption by 25% between 2009 and 2030	ONGOING – Water Conservation Plan action items such as graphical billing pilots in 2014 and 2015; WaterSmart Garden Rebate Program in 2016 and 2017; Watershed Friendly Yard promotional campaign started in 2014 and continued in 2015, 2016, 2017. In 2018 an evaluation of targets and trends pertaining to Water Conservation in RDN Water Service Areas will be completed.

**Target: Reduce water consumption in RDN buildings and wastewater treatment operations**

Commitment	Progress
i. Install low-flow or dual flush toilets and other water-saving devices in RDN buildings	Ongoing with new construction according to the Corporate Climate Change Plan
ii. Consider water efficient technology when designing infrastructure upgrades and expansion	Ongoing according to the Green Building Policy
iii. Promote the use of reclaimed water when practicable	FCPCC uses treated effluent during operation as process and wash water in place of potable water. GNPCC uses treated effluent during operation as process water in place of potable water

**Target: Eliminate sanitary sewer overflows**

Commitment	Progress
i. Identify potential sources of sanitary sewer overflows and develop a strategy to eliminate	In 2017 the Nanaimo Interceptor Hydraulic Modeling Study was completed. The steady state simulation did not predict any overflows within the study area (the interceptor south of the Departure Bay Pump Station)

**4.8 INFLOW & INFILTRATION**

Inflow & Infiltration Program objectives are:

- 1) to reduce inflow and infiltration entering the wastewater collection and treatment system and
- 2) to meet Municipal Wastewater Regulation standards for I&I.

Progress towards the LWMP commitments is summarized in Table 9.

**Table 9. Inflow & Infiltration Program Commitments**

Target: Monitor I&I entering RDN infrastructure	
Commitment	Progress
i. Set up an I&I monitoring function for GNPCC and FCPCC in FlowWorks (flow monitoring system)	FlowWorks data are reviewed regularly. Catchments with high flows are further investigated as needed by staff of member municipalities (i.e. Harewood)
ii. Evaluate flow data to understand system reaction to rainfall and high flow events	Still to come

<p>iii. Use CCTV to inspect GNPCC and FCPCCC interceptors on a 5-year cycle</p>	<p>In 2017 the RDN monitored a section of the Chase River Forcemain along Haliburton Street (GNPCC). For FCPCCC, the outfall was monitored and repairs were made on manholes 39, 36, 30 and 12 to enable access for CCTV inspection</p>
<p>iv. Maintain and install flow meters and rainfall gauges as needed</p>	<p>Ongoing. Installed influent flow meter at FCPCCC in 2015.</p> <p>In 2016, new wireless modems installed on all flow meters. Level sensors in flow meters are tested monthly for accuracy. Environment Canada and member municipalities operate rain gauges</p> <p>In 2017, the RDN performed maintenance on the Ocean Place Flow meter.</p>

**Target: Reduce I&I directly entering RDN owned infrastructure**

Commitment	Progress
<p>i. Repair manholes as needed; perform regular maintenance of interceptors</p>	<p>In 2015, the RDN completed the Qualicum Beach Interceptor Pipeline Protection study.</p> <p>In 2016, an erosion protection project was completed on the Qualicum Interceptor between manholes 16 and 17. Performed routine inspections of manholes and interceptors</p> <p>In 2017, repairs were made to FCPCCC manholes 39, 36, 30 and 12 to enable access for CCTV inspection</p>
<p>ii. Investigate grant funding opportunities (e.g. Gas Tax Fund) for infrastructure rehabilitation</p>	<p>Ongoing. Grant funding for other infrastructure rehabilitation is listed in the Pollution Control Centres Program</p>

**Target: Provide secondary treatment for flows up to 2 times ADWF and at least primary treatment for flows beyond 2 times ADWF during storm or snowmelt events with less than a 5-year return period**

Commitment	Progress
<p>i. Design upgrades to RDN infrastructure so flows up to 2 times ADWF will receive secondary treatment and all flows in excess of this amount will receive primary treatment</p>	<p>GNPCC detailed design completed in 2016 provides secondary treatment for 2xADWF and primary treatment for all flows beyond 2xADWF</p>

**Target: Develop a regional strategy on I&I management**

Commitment	Progress
<p>i. Hold semi-annual meetings with the municipalities to develop regional monitoring and reduction targets for inflow and infiltration</p>	<p>W3C meetings were held on April 21 and September 22, 2017.</p>
<p>ii. Share flow and rainfall data with municipalities</p>	<p>Flow monitoring data is shared at the W3C meetings</p>
<p>iii. Consider requiring replacement or disconnection of private laterals when granting demolition permits</p>	<p>Still to come</p>
<p>iv. Consider providing municipal or regional staff to witness or perform service connections</p>	<p>Still to come</p>

v. Work with the member municipalities to continue to reduce flows due to I&I and to eliminate sewer overflows	I&I was discussed at the biannual W3C meetings.
<b>Target: Encourage I&amp;I reduction on private land through public education</b>	
<b>Commitment</b>	<b>Progress</b>
i. Enhance the source control program to encourage landowners to check gutters and outside drains for connection to the sewer system, avoid planting trees and shrubs over sewer laterals, ensure basement drains and sump pumps are not connected to the sanitary sewer, and replace broken or leaky pipes located on private property	Still to come
ii. Consider providing incentives to enable residents to reduce private property I&I	Currently working with municipal staff during W3C meetings to develop a strategy to reduce private property I&I

#### 4.9 POLLUTION CONTROL CENTRES

The Pollution Control Centres Program objective is to meet Municipal Wastewater Regulation standards and sustainably manage wastewater treatment at GNPCC, FCPC, NBPC, DPPCC, and associated facilities. Progress towards the LWMP commitments is summarized in Table 10.

**Table 10. Pollution Control Centres Program Commitments**

<b>Target: Comply with permit or operational certificate</b>	
<b>Commitment</b>	<b>Progress</b>
i. Manage wastewater collection and treatment using the RDN's Environmental Management System (EMS) to meet permit requirements	RDN Wastewater Services has been ISO 14001 Certified since 2005 and has been part of the National Water and Wastewater Benchmarking Initiative since 2001 with the goal of continually improving service and environmental performance
ii. Work with MOE staff to establish reasonable timelines and scope of any required receiving environment monitoring programs	A Receiving Environment Program was developed by GreatPacific Engineering and Environment in December 2016. The 2017 monitoring program was carried out by G3 Consulting. Results of the first season of monitoring are summarized in a separate document.

**Target: Manage assets to maintain the quality and integrity of existing infrastructure**

Commitment	Progress
i. Update and evaluate asset management and preventative maintenance plans	An integrated Asset Management strategy was prepared in 2014 as a means to guide Asset Management development with a consistent organization-wide approach. An Asset Management policy (provided in 2016 annual report) was approved by the Board in 2016, along with creation of a new department responsible for organization-wide asset management activities. The manager, in addition to a two-year temporary Asset Management Coordinator, works with an inter-departmental working group tasked with implementing an organizational approach to asset management at the department level
ii. Systematically inspect, detect, and correct incipient failures	Wastewater Services has a Computer Maintenance Management System used for preventative, corrective, urgent, and emergency maintenance
iii. Replace the GNPCC effluent outfall line	Replacement of the outfall began in 2014 and was complete in 2016
iv. Prepare an Environmental Impact Study for the GNPCC outfall	The EIS for the land portion of the outfall was complete in May 2014. The EIS for the marine portion of the outfall was completed in October 2015
v. Monitor the condition of the Departure Bay forcemain	Performed monthly visual inspections and routine annual air/vacuum relief valve inspections in 2016. In 2017 a condition assessment of the Departure Bay Force Main was completed using “Pipe Diver” and “Smart Ball” electromagnetic sensing tools. The assessment provided suitable condition data for about 80% of the total length of the forcemain from the Departure Bay Pump Station. The assessment determined that the pipe appears to be in better condition than originally believed, further condition assessments are planned for 2019
vi. Improve the odour management system at the NBPCC outfall manhole	Complete in 2013

**Target: Expand and provide secondary treatment at GNPCC by 2018**

Commitment	Progress
i. Commission a third digester	Complete in 2013
ii. Construct a fourth primary sedimentation tank	Complete in 2013
iii. Upgrade the facility to provide secondary treatment by 2018	<ul style="list-style-type: none"> <li>• Preliminary site preparation began in 2015</li> <li>• Environmental Impact Study was complete in 2015</li> <li>• Geotechnical study was complete in 2015 and shows that an extra six months of ground improvements is necessary to account for liquefiable soils on site</li> <li>• Engineering design was complete in 2016</li> <li>• Construction of the GNPCC Secondary Treatment Upgrade Project began in May 2017 and will continue to 2019 (see photos below)</li> </ul>

<p>iv. Explore federal and provincial grant options to fund secondary treatment</p>	<p>RDN made the following requests for financial assistance:</p> <ul style="list-style-type: none"> <li>• September 2013 request to the Province at the UBCM Convention to help fund GNPCC secondary treatment upgrade</li> <li>• April 2015 application to the Strategic Priorities Fund</li> <li>• November 2016 application to the Clean Water and Wastewater Fund</li> <li>• Spring 2017 application to the Strategic Priorities Fund</li> </ul> <p>In March 2018 the RDN was awarded \$6 million in Federal Gas Tax Funds to assist with the \$82 million GNPCC Secondary Treatment Upgrade Project</p>
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**Target: Provide secondary treatment at NBPCC by 2023**

Commitment	Progress
<p>i. Upgrade the facility to provide secondary treatment by 2023</p>	<p>Secondary treatment detailed design is beyond the 5 year capital plan (about 2021)</p>
<p>ii. Explore federal and provincial grant options to fund secondary treatment</p>	<p>The RDN requested financial assistance from the Province to help fund the secondary treatment upgrade projects at GNPCC and NBPCC at the September 2013 UBCM Convention</p>

**Target: Expand capacity in wastewater infrastructure to respond to demands created by an increasing population**

Commitment	Progress
<p>i. Expand FCPC treatment plant capacity</p>	<p>Capacity expansion is scheduled for 2021. Preliminary design of the FCPC expansion began in March 2017</p>

**Target: Develop a sewer servicing strategy for the Nanoose Bay Peninsula**

Commitment	Progress
<p>i. Coordinate with Development Services through the OCP review process to identify property owners in growth containment boundaries who are interested in establishing public wastewater services</p>	<p>An Area E OCP review did not proceed in 2017</p>
<p>ii. Consider resource recovery, visual, and olfactory buffers and the number of pump stations required</p>	<p>Still to come</p>
<p>iii. Review and update the Fairwinds sewer servicing agreement and DCC bylaw for the Nanoose Bay area</p>	<p>Still to come</p>

**Target: Develop a DCC bylaw to allow new connections to use existing capacity at DPPCC**

Commitment	Progress
<p>i. Develop a DCC bylaw to allow properties in the growth containment area to purchase capacity at DPPCC</p>	<p>The Cedar Village Sewer Servicing Study reviewed the potential for properties in the growth containment area to purchase capacity at DPPCC. DCCs were considered in the DPPCC Cost and Capacity Review which began in August 2015 and completed in 2017 (revised from 2016)</p>



**Target: Review DCC plan every year and revise bylaws where necessary to fund anticipated projects**

Commitment	Progress
i. Revise DCC bylaws at GNPCC, NBPCC, and FCPC.	A review and update of the Southern (GNPCC) and Northern (FCPC) Communities' Wastewater Development Cost Charges was started in 2015. DCC Amendment Bylaws Nos. 1547.01 and 1442.03 were adopted on June 27, 2017. Revised 2015-2017 (from 2015-2016)

Photographs of the GNPCC Secondary Treatment Upgrade Project are provided below.



**Photo left:** Secondary treatment area – before blasting



**Photo right:** Same area – during blasting



**Photo left:** Secondary treatment construction area



**Photo right:** Secondary treatment construction area

**4.10 RESOURCE RECOVERY**

The Resource Recovery Program objective is to economically recover and utilize resources in wastewater. Progress towards the LWMP commitments is summarized in Table 11.



**Table 11. Resource Recovery Program Commitments**

Target: Reduce resource consumption at wastewater treatment facilities	
Commitment	Progress
i. Complete a study to review resource recovery opportunities at RDN wastewater facilities	Resource recovery is integrated into GNPCC Secondary Treatment design (2016 completion). The final design includes a water system to reuse effluent as operational wash water in place of potable water, an increase in the production of biogas, and an increase in the use of biogas as an energy source for the boilers. The heat will be transferred through the hydronic system to heat the occupied spaces and the treatment process
ii. Evaluate wastewater treatment operations which require energy, water, chemicals or fuel and identify activities that can be run more efficiently, if any	Energy, water, chemical and resource consumption are reviewed annually. As part of the National Water and Wastewater Benchmarking Initiative, Wastewater Services compares its data to other facilities across Canada of similar size to monitor performance and identify areas to improve efficiency
Target: Recover resources from wastewater	
Commitment	Progress
i. Commission a cogeneration facility for biogas recovery and energy generation at GNPCC	Complete 2012
ii. Continue to beneficially use biosolids according to the Biosolids Program	In 2017, the RDN produced and beneficially used 4,588 wet tonnes of biosolids
iii. Reclaim water for use onsite in compliance with MOE guidelines (MOELP 2001)	FCPCC uses treated effluent as process and wash water in place of potable water. GNPCC uses treated effluent as process water in place of potable water
iv. Discuss future opportunities for reclaimed water use with Morningstar Golf Course	Morningside Golf Course did not request any reclaimed water in 2017
v. Consider potential resource recovery options for new projects, particularly through process selection	Integrated into GNPCC Secondary Treatment design (2016 completion) (see comment above regarding the resource recovery study)
vi. Examine opportunities for a district heating project at Hammond Bay Elementary using the GNPCC outfall	In 2014 the RDN installed two stubs into the new effluent outfall line to facilitate easy connection for the proposed School District 68 district heating project. The outfall replacement project was completed in 2016. In 2017, School District 68 received funding from the Carbon Neutral Action Program and School Enhancement Program for the project
vii. Examine opportunities for using reclaimed water for the Fairwinds Golf Course.	Still to come

#### 4.11 BIOSOLIDS PROGRAM

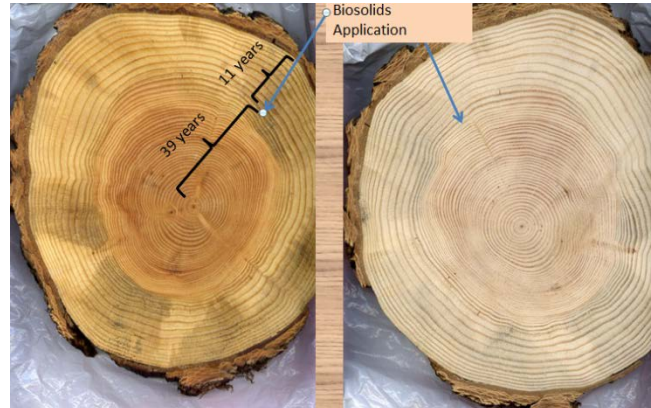
GNPCC treats sludge from its operations as well as sludge trucked from the DPPCC that has undergone secondary treatment. Likewise, FCPCC treats sludge from its operations as well as sludge trucked from NBPCC that has undergone primary treatment. In 2017, the RDN produced and beneficially reused a total of 4,588

metric (wet) tonnes of biosolids. This includes the 3,247 tonnes produced at GNPCC and 1,212 tonnes produced at FCPC.

Since 1999, RDN biosolids have been beneficially used in agriculture, landfill closures, mine reclamation and forestry applications. Biosolids provide an alternative to chemical fertilizers as a means to improve soil fertility where nutrients are limited.



**Photo:** trees receiving biosolids applications have longer and greener (healthier) needles (photo credit SYLVIS Environmental).



**Photo:** trees receiving biosolids applications grow much faster than controls that have not had biosolids treatments (photo credit Vancouver Island University).

Biosolids are managed and applied according to a Land Application Plan prepared annually by SYLVIS in adherence to the British Columbia *Organic Matter Recycling Regulation* (OMRR). Since 2003, RDN biosolids have been used in a Forest Fertilization Program on land privately owned by TimberWest (leased to VIU until May 2017). Through this program, RDN biosolids are diverted from the landfill and applied to the forest lands to improve tree growth. This program demonstrates modern practices in forest ecology and stand management. Applications combine the initial fertilization benefits of biosolids with long-term benefit through soil conditioning, as the surface-applied biosolids become incorporated into the surface organic matter (humus) that develops over time. Biosolids provide improved productivity through nutrient input, improved water holding capacity, and increased organic matter through application to the forest.

In 2013, the RDN, SYLVIS Environmental (SYLVIS), and VIU entered into a Biosolids Management Program Agreement to manage biosolids in the region. Under the Agreement, SYLVIS assumed operational and qualified professional responsibilities for the application of biosolids at the woodlot, VIU assumed a research focused role under the Agreement, and the RDN remained the biosolids generator. The term of the Agreement was from February 1, 2013 to March 31, 2017. After March 31, 2017, VIU did not renew their lease on the TimberWest lands and discontinued their program.

In 2017, the RDN entered into a 4-year land use agreement with TimberWest to enable the continuation of the forest fertilization program. The RDN also entered into a 4-year shared-use agreement with NMBC to coordinate biosolids land use with recreational mountain biking in the area. The new agreement enhances communication and coordination between biosolids application, forestry operations and recreational mountain biking.

Industry best practice recommends a biosolids management program have a biosolids contingency site. Previously, the Regional Landfill was used as the contingency site when the forest lands were not accessible

due to winter conditions. In 2017, the RDN established a contingency biosolids management site at the Harmac mill so biosolids can continue to be beneficially used during times where the TimberWest lands is inaccessible (i.e. winter road conditions). At the Harmac site, RDN biosolids, Harmac woodwaste, and mineral soil are used to fabricate soil for cover material for the Harmac landfill during its landfill closure activities. The Harmac site has capacity as a contingency site for 10-20 years.



**Photo:** Lock blocks set up on the hog fuel pad at Harmac for biosolids stockpiling and soil mixing operations. Photo credit SYLVIS Environmental



**Photo:** Mixed fabricated soil from the Harmac site. Photo credit SYLVIS Environmental

The LWMP Biosolids Program objective is to continue producing and beneficially using biosolids. Progress towards the LWMP commitments is summarized in Table 12.

**Table 12. Biosolids Program Commitments**

Target: Produce, at minimum, Class B biosolids	
Commitment	Progress
i. Develop a Biosolids Management Plan to assess options for the beneficial use of RDN biosolids, including land application, energy generation, and other possible resource recovery strategies	A Biosolids Management Plan was completed in 2011. A Biosolids Options Study was completed in 2016 and appended to the 2016 LWMP Annual Report. Recommended options included continuation of land application at the TimberWest woodlot and production of a fabricated soil for use in the closure of the Harmac and RDN landfills
ii. Improve the quality of biosolids through upgrades to wastewater treatment infrastructure and innovative technologies and techniques (i.e. decrease volatile solids content and pathogen concentrations)	Biosolids quality will improve with the secondary treatment upgrades at GNPCC (2018-2019) and NBPCC (2023)
iii. Monitor and report biosolids quality according to operational certificate/discharge permit and OMRR	RDN Biosolids met OMRR requirements in 2017. The 2017 Biosolids Management Summary is prepared as a separate document.

<p>iv. Establish a contingency plan for temporary storage or application of biosolids if the VIU site is not useable</p>	<p>Previously, the Regional Landfill was used as the contingency site when the forest lands were not accessible due to winter conditions. In 2017, the RDN established a contingency site at the Harmac mill where RDN biosolids, Harmac woodwaste, and mineral soil are used to fabricate soil for cover material that will be used during the closure of the Harmac landfill</p>
<p><b>Target: Enhance the biosolids-based education and outreach program</b></p>	
<p><b>Commitment</b></p>	<p><b>Progress</b></p>
<p>i. Develop and distribute information on source control in order to improve biosolids quality</p>	<p>Source control is promoted on an ongoing basis and at public events like open houses</p>
<p>ii. Develop material to increase awareness of precautions taken to ensure the storage and application of biosolids do not negatively impact groundwater</p>	<p>The RDN launched nanaimobiosolids.ca in October 2013 to highlight the RDN's partnership with VIU and SYLVIS and to increase awareness of the application area, regulations, monitoring and research. In 2017 that website was incorporated into the RDN's website at <a href="http://rdn.bc.ca/biosolids">rdn.bc.ca/biosolids</a></p>
<p>iii. Continue working with local user groups to communicate plans for biosolids application areas</p>	<p>RDN gave a presentation and tour of the biosolids woodlot to the Ministry of Environment in March 2015. The RDN also held an open house for the Nanaimo Mountain Bike Club (NMBC) in October 2015</p>
<p>iv. Provide educational material and outreach at open houses and other events.</p>	<p>In 2015, the RDN developed a brochure on Biosolids. Biosolids educational materials were available at the NMBC Open House as well as at regular open houses at GNPCC and FCPC.</p>

## 5 REVISIONS AND ADJUSTMENTS

Minor revisions to non-capital LWMP deliverables are identified in Table 1. No significant revisions, adjustments or amendments are planned at this time for the major capital projects.

## APPENDIX A: LWMP Monitoring Committee Minutes



**REGIONAL DISTRICT OF NANAIMO  
LIQUID WASTE MANAGEMENT PLAN MONITORING COMMITTEE MEETING  
HELD ON FRIDAY MARCH 17, 2017  
COMMITTEE ROOM**

**MINUTES**

**Present:**

Ian Thorpe	Chair, Director (Nanaimo)	Daniel Hooper	Public (District 68)
Bob Rogers	Director, Electoral Area E	Blake Medlar	Business Community (Dist. 68)
Alec McPherson	Director, Electoral Area A	Peter Law	Public (District 69)
Rosa Telegus	City of Parksville	Fred Spears	District of Lantzville
Bob Weir	Town of Qualicum Beach	Doris Fournier	City of Nanaimo

**Also in Attendance:**

Randy Alexander	GM, Regional and Community Utilities, RDN
Sean De Pol	Manager, Wastewater Services, RDN
Shelley Norum	Wastewater Program Coordinator, RDN
Deanna McGillivray	Wastewater Special Projects Coordinator, RDN

**Regrets:**

Marc Lefebvre	Director (Parksville)	Juanita Rogers	Fisheries and Oceans Canada
John Elliot	City of Nanaimo	Vaughn Figueira	City of Parksville
Doug Muir	Snuneymuxw First Nation	Glenn Gibson	Island Health

**CALL TO ORDER**

The Chairperson called the meeting to order at 12:30 PM and respectfully acknowledged the Coast Salish Nations on whose traditional territory the meeting took place.

**ADOPT AGENDA**

MOVED F. Spears, SECONDED Director A. McPherson, that the agenda be adopted.

CARRIED

**DELEGATIONS**

**MINUTES**

MOVED Director B. Rogers, SECONDED F. Spears, that the minutes from the Liquid Waste Management Plan Monitoring Committee meeting held on October 18, 2016 be adopted.

CARRIED

**BUSINESS ARISING FROM THE MINUTES**

Director A. McPherson referenced a discussion from the October 2016 LWMP Monitoring Committee, noting that not all pharmacies that accept returned medication participate in the Medications Return Program. One local pharmacy coats returned medications in a plaster-like substance and sends them to a landfill in Oregon.

**COMMUNICATIONS/CORRESPONDENCE****UNFINISHED BUSINESS****REPORTS****GNPCC Secondary Treatment Update**

S. De Pol gave an update on the Greater Nanaimo Pollution Control Centre (GNPCC) Treatment Plant Upgrade Project. The Secondary Treatment Upgrade Project is the largest project ever undertaken by the RDN and is required to accommodate growth in the community, meet new federal and provincial regulatory requirements and a commitment in the Liquid Waste Management Plan (LWMP). The approved budget of \$82 million includes engineering, permitting, environmental and archaeological studies, construction, and contingency. A report will be taken to the Board in April to award the construction contract. RDN staff are committed to keeping the public informed of all major work. GNPCC neighbours will soon receive a notice regarding planned tree clearing activities. The public are invited to attend an open house at GNPCC on April 19, 2017.

Chairperson I. Thorpe commented that the commitment to communication with the public is one of the strengths of the GNPCC outfall replacement and secondary upgrade projects.

**FCPCC Expansion – Preliminary Design**

S. De Pol presented on the French Creek Pollution Control Centre (FCPCC) Expansion Project. The project will accommodate growth and ensure that the RDN can meet provincial and federal wastewater regulations, including monthly average requirements. The total budget for engineering, permitting, and construction is \$32,960,000. As this project mainly for expansion, 85% of the cost will be covered by DCCs and 15% will be covered by the Northern Communities Sewer Service Area. The RDN recently awarded the contract for predesign to AECOM.

**Update on Sewer Servicing Studies**

S. De Pol gave updates on the Cedar and Bowser Sewer Servicing Studies. The RDN received \$350,000 in federal Gas Tax grant funds in 2014 for two sewer servicing studies: \$50,000 for a sewer servicing study in Cedar, and \$300,000 sewer servicing study in Bowser.

*Cedar Sewer Servicing*

The Duke Point Pollution Control Centre (DPPCC) Sewer Servicing Study has three parts: a bylaw review, a capacity and cost review, and an update of agreements with the City of Nanaimo. The \$50,000 grant funded the capacity and cost review to determine if it is possible to leverage available capacity to service additional properties in Cedar Village. Associated Engineering conducted the capacity and cost review. Staff are currently reviewing existing sewer use agreements between the City of Nanaimo and RDN. An amended agreement needed to leverage available capacity at the plant.

*Bowser Sewer Servicing*

S. De Pol provided an update on the Bowser Sewer Servicing Study. The \$300,000 grant funded the detailed design of a collection system and treatment plant and pre-design on two disposal options: ground disposal and outfall disposal. Stantec was awarded the contract for the study. S. De Pol explained that the next steps for the project include obtaining grant funding, establishing a service area, completing disposal design, preparing for tendering, obtaining permitting and approvals, developing bylaws, and developing a capital charge program.

**Bay Avenue Pump Station**

S. De Pol presented an update on the Bay Avenue Pump Station (BAPS) Project. The location of the BAPS presents access and operational issues and the station's aging genset is due for replacement. An earlier feasibility study determined that the pump station should be relocated to a higher elevation at the end of Bay Avenue because it is the least expensive option with the lowest environmental impact. The existing public beach access at the BAPS will be maintained or improved as part of project. It is anticipated that an RFP for pre-design will be issued in April 2017. Staff will work closely with neighbouring property owners throughout the project. A public meeting will be held following detailed design. Construction is scheduled for 2019, with completion in 2020.

P. Law asked if the existing BAPS station is vulnerable to sea level rise and if any mitigation measure to address effects of sea level rise have been required in the past.

S. De Pol replied that the site is vulnerable to sea level rise as it is below the recommended minimum elevation, but that no mitigation measures to protect the existing station have been required up to this point. Vulnerability to sea level rise was a key concern that was considered in the feasibility study.

**DCC Review**

S. De Pol gave an update on the Wastewater Services DCC Review. DCCs are used by local governments in long term asset management and capital project planning and affect the development community, as costs are related to subdivision. The FCPCC and GNPCC require capital expansion projects and DCCs help fund these projects. The Province's *DCC Best Practices Guide* recommends that DCC program reviews be conducted every 5 years to ensure that they reflect the schedule of capital projects.

The current DCC review was started in 2015. A consulting engineer was hired through an RFP process to conduct the review according to the best practices set out in the province's *Development Cost Charge Best Practices Guide*. RDN met with staff from member municipalities to review municipal DCC programs, growth projections, etc. Presentations were then made to the four municipal councils. The amended bylaws received first and second reading on November 22, 2016. Public consultation proceeded in March 2017.

The proposed Northern Communities DCC rate increase represents a reasonable 4% per year since 2009. The Southern Communities DCC rates increase is slightly lower because GNPCC was oversized when it was originally constructed and there is an economy of scale in the Southern Communities because of the larger population.

**Receiving Environment Monitoring**

S. Norum updated the Committee on the receiving environment monitoring program for the GNPCC outfall. Staff submitted a report to the March Committee of the Whole recommending that the contract for 2017-2019 GNPCC receiving environment monitoring services be awarded to G3.

**Biosolids Update**

S. Norum gave an update on the Biosolids Program. RDN biosolids are currently managed, in partnership with Vancouver Island University (VIU) and SYLVIS, through land application at a woodlot that VIU leases from Timber West. The RDN understands that VIU does not intend to lease the woodlot beyond May 31, 2017 and RDN staff are pursuing alternatives for biosolids management.

B. Medlar asked if the Committee could be updated when a new management strategy is in place and expressed concern that biosolids could potentially end up at the Regional Landfill.

Chairperson I. Thorpe agreed with the importance of the principle of beneficial reuse in the RDN's biosolids management program into the future.



### **SepticSmart and Septic Maintenance Rebate Program Update**

S. Norum gave an update on SepticSmart and the Septic Maintenance Rebate Program. A SepticSmart newsletter, mailed to electoral area residents in February 2017, has generated positive feedback. Along with general information about septic system care and maintenance, the newsletter provided information on the 2017 Septic Maintenance Rebate Program and spring SepticSmart workshops. The 2017 rebate program is similar to previous years' programs. A number of applicants have already applied to the 2017 rebate program. Two SepticSmart Workshops will be held this spring, one on April 6<sup>th</sup> in Extension and one on April 10<sup>th</sup> in Parksville.

### **Trucked Liquid Waste Bylaw 1732**

S. Norum gave an update on the Trucked Liquid Waste Bylaw 1732. The new bylaw is easier to administer than the old trucked liquid waste bylaw, it improves source control (to meet an LWMP commitment), and introduces tools to make the bylaw enforceable. The user rate of \$0.23/gallon for regular users and \$0.01/gallon for pump and haul users has not changed under the Bylaw 1732. However, the new bylaw contains language to ensure that users are being charged the rate set by the RDN. Rollout of the new bylaw is going well.

### **W3C meeting – September 30, 2016**

MOVED Director A. McPherson, SECONDED Director B. Rogers, that the Water & Wastewater Collaborative meeting minutes from September 30, 2016 be received by the Committee.

CARRIED

### **Next LWMP MC Meeting**

S. Norum suggested that the next meeting be held in late May or early June, 2017.

S. De Pol added that staff will provide an update on the biosolids program at the next meeting.

MOVED B. Medlar, SECONDED Director A. McPherson, that the Liquid Waste Management Plan Monitoring Committee supports the continued beneficial reuse of biosolids over long term disposal at the Regional Landfill.

CARRIED

## **ADDENDUM**

### **BUSINESS ARISING FROM COMMUNICATIONS/CORRESPONDENCE**

### **NEW BUSINESS**

D. Fournier gave an update that the City of Nanaimo and RDN have been working on colour-coded maps of the City's sewer catchment areas to be able to react quickly to source control related incidents. This project should be completed by the end of May 2017.

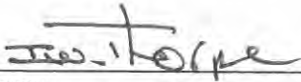
S. De Pol added that he appreciated the good working relationship between RDN Wastewater Services and the Municipalities' public works departments.

**ADJOURNMENT**

MOVED Director B. Rogers, SECONDED B. Medlar that this meeting of the LWMP Monitoring Committee be adjourned.

CARRIED

TIME: 2:36 PM



CHAIRPERSON

**REGIONAL DISTRICT OF NANAIMO**

**MINUTES OF THE LIQUID WASTE MANAGEMENT PLAN MONITORING COMMITTEE MEETING**

**Monday, June 12, 2017**

**12:30 P.M.**

**Committee Room**

In Attendance:	I. Thorpe	Chairperson
	B. Rogers	Electoral Area E
	B. Weir	Town of Qualicum Beach
	G. Gibson	Island Health
	J. Elliot	City of Nanaimo
	B. Medlar	Business Community (District 68)
	P. Law	Business Community (District 69)
Regrets:	A. McPherson	Electoral Area A
	M. Lefebvre	City of Parksville
	F. Spears	District of Lantzville
	D. Muir	Snuneymuxw First Nation
	J. Rogers	Fisheries and Oceans Canada
	D. Hooper	General Public (District 68)
Also in Attendance:	S. Norum	Wastewater Program Coordinator
	R. Alexander	General Manager RCU
	S. De Pol	Manager Wastewater Services
	R. Graves	Recording Secretary
	D. McGillivray	Wastewater Special Projects Coordinator

**CALL TO ORDER**

The Chair called the meeting to order and respectfully acknowledged the Coast Salish Nations on whose traditional territory the meeting took place.

**APPROVAL OF THE AGENDA**

It was moved and seconded that the agenda be approved as presented.

CARRIED UNANIMOUSLY

**ADOPTION OF MINUTES**

**Liquid Waste Management Plan Monitoring Committee Meeting - March 17, 2017**

It was moved and seconded that the minutes of the Liquid Waste Management Plan Monitoring Committee meeting held March 17, 2017, be adopted.

CARRIED UNANIMOUSLY

**REPORTS**

**Project/Program Updates**

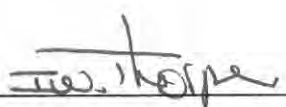
It was moved and seconded that the series of verbal staff reports addressed to the Committee be accepted.

CARRIED UNANIMOUSLY

**ADJOURNMENT**

It was moved and seconded that the meeting be adjourned.

CARRIED UNANIMOUSLY

  
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CHAIR

## REGIONAL DISTRICT OF NANAIMO

## MINUTES OF THE LIQUID WASTE MANAGEMENT PLAN MONITORING COMMITTEE MEETING

Thursday, November 2, 2017

12:30 P.M.

Committee Room

In Attendance:	I. Thorpe	Chair
	A. McPherson	Electoral Area A
	B. Rogers	Electoral Area E
	B. Weir	Town of Qualicum Beach
	F. Spears	District of Lantzville
	D. Hooper	Public (District 68)
	K. Oates	City of Parksville
	R. Telegus	City of Parksville
Regrets:	M. Lefebvre	City of Parksville
	V. Figueira	City of Parksville
	J. Elliot	City of Nanaimo
	G. Gibson	Island Health
	D. Muir	Snuneymuxw First Nation
	J. Rogers	Fisheries and Oceans Canada
	P. Law	Business Community (District 68)
	B. Medlar	Business Community (District 68)
Also in Attendance:	R. Alexander	General Manager RCU
	S. De Pol	Manager Wastewater Services
	S. Norum	Wastewater Program Coordinator
	J. Haddou	Project Coordinator
	R. Powell	Laboratory Technician
	R. Graves	Recording Secretary

**CALL TO ORDER**

The Chair called the meeting to order and respectfully acknowledged the Coast Salish Nations on whose traditional territory the meeting took place.

**APPROVAL OF THE AGENDA**

It was moved and seconded that the agenda be approved as presented.

CARRIED UNANIMOUSLY

**ADOPTION OF MINUTES**

**Liquid Waste Management Plan Monitoring Committee Meeting - June 12, 2017**

It was moved and seconded that the minutes of the Liquid Waste Management Plan Monitoring Committee meeting held June 12, 2017, be adopted.

CARRIED UNANIMOUSLY

**INVITED PRESENTATIONS**

**G3 Consulting, Dr. Greg Thomas re, Regional District of Nanaimo Receiving Environment Monitoring**

Dr. G. Thomas gave an overview on the Receiving Environment Monitoring which included background information, program components, study design and methodology, year 1 results and observations.

**REPORTS**

Staff gave verbal presentations on the following project/program reports:

- GNPCC Secondary Treatment
- FCPCC Expansion – Preliminary Design
- Sewer Servicing Studies
- Bay Avenue Pump Station
- Departure Bay Forcemain
- Chase River Forcemain
- Qualicum Beach Manhole Repairs
- Liquid Waste Management Plan Annual Report
- Biosolids Update
- Update on SepticSmart and the Septic Maintenance Rebate Program

**ADJOURNMENT**

It was moved and seconded that the meeting be adjourned.

CARRIED UNANIMOUSLY

TIME: 2:30 PM

\_\_\_\_\_  
CHAIR

## APPENDIX B: W3C Meeting Minutes

# W3C: WASTEWATER & WATER COLLABORATIVE MEETING

Friday, April 21, 2017; 9:00 am – 1:00 pm  
6300 Hammond Bay Road – RDN Committee Room

## MINUTES

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### ATTENDEES:

Adrian Limpus – RDN	Doris Fournier – Nanaimo	Chris Midgley – RDN
Bill Sims – Nanaimo	Fred Spears – Lantzville	Sean De Pol – RDN
Bob Weir – Qualicum Beach	Julie Pisani – RDN	Shelley Norum – RDN
Deanna McGillivray – RDN	Lorena Mueller – RDN	Rosa Telegus – Parksville

### ADOPT MINUTES

Minutes from the September 30, 2016 W3C meeting were adopted.

### ROUNDTABLE UPDATE

#### (1) RDN Wastewater Services:

Sean De Pol updated the group on RDN Capital Projects and the DCC Bylaw Review:

- Secondary Treatment: The budget for the project is \$82 million, and the construction contract was awarded to North American Construction. The project is anticipated to take two and a half years, starting with soil removal, rock blasting, and site stabilization.
- FCPCC Expansion: Predesign is underway and is anticipated to be completed in fall 2017. Detailed design is anticipated to take place in 2018.
- DCC Bylaw Review: Development Cost Charges are fees collected from land developers to offset costs directly related to growth. The RDN sewer DCC bylaws were last updated in 2009. The RDN retained a consulting engineer to lead the current DCC review process, and ensure that the update conforms to Provincial regulations. The project is almost complete. Public consultation was conducted in March 2017, and consisted of a series of public meetings. The Board will conduct third reading at next week's board meeting. Following third reading, a submission package will be sent to the Province for review. Adoption will follow approval by the Inspector of Municipalities. The review focused on three main areas: development projections, capital project cost estimates, and new DCC rates. A copy of the Board Report from the [April 11 Committee of the Whole Agenda](#) is attached.
- Bay Ave Pump Station: The existing Bay Ave Pump Station is on the foreshore and very difficult to access, and its genset is aging and due for replacement. Koers & Associates conducted an accessibility review and explored options for relocation of the pump station. A new location at road level on the current site was recommended. Consultation with adjacent property owners will follow.



- Rural Village Centre Servicing Studies: The Bowser Village Sewer Servicing Study will be presented to the public in the coming months. The study was funded by a \$300,000 Federal Gas Tax grant. A further Clean Water & Wastewater Fund Grant of \$7.59 million was received in spring 2017, and staff are working on next steps to move this project forward.
- Interceptor & Forcemain Assessment & Upgrades: Wastewater Services will be tendering a smart sensor assessment for 2 km of interceptor and forcemain near the Departure Bay Pump Station. Manhole repair work on the interceptor will continue this year as a part of the regular asset maintenance schedule.

Shelley Norum updated the group on the SepticSmart and Biosolids Programs:

- SepticSmart program: Two SepticSmart Workshops took place this month, one at the Extension Community Hall and one at the Parksville Community & Conference Centre. These workshops had great attendance, with 57 people attending in Parksville and 21 attending in Extension. Two more workshops will be scheduled for the early fall.
- Septic Maintenance Rebate Program: The Septic Maintenance Rebate program continues to be very popular. Funds for 2017 are almost fully allocated to pre-approval applications. Interested residents are encouraged to apply as soon as possible, as we will likely be starting a waitlist shortly.
- Biosolids Program: The Biosolids Program has been running successfully for a number of years but is now changing because VIU is not leasing the woodlot beyond May 2017. As such, the current biosolids management agreement with SYLVIS and VIU also ends in May. RDN staff and consultants SYLVIS Environmental have been exploring other options for beneficial reuse of the biosolids. Staff are working with TimberWest to develop a new agreement for the continued application of biosolids at the woodlot. In the interim, biosolids will be transported to Harmac where it will be mixed with wood waste and mineral soil to create topsoil for use in Harmac's landfill closure operations. As shown on the [agenda for the May 9 Committee of the Whole Meeting](#), a report will be going forward to the Board in May regarding next steps for the program.

(2) RDN Asset Management Update:

Chris Midgely gave an update on RDN asset management activities:

- The RDN is planning for asset renewal over the long term. The Regional District has good current replacement cost info for some assets and systems, and is focusing on using upcoming capital projects such as the GNPCC Secondary Treatment Upgrade and the FCPCC Expansion to improve and expand the RDN's replacement cost database. The goal is to develop a region-wide database of current replacement costs.

(3) District of Lantzville Public Works Update:

Fred Spears gave an update on District of Lantzville's activities:

- The District received grant funding for Lantzville's Phase 3 sanitary sewer expansion. Public consultation will begin later this year. Connection of the new phase into the system is anticipated for 2020.

(4) City of Nanaimo Water Update:

Bill Sims gave an update on City of Nanaimo's activities:

- The City will be working on a project this year to facilitate the supply of emergency water to the Nanaimo system from Harmac, as per an existing agreement between the City and Harmac. This will involve the construction of a pump station.

(5) City of Nanaimo Public Works Update:

Doris Fournier gave an update on City of Nanaimo's activities:

- The City has engaged Urban Systems to do the Townsite Sewer Master Plan. Inflow & infiltration in the area will be evaluated as part of the plan.
- There has been a lot of development recently in Harewood and Western Acres. The City has engaged Urban Systems to conduct a sewer servicing review for the Western Acres area.
- A relocation site has been chosen for the City's Chase River Pump Station, at the northeast corner of 7<sup>th</sup> Street and Park Avenue. Design of the new pump station is underway.
- The City is in the process of field-checking the findings of a modelling exercise to determine the effect of increased development on the Millstone Trunk Sewer using level sensors.
- The City will be undertaking a DCC review over the next year.

(6) Town of Qualicum Beach Engineering & Operations Update:

Bob Weir gave an update on Town of Qualicum Beach's activities:

- The Town has received grant funding for improvements to wastewater infrastructure in the Memorial Avenue area, including preparing for a future heat recovery system.

(7) City of Parksville Engineering & Operations Update:

Rosa Telegus gave an update on City of Parksville's activities:

- Construction of Parksville's new water treatment plant and river intake is underway.
- The City's water model is being updated to include the new transmission lines and reservoirs. Two models will be run for every development application, to ensure that the system can accommodate the required future fire flows.
- Sanitary sewer pump stations upgrades for the Martindale and Craig Bay pump stations are on the books for this year. The upgrades will include access hatch retrofits, pump reconfiguration and the installation of flow monitoring equipment. An asset management assessment looking at future infrastructure replacement/upgrade costs will be included in this project.
- A bylaw on City standards and specifications for subdivision will be going to the Council shortly.
- The City now requires a run of their storm water model for all subdivision applications.
- Storm water detention tanks will be constructed at two different land developments within the City this year to detain storm water and slowly release to the City's storm water system. These engineering solutions are required as storm water management is a challenge in most of Parksville due to the fact that the soils and geology are not ideal for infiltration.

**FLOW MONITORING**

Adrian Limpus provided a flow monitoring billing update from October 2016 to March 2017. The annual billing cycle goes from October to September. Staff from each municipality will be provided with a copy of the summary presentation and a spreadsheet detailing the 2016 – 2017 billing cycle flows to-date.

**WORKING GROUPS 1: Source Control Working Group & 3: Rainwater Working Group**

Deanna McGillivray provided an update on the Source Control Working Group and Rainwater Working Group:

- Source Control Working Group: After the last W3C meeting, Shelley provided municipal staff with a copy of advice from the RDN's solicitor re: referencing the RDN Sewer Use Bylaw 1730 for consistency. The goal is to achieve the LWMP Source Control Program commitment to enhance regional source control through consistent sewer use bylaws. However, the decision to amend existing bylaws for this one change, or to keep the information on file and incorporate it into a more extensive future bylaw amendment is up to each individual municipality. Shelley and Deanna developed a source control themed outreach booth for the

Water Day event in Parksville, March 12<sup>th</sup> and Water, Earth & Wild Foods Day in Nanaimo, April 23<sup>rd</sup>. Lorena and Deanna will be attending the Source Control Symposium at this year's BC Water & Wastewater Association Conference on May 30<sup>th</sup>.

- Rainwater Working Group: RDN Staff had a conference call this spring with Melony Burton of City of Coquitlam to discuss possible next steps for the working group. Coquitlam has done a lot of work around rainwater management, integrated stormwater planning, and working with the development community to come up with sustainable solutions to rainwater management issues. The main takeaways from this conversation were that results are more achievable if standards/requirements are implemented as a condition of a development permit. Topsoil retention/augmentation and a cap on impervious surface area were also discussed as other "low hanging fruit" options to focus on.

## RESOURCE SHARING

Sean De Pol discussed potential resource sharing opportunities between jurisdictions. RDN corporate leadership would like to encourage resource sharing opportunities between the RDN and member municipalities where possible. For instance, there may be areas where opportunities exist to share staff, share in the purchase or rental of equipment, purchase items in bulk, etc.

## WORKING GROUP 2: Inflow & Infiltration

Doris Fournier provided the group with an update on Inflow and Infiltration Working Group. Urban Systems will be developing an inflow & infiltration strategy for the City as part of the Townsite Master Plan. The I&I strategy will include solutions be categorized by size, so some solutions may be applicable to the other, smaller municipalities. This project will commence in late spring/early summer, and is anticipated to be completed by year's end. There may be an opportunity for other municipalities to participate in a workshop to provide that Urban Systems will be hosting, and have access to the project deliverables.

## RDN WATER SERVICES UPDATE

Julie Pisani updated the group on the Drinking Water & Watershed Monitoring Program's (DWWP) Community Watershed Monitoring Network (CWMN). The CWMN program is a partnership between the Regional District, the provincial government, and local stewardship groups that provide volunteer surface water quality monitoring data from 51 sites from 25 different water courses in 17 watersheds within the Region. A results session for the 2016 data is anticipated for late spring/early summer. The base parameters that are always included in the program's monitoring are: temperature, turbidity, dissolved oxygen and specific conductivity. Moving forward, there is interest in including proximity to existing infrastructure and infrastructure monitoring commitments. DWWP staff have consulted RDN Wastewater staff for potential monitoring sites that may fit this criteria. Julie requested that municipal staff provide suggestions for monitoring sites or water quality parameters that may fit this initiative to her by the end of June at the latest.

## CLOSE AND PROPOSE NEXT MEETING

The next W3C meeting will be scheduled for September 2017. Notification will be sent out when a tentative date is chosen.

## ATTACHMENTS

1. Northern and Southern Communities Wastewater DCCs Board Report, April 11 COW Meeting



### *Northern Communities Consultation*

A public information meeting regarding “Northern Community Sewer Service Area Development Cost Charges Amendment Bylaw No. 1442.03, 2016” was held March 2, 2017 at the Parksville Community and Conference Centre. Notice of the meeting was sent to the local development community, including construction and business associations, chambers of commerce, land surveyors and public sector developers, as well as local community groups and neighbourhood associations. The meeting was also advertised in the local newspaper and posted on the RDN website. No comments regarding Bylaw No. 1442.03, 2016 were received following the posting of the notices or during the March 2 meeting to warrant additional review of the proposed amendments.

In addition to the public meeting, a presentation on Bylaw No. 1442.03, 2016 was scheduled by request for the Oceanside Development and Construction Association’s Board of Directors. This presentation was held March 15, 2017 at the Timberlake-Jones Engineering office in Parksville. Comments voiced during the meeting regarding the proposed amendments were clarified and addressed. No comments or concerns were received during the presentation to warrant additional review or consultation on the proposed amendments.

### *Southern Communities Consultation*

A public information meeting regarding “Southern Community Sewer Service Area Development Cost Charges Amendment Bylaw No. 1547.01, 2016” was held March 1, 2017 in the RDN Board Chambers. Notice of the meeting was sent to the local development community, including construction and business associations, chambers of commerce, land surveyors and public sector developers, as well as local community groups and neighbourhood associations. The meeting was also advertised in the local newspaper and posted on the RDN website. No comments regarding Bylaw No. 1547.01, 2016 were received following the posting of the notices or during the March 1 meeting to warrant additional review of the proposed amendments.

Public consultation as directed by the Board is now complete and no additional review or amendments to the proposed amendment bylaws were found to be required. Northern Communities DCCs amendment Bylaw No. 1422.03, 2016 and Southern Communities DCCs amendment Bylaw No. 1547.01, 2016 are attached and are ready to receive third reading, after which they will be forwarded to the Inspector of Municipalities for approval.

### **ALTERNATIVES**

1. Give third reading to Bylaw Nos. 1442.03, 2016 and 1547.01, 2016 and forward them to the Inspector of Municipalities for approval.
2. Do not approve Bylaw Nos. 1442.03, 2016 and 1547.01, 2016 in their current form and direct staff to make amendments prior to third reading.

### **FINANCIAL IMPLICATIONS**

There are no changes to the financial implications as outlined in the initial report to the Committee of the Whole dated November 22, 2016. The proposed DCC rates are contained within the respective Schedules “A” of Bylaw Nos. 1442.03, 2016 and 1547.01, 2016.

## STRATEGIC PLAN IMPLICATIONS

The proposed Northern and Southern Communities wastewater DCC bylaw amendments support the key focus area of service excellence by funding core capital upgrades with a long-term asset management approach and reduce financial burden on taxpayers by allocating expansion costs to those who are increasing pressure on wastewater infrastructure.

## LIQUID WASTE MANAGEMENT PLAN IMPLICATIONS

Preparing for growth, including the collection of DCCs, is a priority identified in the RDN's 2014 Liquid Waste Management Plan (LWMP). Revising the DCC Bylaw Nos. 1442 and 1547 for the FCPCC and GNPCC will achieve this LWMP commitment. The LWMP further identifies that the RDN will review the DCC plan every year and to revise the bylaws where necessary to fund anticipated projects.



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Sean De Pol  
sdepol@rdn.bc.ca  
March 21, 2017

### Reviewed by:

- R. Alexander, General Manager, Regional and Community Utilities
- P. Carlyle, Chief Administrative Officer

### Attachments

1. Northern Community Sewer Service Area Development Cost Charges Amendment Bylaw No. 1442.03, 2016
2. Southern Community Sewer Service Area Development Cost Charges Amendment Bylaw No. 1547.01, 2016

**ATTACHMENT 1**

**REGIONAL DISTRICT OF NANAIMO**

**BYLAW NO. 1442.03**

**A BYLAW TO AMEND THE DEVELOPMENT COST  
CHARGES WITHIN THE NORTHERN COMMUNITY  
SEWER SERVICE AREA**

WHEREAS the Regional District of Nanaimo adopted “Northern Community Sewer Service Area Development Cost Charges Bylaw No. 1442, 2005”;

AND WHEREAS the Board wishes to amend the development cost charges for the collection, conveyance, treatment, and disposal of wastewater works and services at the French Creek Pollution Control Centre;

AND WHEREAS the Board wishes to amend the boundaries within which development cost charges shall be imposed;

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

1. Schedule ‘A’ to Bylaw 1442 is hereby repealed and Schedule ‘A’ attached to and forming part of this Bylaw is substituted therefore;
2. Schedule ‘B’ to Bylaw 1442 is hereby repealed and Schedule ‘B’ attached to and forming part of this Bylaw is substituted therefore.

This Bylaw may be cited for all purposes as “Northern Community Sewer Service Area Development Cost Charges Amendment Bylaw No. 1442.03, 2016”.

Introduced for first and second readings this 6th day of December, 2016.

Read a third time this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_.

Received the Approval of the Inspector of Municipalities this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_.

Adopted this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_.

Schedule 'A' to accompany "Northern Community Sewer Service Area Development Cost Charges Amendment Bylaw No. 1442.03, 2016".

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CHAIRPERSON

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CORPORATE OFFICER

### SCHEDULE 'A'

#### Development Cost Charges for Wastewater Treatment/Sanitary Sewer Works and Services

1. Pursuant to Section 2 of Bylaw No. 1442 and subsequent amendments, development cost charges shall be levied in those areas that will be serviced by wastewater treatment/sanitary sewerage works and services as outlined on the map in Schedule 'B'.
2. The assist factor for wastewater treatment/sanitary sewerage works and services shall be 1%.
3. All charges shall be paid in full prior to the approval of a subdivision or building permit unless paid by way of installments in accordance with BC Reg 166/84.
4. The Development Cost Charge Schedule is as follows:

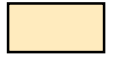


Development Type	Subdivision	Building Permit
Single family	\$10,067.10 per lot	\$10,067.10 per dwelling unit
Multiple family residential		\$76.01 per m <sup>2</sup> of gross floor area
Commercial		\$43.14 per m <sup>2</sup> of gross floor area
Industrial		\$43.14 per m <sup>2</sup> of gross floor area
Airport Industrial		\$4.79 per m <sup>2</sup> of gross floor area
Institutional		\$52.73 per m <sup>2</sup> of gross floor area



SALISH SEA

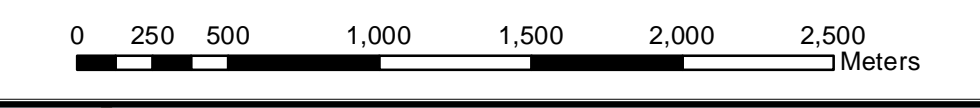
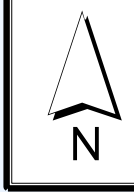


Schedule 'B' to accompany  
"NORTHERN COMMUNITY SEWER SERVICE  
AREA DEVELOPMENT COST CHARGES  
AMENDMENT BYLAW NO. 1442.03, 2016".

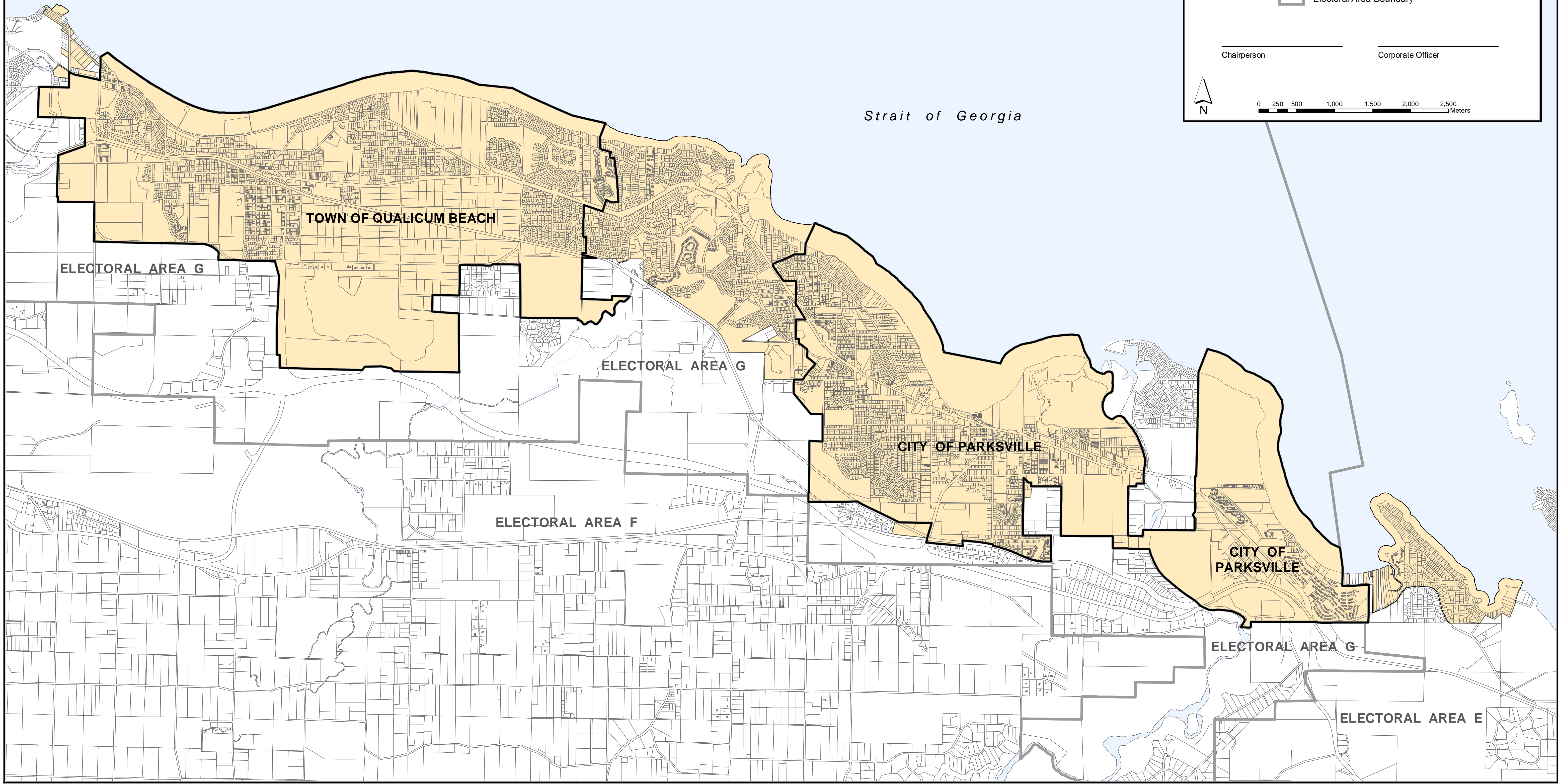
-  Northern Community DCC Area
-  Municipal Boundary
-  Electoral Area Boundary

Chairperson

Corporate Officer



Strait of Georgia



TOWN OF QUALICUM BEACH

ELECTORAL AREA G

ELECTORAL AREA G

CITY OF PARKSVILLE

ELECTORAL AREA F

CITY OF PARKSVILLE

ELECTORAL AREA G

ELECTORAL AREA E



**ATTACHMENT 2**

**REGIONAL DISTRICT OF NANAIMO**

**BYLAW NO. 1547.01**

**A BYLAW TO AMEND THE DEVELOPMENT COST  
CHARGES WITHIN THE SOUTHERN COMMUNITY  
SEWER SERVICE AREA**

WHEREAS the Regional District of Nanaimo adopted "Southern Community Sewer Service Area Development Cost Charges Bylaw No. 1547, 2009";

AND WHEREAS the Board wishes to amend the development cost charges for the collection, conveyance, treatment, and disposal of wastewater works and services at the Greater Nanaimo Pollution Control Centre;

AND WHEREAS the Board wishes to amend the boundaries within which development cost charges shall be imposed;

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

1. Schedule 'A' to Bylaw 1547 is hereby repealed and Schedule 'A' attached to and forming part of this Bylaw is substituted therefore;
2. Schedule 'B' to Bylaw 1547 is hereby repealed and Schedule 'B' attached to and forming part of this Bylaw is substituted therefore.

This Bylaw may be cited for all purposes as "Southern Community Sewer Service Area Development Cost Charges Amendment Bylaw No. 1547.01, 2016".

Introduced for first and second readings this 6th day of December, 2016.

Read a third time this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_.

Received the Approval of the Inspector of Municipalities this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_.

Adopted this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_.

Schedule 'A' to accompany "Southern Community Sewer Service Area Development Cost Charges Amendment Bylaw No. 1547.01, 2016".

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CHAIRPERSON

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CORPORATE OFFICER

### SCHEDULE 'A'

#### Development Cost Charges for Wastewater Treatment/Sanitary Sewer Works and Services

1. Pursuant to Section 2 of this bylaw, development cost charges shall be levied in those areas that will be serviced by wastewater treatment/sanitary sewerage works and services as outlined on the map attached hereto as Schedule 'B' and Schedule 'C'.
2. The assist factor for wastewater treatment/sanitary sewerage works and services shall be 1%.
3. All charges shall be paid in full prior to the approval of a subdivision or building permit unless paid by way of installments in accordance with BC Reg 166/84.

The Development Cost Charge Schedule is as follows:


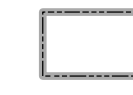
Category	Subdivision	Building Permit
Single Family	\$2,951.37 per lot being created	\$2,951.37 per dwelling unit constructed
Multi-Family		\$17.40 per square meter of building gross floor area provided that no development cost charge for multi-family development shall exceed an amount calculated by multiplying the number of dwelling units created by \$2,951.37
Mobile Home Park	\$1,748.81 per service connection being created	\$1,748.81 per service connection being created
Commercial		\$17.66 per square meter of building gross floor area
Industrial		\$4.50 per square meter of building gross floor area
Campground		\$482.21 per service connection being created
Institutional		\$17.66 per square meter of building gross floor area





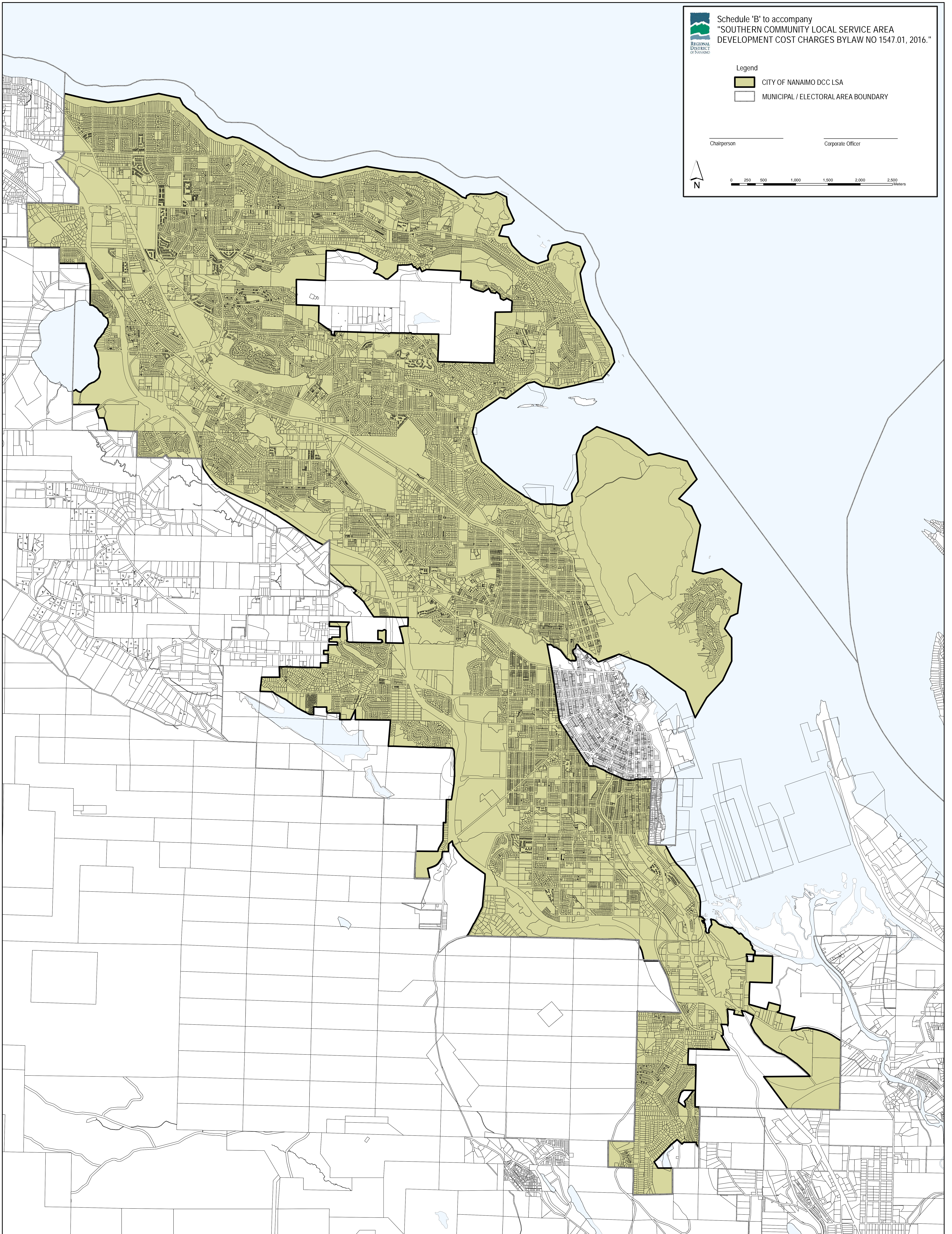
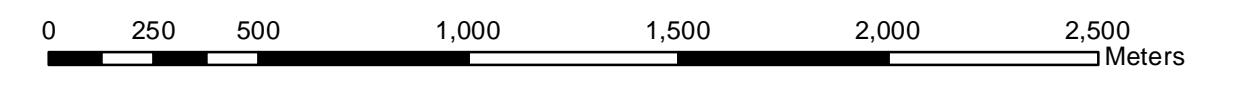
Schedule 'B' to accompany  
"SOUTHERN COMMUNITY LOCAL SERVICE AREA  
DEVELOPMENT COST CHARGES BYLAW NO 1547.01, 2016."

Legend

-  CITY OF NANAIMO DCC LSA
-  MUNICIPAL / ELECTORAL AREA BOUNDARY

Chairperson

Corporate Officer





# W3C: WASTEWATER & WATER COLLABORATIVE MEETING

Friday, September 22, 2017; 9:00 am – 1:00 pm  
6300 Hammond Bay Road – RDN Committee Room

## MINUTES

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### ATTENDEES:

Sean De Pol – RDN  
Shelley Norum – RDN  
Adrian Limpus – RDN  
Lorena Mueller – RDN  
Ian Lundman – RDN

John Elliot – Nanaimo  
Poul Rosen – Nanaimo  
Doris Fournier – Nanaimo  
Gerald St.Pierre – RDN  
Deanna McGillivray – RDN  
Dean Mousseau – Nanaimo

Rosa Telegus – Parksville  
Fred Spears – Lantzville  
Bob Weir – Qualicum Beach  
James Haddou – RDN  
Julie Pisani – RDN

### ADOPT MINUTES

Minutes from the April 21, 2017 meeting were adopted.

### ROUNDTABLE UPDATE

#### (1) RDN Wastewater Services:

James Haddou provided an update on the GNPCC Secondary Treatment Project:

- Construction awarded to North American Construction (NAC) in April 2017. There are many subcontractors on-site in addition to NAC crew.
- The purpose of the project is to increase the GNPCC's capacity to 2030 population projections and meet Liquid Waste Management Plan commitments to meet *Municipal Wastewater Regulation* secondary treatment standards.
- AECOM is the quality assurance and design contractor, and contract administrator.
- Main construction began in June, starting with tree removal and blasting. All the structural fill used in ground improvements will originate from on-site blasting.
- Work has started on constructing the second digester. Preliminary work for the expansion of the dewatering building has also started.
- Street lighting and pedestrian improvements along Hammond Bay Road frontage required by the City of Nanaimo are currently in design phase, with construction planned for 2019.
- Project completion is anticipated for Fall 2019.

- Project information and a live stream feed of the secondary construction area are available at <http://www.rdn.bc.ca/secondary-treatment-upgrade-project>

Sean De Pol updated the group on RDN capital projects & DCC Bylaw Review:

- Bowser Village Centre Wastewater Project: In March 2017, the project received \$7.6 million in provincial/federal grant funding through the Clean Water & Wastewater Fund to build a collection system, secondary treatment and disposal system. The Regional Growth Strategy and Official Community Plans designate the Bowser Village Centre as an area for growth. In order to receive funding, a service area had to be established. A petition process took place in August to establish the service area, and was successful with 62.6% of property owners representing 67.7% of the assessed value submitting petitions in favor of the project. Service area property owners will contribute \$500,000, while DCCs will provide \$2.6 Million through a Development Cost Charges Front-End Agreement. The next steps include community open houses and the approval of the service area establishment bylaws by the Inspector of Municipalities.
- DCC Bylaw Review: Northern and Southern Communities DCC Bylaw amendments went forward to the Board in April and were subsequently approved by the Province and adopted on June 27, 2017. Those with in-stream subdivision applications are protected from the rate increase for one year. For everyone else, the new rates were in effect as of June 28, 2017. The DCC rate for a single family dwelling is now \$10,067 in Northern Communities and \$2,951 in Southern Communities.
- FCPCC Expansion: Predesign of the Stage 4 expansion is underway, with detailed design planned for next year, and construction beginning in 2019.
- Bay Ave Pump Station: A Request for Proposals for the project design was completed in Spring 2017. Five proposals were submitted, as the project was awarded to Kerr Wood Leidal. Design will be completed in late 2017, and will be followed by engagement of the City of Parksville's council and staff, as well as site-adjacent property owners. The existing pump station site poses significant access and maintenance challenges.

Lorena Mueller reported on the Nanaimo Interceptor Hydraulic Modelling Study & Pym St. Diversion Study:

- Nanaimo Interceptor Hydraulic Modelling Study: The draft report is expected next week. The recommendations are not anticipated to include upgrades to the interceptor, but may include increasing the capacity of the Departure Bay Pump Station.
- Pym St. Diversion Study: The draft report has been received, and there are some revisions to be made. The cost estimate for the project is \$850,000, and as such, the project may not be economically justifiable. RDN Wastewater Services Staff will meet with Parksville Staff to review the report when it is finalized.

Shelley Norum provided updates on the following programs:

- Liquid Waste Management Plan: The LWMP Annual Report for 2016 was submitted and received by the Province in June 2017.
- SepticSmart Workshops: There are two upcoming SepticSmart workshops scheduled for Fall 2017:
  - October 2, 2017 – Cedar Community Hall
  - October 5, 2017 – Bradley Centre, Coombs.
- Septic Maintenance Rebate Program: The Septic Maintenance Rebate Program has been very popular this year and funds are fully allocated.

- Biosolids: There have been some administrative changes to program in 2017 but “on the ground” the program looks very similar. RDN biosolids were previously managed, in partnership with Vancouver Island University (VIU) and SYLVIS, through land application at a woodlot that VIU leased from Timber West (TW). The VIU lease expired this year and was not renewed, so RDN staff needed to organize a new agreement in order to continue the biosolids program. The RDN, with biosolids management consultant SYLVIS, worked with TW and the Nanaimo Mountain Bike Club (recreational users of the TW parcel where biosolids application takes place) and were able to come to a new agreement for a four-year biosolids management program. In addition, a contingency beneficial re-use stream for landfill closure at Harmac Pulp Mill has been organized for times when the TW woodlot is inaccessible (ie. icy conditions). The RDN is creating an agreement with Harmac to formalize this contingency biosolids management stream.

## **(2) District of Lantzville:**

Fred Spears provided an update from the District of Lantzville:

- District of Lantzville Water Master Plan: The draft Water Master Plan was presented to council earlier this week and staff received a number of comments and questions from council members. This feedback will be considered in a revision of the plan before the presentation of the final draft.
- Phase 3 Sanitary Sewer Expansion: The associated bylaws have gone to the Province for review. The project received two-thirds funding from the federal and provincial governments.

## **(3) City of Parksville:**

Rosa Telegus provided an update on the City of Parksville’s activities:

- New treatment plant and water intake: The water transmission main crossing under Englishman River and the concrete river intake are now complete. River bed/bank mitigation to be completed next week. Construction of the Treatment Plant is underway. Concrete pouring has started on the clearwell. The project is under budget and on time.
- Water modelling: Water modelling for the city’s system is currently underway.
- Pump Station Upgrade/Replacement: The Craig Bay and Martindale sewer pump stations are experiencing some operational issues. Koers was engaged to provide options for retrofitting or replacing the pumps. Improving access safety at both sites is also a priority.
- Cedar Ridge Stormwater: A new stormwater detention tank for Phase 5 for the Cedar Ridge development was installed.
- Servicing Bylaw Amendment: The amendment will include a specification for what storm event is required for the stormwater modelling.

## **(4) Town of Qualicum Beach:**

Bob Weir provided an update from the Town of Qualicum Beach:

- Water Supply: With the dry summer conditions this year, staff have been focused on water supply. Qualicum Beach is fortunate to have two well fields: the river delta and Berwick well fields. The Berwick field rested all winter long and is only used during peak summer, which resulted in ample capacity for the summer season. The Town’s highest producing water supply pump was replaced this summer.

- Qualicum Beach Interceptor Maintenance: The RDN’s public notifications for the interceptor manhole maintenance work conducted along Qualicum Beach foreshore in August were well done. Town staff received no complaints from residents.

**(5) City of Nanaimo:**

Doris Fournier provided an update on City of Nanaimo’s activities:

- Townsite Catchment Sewer Master Plan: The City is in the process of updating the sewer model city-wide, including the Townsite Catchment, with the recommendation to recalculate I&I values year over year in order to establish a trend. An I&I Reduction Strategy with consultant Urban Systems is in the queue for Fall 2017, pending the appointment of a Sewer Superintendent, as this position is key for the strategy. The project will include an I&I assessment framework, workshop, and catchment area prioritization toolkit, followed by the completed I&I reduction strategy. The City would be open to sharing the catchment area prioritization toolkit (which will be organized by catchment size) with other municipalities, who could then potentially have it adjusted to meet their needs.
- DCC Amendment Process: A draft amendment bylaw is going forward to council in early October for the first three readings. As required, the Bylaw will allow a one year grace period for in-stream subdivision applications.

John Elliot provided an update on City of Nanaimo’s activities:

- I&I Reduction Progress: The Harewood Wyes project is almost complete and includes manhole upgrades in addition to corrective actions on wyes. Through CCTV work, some additional issues have been identified and addressed.

Poul Rosen provided an update on City of Nanaimo’s activities:

- Chase River Pump Station Upgrade: The City’s Chase River Pump Station upgrade project is in process and continuing.
- Cross Connection Control Bylaw: Work to develop a cross connection control bylaw is underway. The draft bylaw will go to council in Fall 2017.

**(6) RDN Water Services:**

Julie Pisani provided an update on the Drinking Water and Watershed Protection Plan as it relates to the LWMP.

- 2016/2017 Community Watershed Monitoring Network (CWMN): The CWMN is a surface water quality monitoring program. At the April W3C, the group was asked for suggestions for new potential sampling sites that are in close proximity to wastewater infrastructure.
  - Three sites were identified and added to the monitoring network:
    - On Cottle Creek near Hammond Bay Road
    - On Chase River, downstream from the Chase River Pump Station
    - On Holden Creek, off Maughan Road, near the Duke Point forcemain.
  - Sites on McClure Creek and Cook Creek were also added this year.
  - The program will be moving to digital field data collection for 2018, using tablets and a field data collection app for increased accuracy and reduced staff workload compared to manual (paper) data collection.
  - The “low flow” sampling period is complete, “fall flush” sampling period will commence in October.



- In 2018, the program will have collected seven years of data. Staff are looking at having a consultant do a comprehensive trend analysis to guide the future of the program.
- Stream Assessments: Watercourses with poor results from the CWMN program are flagged for a physical stream assessment. This summer, stream assessments were completed on Cat Stream (Nanaimo) and Annie Creek (Electoral Area H). Assessments evaluated bank stability, erosion, presence and amount of debris, and water quality. Incorrect disposal of yard waste into stream habitats has been identified as a recurring issue across the Region. Evidence of current social issues was also evident at Cat Stream through the presence of illegally dumped garbage, drug paraphernalia, and human waste.
- Geological Survey of Canada – 2015 Deep Bay to Nanoose Aquifer Characterization: A GIS knowledge transfer workshop on how to use the characterization study's results and atlas is going to be organized in partnership with Vancouver Island University for professionals in the field (land-use planners, GIS technicians, engineers, etc.). Julie will send out invites when the event has been scheduled.
- Fall Watershed Field Trips: The fall field trips are underway. There have been some changes to the trip programs this year:
  - Nanaimo student trips now include a visit to the South Fork Water Treatment Plant.
  - A groundwater focused trip at Little Qualicum River has been developed for Qualicum Beach students.
  - When Parksville has a treatment plant, it may be possible to include in program for Parksville students.
- New WaterSmart Landscapes Rebate Program: A small pilot program for irrigation system efficiency upgrades and soil augmentation was implemented this year.
- 2018 Drinking Water and Watershed Protection (DWWP) Action Plan update: 2019 will be the 10 year anniversary of the DWWP Action Plan. An update is planned to guide the program as we move past the first 10 years.

Gerald St. Pierre provided an update on RDN Water Services' activities:

- Backflow Prevention Bylaw: Water Services have put out a Request for Quotations for the development of a backflow prevention bylaw.

## **FLOW MONITORING**

Adrian Limpus provided a flow monitoring billing update from April 2017 to end of August 2017:

- The flow metering packages will be sent in the coming weeks and will include flow monitoring data for September 2017.
- RDN staff are investigating lower flows from Lantzville and higher flows to the Greater Nanaimo Pollution Control Centre.
- The Ocean Place meter stopped receiving data in August 2017. Adrian is working with the RDN's new Wastewater Services Instrumentation Technician to address the issue. Half a month of August data

was collected, so it was possible to estimate August flows. September flows will be estimated based on an average of the last three years of data.

- The calculations this time around reflect some updates to the number of connections in French Creek. French creek has seen an increase in flows due to an increase in serviced units in the area.

### **SOURCE CONTROL WORKING GROUP**

Deanna McGillivray provided an update on activities relating to the Source Control Working Group:

- Lorena Mueller and Deanna McGillivray attended a Source Control Seminar organized by staff from the Capital Regional District and MetroVancouver at the BCWWA Annual Conference in May 2017. A positive outcome of the day was the forming of a Source Control network to facilitate opportunities to share information and resources and collaborate on Source Control projects.
- At the seminar, MetroVancouver staff generously offered to share their “Unflushables” Campaign materials with the organizations present. RDN staff requested permission to use three engaging videos that the campaign produced and MetroVancouver was able to add RDN branding to the videos in-house. These videos will be incorporated into an updated source control webpage in the coming months.

### **CLOSE AND PROPOSE NEXT MEETING**

The next W3C meeting is tentatively scheduled for March 2, 2018.