Core Area Liquid Waste Management Plan

Amendment No. 11

submitted September 16, 2016

CAPITAL REGIONAL DISTRICT
CORE AREA LIQUID WASTE MANAGEMENT PLAN

AMENDMENT NO. 11

SECTION 6
(Replaces Section 6 in Amendment No. 10)

PROPOSED SYSTEM CONFIGURATION AND BIOSOLIDS MANAGEMENT PLAN

TYPE OF AMENDMENT: CRD INITIATED

GOAL

The goal of the proposed core area wastewater management system is to protect public health and the environment and comply with provincial and federal regulations in a sustainable and cost effective manner.

COMMITMENTS

1. GENERAL

The Capital Regional District ("CRD") commits to completing a liquid waste management program by the end of 2020 to serve the Core Area municipalities and the Esquimalt and Songhees First Nations in a manner that will:

a) Protect public health and the environment;
b) Incorporate the CRD's climate action goals;
c) Be sustainable and optimize the recovery and beneficial use of resources;
d) Take advantage of opportunities to integrate the municipal solid and liquid waste functions wherever a mutual benefit can be achieved;
e) Provide appropriate wastewater treatment for the participating municipalities and other communities served by the treatment plant in a manner that will minimize the cost to taxpayers;
f) Provide facilities that are compatible with neighboring communities; and
g) Comply with federal and provincial regulatory requirements, including any applicable operational certificate.

2. WASTEWATER TREATMENT

The CRD commits to constructing, by December 31, 2020, a wastewater management system as indicated in Figure 6.1A, that will include the following major components:

a) Wet weather flow attenuation tanks and pump station located on Arbutus Road in the District of Saanich;
b) A pump station at Clover Point in the City of Victoria having capacity to pump up to three times the average dry weather flow (ADWF) to McLoughlin Point in the Township of Esquimalt for at least primary treatment;
c) A pump station at Macaulay Point in the Township of Esquimalt with capacity to convey up to 4 times ADWF to McLoughlin Point for at least primary treatment;

d) A 108 MLD ADWF wastewater treatment plant at McLoughlin Point that will provide primary treatment for wet weather flows up to four times ADWF for the Macaulay catchment and three times ADWF from the Clover catchment and tertiary treatment for flows up to two times ADWF;
e) New grit removal, screening facilities, and pump and building upgrades at the Clover Point and Macaulay Point pump stations; and
f) Pumping stations and an underground pipeline for conveyance of the residual solids stream to the Hartland Landfill in the District of Saanich.

The CRD commits to constructing a second treatment plant on the Westshore to be undertaken in the future when capacity at the McLoughlin Point plant is no longer sufficient to accommodate overall growth in the Core Area municipalities and other communities to be served by the McLoughlin Point plant.

3. RESIDUAL SOLIDS CONVEYANCE

The wastewater treatment program described in this section will produce residual solids which will be conveyed from the wastewater treatment plant at McLoughlin Point via a conveyance pipe marked as "pipeline to Hartland Landfill Biosolids Facility" on figure 6.1A to be processed and managed at the Hartland Landfill in accordance with the CRD's approved solid waste management plan.

4. PROPOSED TREATMENT PLANT LOCATION

As indicated in the attached draft operational certificate, the proposed core area wastewater treatment plant will be constructed for operation at the following location:

McLoughlin Point

- Lots A-E, Section 11, Esquimalt District, Plan 35322;
  (337 Victoria View Road)
- Lots 1 and 2, of the– Bed of Victoria Harbour, Esquimalt District, Plan VIP87823

To be consolidated to form a single lot (Lot 1, Esquimalt District, Plan EPP36468)

5. DESCRIPTION OF TREATMENT PLANT

5.1 Technical Process Summary

Capacity requirements for the McLoughlin Point wastewater treatment plant are as set out in the table marked "McLoughlin WWTP" contained within Figure 6.1A.

Other technical aspects and specifications of the wastewater treatment plant are to be substantially as contained in Attachment 3, Victoria CRD Technical Memorandum.

5.2 Significant Elements of Project Configuration and Features

Plant Building: The proposed wastewater treatment plant building has been designed to achieve compliance with the current zoning regulations of the Township of Esquimalt applicable to height, setback and density limits within the I-3 Zone, assuming completion of the consolidation process for the lot parcels that form the McLoughlin Point site.

The administrative zone of the building will comprise the lobby, a 75 m2 multi-purpose room/public education centre, various administrative and management functions, staff room and operators' room and control room.

The aspects of this Core Area wastewater treatment plant plan that do not comply with Esquimalt zoning regulations relate to certain elements of setback, site amenities and landscaping. Those aspects have been identified by the contractor on pages 4-6 of Attachment 3. The non-compliance aspects are minor.

In all material respects, the plan complies with the Esquimalt zoning regulations.

Height, Setback and Density:

The wastewater treatment plant and all other buildings and structures on the land have been designed having reference to the applicable zoning regulations of the Township of Esquimalt and will be constructed in accordance with the following height, setback and density limitations:

(a) Floor Area Ratio is to be 0.35;
(b) Floor Area is to be 4,500 m2;
(c) Lot Coverage is to 75%;
(d) The authorized rate of discharge for effluent is to be 384,000 m3 per day;
(e) Plant capacity will not exceed 108 ML/ day, ADWF;
(f) The height of all buildings on the McLoughlin Point lands may be built to but shall not exceed a height of 15 metres provided that within 20 metres of the High Water Mark, no building or structure shall exceed a height of 5 metres. The 15 metre maximum height is permitted under the applicable zoning regulations where the wastewater treatment plant use is combined with a boat moorage use, which is proposed for the site; and
(g) The setback of all buildings to be built on the McLoughlin Point lands may be up to, but shall not be less than the following:
    - 7.5 metres from the front lot line; and
    - 4.5 metres from an exterior side lot line.

Parking

The design for the wastewater treatment plant contemplates 28 parking spaces and a bus loading bay.

5.3 Tsunami Protection

In the event of a significant seismic event and tsunami the plant will be protected from inundation from offshore by a concrete seawall rising to a minimum geodetic elevation of 6.5 metres. The seawall will be of new concrete construction with geogrid tiebacks along the south and east sides of the site adjacent to the Victoria Harbour. A concrete retaining wall be installed along the north side of the site adjacent to land. Electrical equipment will be constructed above 6.1 metres geodetic or will be sealed from water intrusion to ensure protection against disaster and post disaster flooding including tsunamis. Construction of tsunami protection will incorporate the information contained in the CRD Report *Modelling of Potential Tsunami Inundation Limits and Run-up* dated June, 2013, prepared by AECOM.

5.4 Public Access

The design for the wastewater treatment plant will include a public open space amenity and walkway of 1000 m2 and will be designed to connect to Victoria View Road and to accommodate connection to the lands beyond the McLoughlin Point site if possible in future.

5.5 Amenities and Landscape Design Features

In the development of the Core Area wastewater treatment plant, CRD intends that the amenities, impact mitigation works and design features contemplated in Attachment 3 would be provided as part of the development of the wastewater treatment plant unless and to the extent that the Township of Esquimalt indicates that it does not wish such amenities or design features installed on land controlled by Esquimalt, or agreement is reached with the host municipality of Esquimalt on alternative amenities or features.

The wastewater treatment plant site will be landscaped generally in accordance with Design Guidelines for the McLoughlin Point Wastewater Treatment Plant, prepared by CitySpaces and dated May 2013 and with the intention of meeting the requirements of section 55(7) of the Township of Esquimalt Zoning Bylaw to the extent practicable given the location and the configuration of the site.

5.6 Description of Offsite and Onsite Utility Requirements

Offsite utilities to support the wastewater treatment plant include water, sewage, residual solids, natural gas, electricity and telecommunications. All proposed utilities will be installed within street rights of way of Patricia Way, Peters St. and Lyall St. or other locations as required to service the McLoughlin and Harland sites.

5.7 Traffic and Barging; Location of Temporary Batch Plant and Storage Location

Traffic and barging of materials to the project site during the construction of the wastewater treatment plant will be as set out in Attachment 3. An area between Munro Street and Vaughan Street as shown in Attachment 3 will be used as a construction storage, staging and batch plant location as required during project construction.

5.8 Further Conditions

CRD intends that the development of the wastewater treatment plant site under this plan will not be subject to any other land use regulations, prohibitions, requirements or conditions under Part 14 of the *Local Government Act* other than those referred to in the Business Case and Attachment 3 unless the CRD and the host municipality of Esquimalt agree otherwise under paragraph 5.5.

6.0 ATTACHMENTS

ATTACHMENT 1

Stantec Consulting Ltd., *Core Area Liquid Waste Management Program – Assessment of Liquid Train Treatment Options*, September 7, 2016

ATTACHMENT 2

Stantec Consulting Ltd., *Core Area Liquid Waste Management Program – Assessment of Biosolids Treatment and Integrated Resource Management Options*, September 6, 2016

ATTACHMENT 3

Harbour Resource Partners, *Victoria CRD Technical Memorandum* (not including Attachments B, G or H) (see Note).

Note: Technical components and specifications of the waste management treatment plant and construction arrangements contained in the Technical Memorandum may change during the design and construction phases of the project.

Capital Regional District | Parks & Environmental Services
5,000m³ FLOW ATTENUATION TANK
OAK BAY
SAANICH
VICTORIA
McLOUGHLIN POINT WWTP & OUTFALL
CLOVER POINT PUMP STATION UPGRADE
PROPOSED FORCEMAIN
PIPELINE TO HARTLAND LANDFILL BIOSOLIDS FACILITY
ESQUIMALT
PROPOSED CRAIGFLOWER PUMP STATION
PROPOSED FORCEMAIN
MACAULAY POINT PUMP STATION UPGRADE
VIEW ROYAL
HIGHLANDS
LANGFORD
COLWOOD
METCHOSIN
LEGEND
EXISTING
DESCRIPTION
PROPOSED/ UPGRADED
TREATMENT PLANT
ATTENUATION TANK
PUMP STATION
PIPELINE OR OUTFALL
MUNICIPAL BOUNDARY
MCLOUGHLIN WWTP
CAPACITY PRESENT 2030 2065
SCREENING 490.00 495.00 495.00
PUMPING 375.00 375.00
PRIMARY 375.00 375.00
SECONDARY 215.60 215.60
BIOSOLIDS (Kg/d) 33,865 33,865
ADWF (TRIB) 55.90 55.90
ADWF (T) 107.80 107.80
NOTE:
UNITS OF MEASUREMENT ARE MEGALITRES PER DAY (ML/d) UNLESS OTHERWISE NOTED.
CRD
Making a difference...together
CORE AREA LIQUID WASTE MANAGEMENT PLAN
FIG. 6.1A
PROPOSED SYSTEM CONFIGURATION
DESIGNED S.McD.
DRAWN L.N.
SCALE 1:90,000
CHECKED S.McD.
APPROVED S.McD.
DATE 18/09/13
CONTRACT NO.
DWG. NO. 13-S024-1
REV. 1
SHT OF 1

ATTACHMENT 1 - Stantec Consulting Ltd., *Core Area Liquid Waste Management Program – Assessment of Liquid Train Treatment Options*, September 7, 2016

ATTACHMENT 2 - Stantec Consulting Ltd., *Core Area Liquid Waste Management Program – Assessment of Biosolids Treatment and Integrated Resource Management Options*, September 6, 2016

ATTACHMENT 3 - Harbour Resource Partners, *Victoria CRD Technical Memorandum*

CAPITAL REGIONAL DISTRICT
CORE AREA LIQUID WASTE MANAGEMENT PLAN

SECTION 7
(Replaces Section 7 in Amendment No. 8)

SUSTAINABILITY, RESOURCE RECOVERY, CARBON FOOTPRINT AND GREENHOUSE GAS REDUCTION

TYPE OF AMENDMENT: CRD INITIATED

GOAL

The goal of the Core Area wastewater treatment program is to manage wastewater and to comply with federal and provincial regulatory requirements in a sustainable manner by establishing resource recovery opportunities, including partnerships for heat recovery and the beneficial use of biosolids, and by diligently pursuing opportunities to minimize greenhouse gas emissions.

COMMITMENTS

1. GENERAL

The wastewater treatment program described in section 6 will produce a stream of residual solids that will be conveyed from the wastewater treatment plant at McLoughlin Point via a conveyance pipe to the Hartland Landfill to be managed in accordance with CRD's solid waste management plan.

At present, the approved Solid Waste Management Plan of the CRD, as amended in 2013 by Amendment no. 8, contemplates the following use:

> "The purpose of this amendment is to amend the Solid Waste Management Plan to bring it into alignment with the Core Area Liquid Waste Management Plan to allow the siting, construction, operation of a biosolids treatment and resource recovery facility at Hartland Landfill. The biosolids treatment and resource recovery facility will accept screenings and waste residual solids received at the Hartland Landfill from sewage treatment plants and pump stations for treatment, processing, storage and beneficial utilization."

The CRD will undertake a public process, with the participation of the affected municipalities and First Nations, to review its regional waste management policy to determine a long-term option at Hartland that optimizes the opportunity for integrated resource management and beneficial use of the biosolids.

CRD will file regular interim reports with the Ministry to report on the progress of this review. CRD will file its final report with the Minister by 30 June 2020 with a long-term option that can be implemented within 5 years after the completion of the LWM system.

2. RECOVERY OF HEAT FROM EFFLUENT

The CRD and the participating municipalities will:

a) Use effluent source heat pumps to help heat treatment plant buildings using heat exchangers and hot water loops.
b) Use effluent source heat pumps to meet market demand when economically feasible to provide cost-effective heat to:
   (i) existing developments that have compatible heating infrastructure; and/or

(ii) new developments using district heating systems.

3. GREENHOUSE GAS REDUCTION AND CARBON FOOTPRINT

The CRD and the participating municipalities will complete the wastewater treatment system in a manner to reduce greenhouse gases and carbon footprint.

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CAPITAL REGIONAL DISTRICT
CORE AREA LIQUID WASTE MANAGEMENT PLAN

AMENDMENT NO. 11

SECTION 11
(Replaces Section 11 in Amendment No. 8)

COSTS COST SHARING, FUNDING AND COSTS PER USER

TYPE OF AMENDMENT: CRD INITIATED

GOAL

To fund and share the costs of the core area wastewater treatment program in a manner that is equitable and affordable and honours previous funding commitments.

COMMITMENTS

The Capital Regional District (CRD) commits to completing:

1. By the end of 2016, complete a cost sharing agreement with the participating municipalities for sharing the capital and operating costs of the project.
2. By the end of 2016, complete a funding agreement with the federal and provincial governments regarding the provision of two-thirds funding for the project.
3. By the end of 2016, amend CRD Bylaw No. 2312 – Liquid Waste Management of Core Area and Western Communities Service Establishment Bylaw No. 1, 1995 to provide the required legal authority for implementing the project.
4. Arrange, through the Municipal Finance Authority, financing for the one-third municipal share of the project.

PROJECT ESTIMATED COSTS

The estimated capital cost of the project is $765,000,000 (2016 dollars).

The estimated annual operational and maintenance cost for the project is $13,721,000 (2016 dollars).

The above costs are based on an updated estimate completed by Stantec in August 2016.

COST SHARING

Over the past six and a half years, substantial work has been done, with the help of consultants, towards developing a project cost sharing agreement with the participating municipalities.

Cost sharing alternatives that are under consideration include the question of whether the system should be treated as a single combined system for cost sharing purposes or as a network of differentiated components with separate cost sharing for each component based on design capacity benefit. Candidate cost sharing options include sharing capital and operating costs based on:

- average dry weather flow
- average annual flow
- design capacity
- various combinations of the above options

FUNDING

Senior government assistance with the capital costs of the project is considered an essential element of the project plan. A commitment of one-third contribution from the province of British Columbia, along with one-third contribution from the Government of Canada is assumed in making the commitments contained in Amendment No. 11. The CRD will borrow the remaining one-third funding from the Municipal Finance Authority.

BUSINESS CASE IN SUPPORT OF FUNDING

The business case in support of the application for provincial funding for the amended project was submitted to the Honourable Peter Fassbender, Minister of Community, Sport and Cultural Development. A copy of the business case was also provided to the Honourable Mary Polak, Minister of Environment.

COSTS PER USER

The cost per user in each of the participating municipalities is dependent on the duration of borrowing and the level of interest rates at the time, the agreed cost sharing formula between municipalities, the method of cost recovery within municipalities and the procurement of agreed senior government two-thirds funding.

Based on the above and which cost sharing alternative is adopted, the current estimate of annual cost per household, assuming two-thirds senior government funding, varies among municipalities.

CAPITAL REGIONAL DISTRICT
CORE AREA LIQUID WASTE MANAGEMENT PLAN

AMENDMENT No. 11

SECTION 12
(Replaces Section 12 in Amendment No. 8)

DRAFT OPERATIONAL CERTIFICATE
MCLOUGHLIN POINT TREATMENT PLANT AND OUTFALL

TYPE OF AMENDMENT: CRD INITIATED

See attached document (9 pages).

Draft Operational Certificate
ME-?????

Under the Provisions of the Environmental Management Act

Capital Regional District
625 Fisgard Street
PO Box 1000
Victoria, British Columbia
V8W 2S6

is authorized to discharge effluent to the Juan de Fuca Strait from a municipal wastewater collection and treatment system located in the Capital Regional District, British Columbia, subject to the conditions listed below. Contravention of any of these conditions is a violation of the *Environmental Management Act* and may result in prosecution.

1. AUTHORIZED DISCHARGES

1.1 This subsection applies to the discharge of **effluent from a municipal wastewater treatment plant** at McLoughlin Point to the Juan de Fuca Strait. The site reference number for this discharge is ??????.

1.1.1 The maximum authorised rate of discharge is 384,000 m^3/d.

1.1.2 The maximum daily discharge loadings* for 5 – day Carbonaceous Biochemical Oxygen Demand (CBOD) and Total Suspended Solids (TSS) for the final discharge to the outfall from the municipal wastewater treatment plant (to be used for the calculation of annual operational certificate fees) shall be:

*daily discharge loading is the total amount of contaminants discharged per day (contaminant concentration x the rate of discharge)

Date Issued:
Date Amended:
(most recent)

Director, *Environmental Management Act*
Vancouver Island Region
Operational Certificate Number: ME-?????

McLoughlin		
Year	CBOD tonnes/day	TSS tonnes/day
2020	12.8	12.8
2030	13.2	13.2
2045	16.0	16.0
2055	17.28	17.28

1.1.3 The average dry weather flow is as follows:

Year	Average Dry Weather flow m3/d
2020	74,000
2030	83,000
2045	97,000
2055	108,000

1.1.4 For that portion of the daily flow up to two times the average dry weather flow the characteristics of the discharge shall not exceed:

5 – day Carbonaceous Biochemical
Oxygen Demand - 45 mg/L
Total Suspended Solids - 45 mg/L
pH - 6.0 – 9.0 pH Units

and for that portion of the daily flow in excess of two times the average dry weather flow and less than four times the average dry weather flow the characteristics of the discharge shall not exceed:

5 – day Carbonaceous Biochemical
Oxygen Demand - 130 mg/L
Total Suspended Solids - 130 mg/L
pH - 6.0 – 9.0 pH Units

and for that portion of the daily flow in excess of four times the average dry weather flow the characteristics of the discharge shall be equivalent to or better than typical screened municipal sewage.

All flows shall be recombined prior to discharge through the outfall.
After December 31, 2030 there shall be no discharge in excess of four

times the average dry weather flow.

1.1.5 The authorised works are influent pumping, screening, grit removal, primary clarification, biological aerated filter treatment process, solids separation, sludge thickening and pumping to an offsite processing facility, heat recovery works for internal plant use, odour control, standby power and an outfall with multiport diffuser extending 1800 m from mean low water to a depth of 60 m below mean low water, and related appurtenances approximately located as shown on attached Site Plan A.

1.1.6 The authorised works must be complete and in operation when the discharge authorised by this operational certificate commences.

1.1.7 The location of the facilities from which the discharge originates is at 337 Victoria View Road (Lots A-E, Section 11, Esquimalt District, Plan 35322) and Lots 1 and 2 of the bed of Victoria harbour, Esquimalt District, Plan VIP87823 , in Esquimalt).

1.1.8 The location of the point of discharge is Juan de Fuca Strait near Macaulay Point.

2. GENERAL REQUIREMENTS

2.1 Maintenance of Works and Emergency Procedures

The Capital Regional District shall inspect the authorised works regularly and maintain them in good working order. In the event of an emergency or condition beyond the control of the Capital Regional District which prevents effective operation of the approved method of pollution control, the Capital Regional District shall notify the Regional Environmental Protection Manager immediately and take appropriate remedial action. The Environmental Protection Manager may reduce or suspend the operation of the Capital Regional District to protect the environment until the approved method of pollution control has been restored.

2.2 Bypasses

The Capital Regional District shall ensure that no waste is discharged without being processed through the authorised works or through authorised works at another location, unless prior written approval is received from the Director.

2.3 Process Modifications

The Regional Environmental Protection Manager shall be notified prior to implementing changes to any process that may adversely affect the quality and/or quantity of the discharge.

2.4 **Plans - New Works**

Plans and specifications of the works authorized in Sections 1.1.5 and 1.2.4 shall be certified by a qualified professional licensed to practice in the Province of British Columbia, and shall be made available to the Regional Environmental Protection Manager for inspection at any time. A qualified professional must certify that the works have been constructed in accordance with the plans before discharge commences.

2.5 **Posting of Outfall**

The Capital Regional District shall erect a sign along the alignment of the outfall above high water mark. The sign shall identify the nature of the works. The wording and size of the sign requires the approval of the Director.

2.6 **Outfall Inspection**

The Capital Regional District shall conduct a dye test on the outfall line (or inspect by another method approved by the Director) every five years. An outfall inspection report shall be submitted to the Regional Environmental Protection Manager within 60 days of each inspection.

2.7 **Residual Solids Management**

Residual solids generated by the treatment plants shall be managed in a manner approved by the Director and in accordance with the sludge management strategies described in the Capital Regional District Core Area Liquid Waste Management Plan.

2.8 **Standby Power**

The Capital Regional District shall provide auxiliary power facilities to ensure that during power outages, the discharge from the authorised works continue to meet the effluent criteria specified in this operational certificate.

2.9 **Odour Control**

Should objectionable odours, attributable to the operation of the sewage treatment plants, occur beyond the property boundary, as determined by the Regional Environmental Protection Manager, measures or additional works will be required to reduce odour to acceptable levels.

Once the municipal wastewater treatment plant commences operation, the Capital Regional District shall meet annually for three years, and thereafter as directed by the Regional Environmental Protection Manager, with representatives of the neighbourhood to consider any odour related issues associated with the treatment

facility, to assess the effectiveness of the odour control facilities at the plant and to discuss and establish appropriate remediation strategies, if necessary.

2.10 **Disinfection**

Although disinfection of the effluent discharged through the outfall is not required at this time, suitable provisions should be made to include disinfection facilities in the future. If disinfection is by chlorination, dechlorination facilities will also be required.

2.11 **Facility Classification and Operator Certification**

The Capital Regional District shall have the works authorized by this operational certificate classified (and the classification shall be maintained) by the Environmental Operators Certification Program Society (Society). The works shall be operated and maintained by persons certified within and according to the program provided by the Society. Certification must be completed to the satisfaction of the Director. In addition, the Regional Environmental Protection Manager shall be notified of the classification level of the facility and certification levels of the operators, and changes of operators and/or operator certification levels within 30 days of any change.

Alternatively, the works authorized by this operational certificate shall be operated and maintained by persons who the Capital Regional District can demonstrate to the satisfaction of the Director, are qualified in the safe and proper operation of the facility for the protection of the environment.

2.12 **Effluent Upgrading**

Based on receiving environment monitoring data and/or other information obtained in connection with this discharge, The Capital Regional District may be required to provide additional treatment facilities.

2.13 **Operating Plan**

The Capital Regional District shall develop an operating plan, to be prepared by a qualified professional, which provides for the proper operation and maintenance of sewage conveyance, treatment, disposal and reclaimed water use facilities including the monitoring details, emergency procedures, and staff education and certification. The plan shall be certified by the qualified professional that it is adequate for the works being installed and the proposed reclaimed water uses. The plan shall be submitted to the Regional Environmental Protection Manager for review 30 days before construction of the municipal wastewater treatment plant.

3. MONITORING AND REPORTING REQUIREMENTS

3.1 Discharge Monitoring

3.1.1 Flow Measurement

Provide and maintain a suitable flow measuring device and record once per day the volume discharged over a 24-hour period for the following:

- The volume discharged from the municipal wastewater treatment plant to the marine outfall;
- The volume discharged from the biological aerated filter treatment process;
- The volume of reclaimed water discharged from the sewage treatment plant to the reclaimed water distribution system.

3.1.2 Sampling and Analysis

a) This section applies to the discharge authorized in Subsection 1.1 from the municipal wastewater treatment plant to the outfall into Juan de Fuca Strait:

The Capital Regional District shall install suitable sampling facilities and obtain samples of the discharges from the municipal wastewater treatment plant at the following locations:

- a sampling location representing that portion of the daily discharge up to two times the average dry weather flow;
- a sampling location representing that portion of the daily discharge in excess of two times the average dry weather flow up to four times the average dry weather flow.
- a sampling location at a point after which the above discharges are recombined.

Carry out analyses of the samples in accordance with the following schedule from the date of discharge commencement:

Parameter	Frequency	Type
5-day Carbonaceous Biochemical Oxygen Demand	weekly	24 hr composite
Total Suspended Solids	weekly	24 hr composite
Other selected parameters	as directed	as directed

The composite sample is to consist of samples taken over a 24-hour period

in proportion to flow and mixed to form a single sample. Proper care should be taken in sampling, storing and transporting the samples to adequately control temperature and avoid contamination, breakage, etc.

b) This section applies to the discharge authorized in Subsection 1.2 from the sewage treatment facility to the reclaimed water distribution system:

The Capital Regional District shall install a suitable sampling facility and obtain a sample of the discharge from the sewage treatment plant to the reclaimed water distribution system and carry out analyses in accordance with the following schedule:

Proper care is to be taken in sampling, storing and transporting the samples to adequately control temperature and avoid contamination, breakage, etc.

3.2 **Receiving Environment Monitoring**

A receiving environment monitoring program shall be carried out by the Capital Regional District. The program shall be developed in consultation with the Vancouver Island Health Authority, First Nations and the Regional Environmental Protection Manager.

The proposed monitoring program shall be developed in accordance with the goals and commitments in the approved Capital Regional District Core Area Liquid Waste Management Plan and shall be submitted to the Regional Environmental Protection Manager for review on or before ????. Based on the results of this monitoring program, the Capital Regional District monitoring requirements may be extended or altered by the Director.

3.3 **Sampling and Analytical Procedures**

Sampling and flow measurements shall be carried out in accordance with the procedures described in the most recent edition of the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples", or by suitable alternative procedures as authorized by the Director.

Analyses are to be carried out in accordance with procedures described in the most recent edition of the "British Columbia Laboratory Methods Manual for the Analysis of Water, Wastewater, Sediment, Biological Materials and Discrete Ambient Air", or by suitable alternative procedures as authorized by the Director.

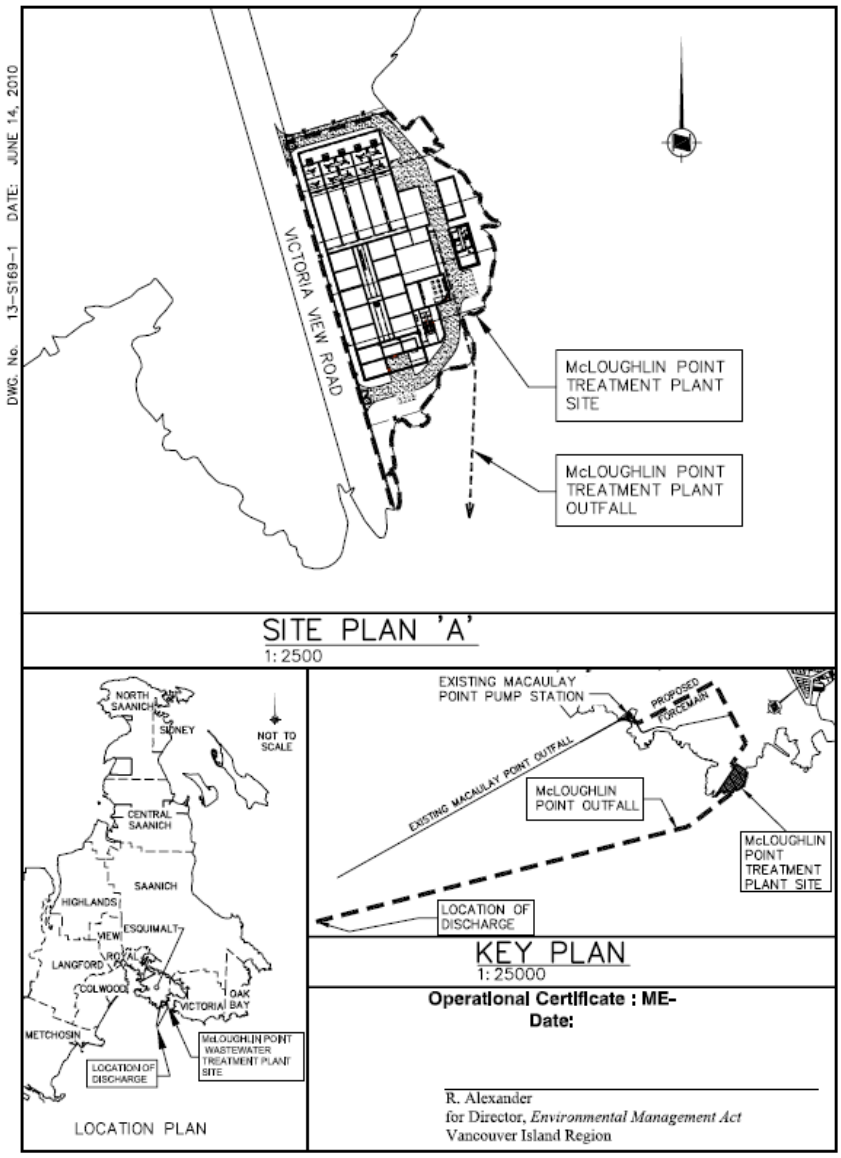
A copy of the above manual may be purchased from Queen's Printer Publications Centre, P. O. Box 9452, Stn. Prov. Gov't. Victoria, British Columbia, V8W 9V7 (1-800-663-6105 or (250) 387-6409). A copy of the manual is also available for

inspection at all Environmental Protection offices.

3.4 **Reporting**

Maintain data of analyses and flow measurements for inspection and every three months submit the discharge data to the Regional Environmental Protection Manager. All reports shall be submitted within 30 days of the end of the quarter. Quarterly reports should identify any data which exceed the allowable limits as well as describe corrective action (to be) taken to remedy the cause of the exeedence(s).

Reporting and interpretation of the receiving environment monitoring data shall be carried out in accordance with the approved Capital Regional District Core Area Liquid Waste Management Plan. The terms of reference for the reports and frequency of submission to the Regional Environmental Protection Manager shall be established in consultation with the Regional Environmental Protection Manager.


DWG. No. 13-S169-1 DATE: JUNE 14, 2010
VICTORIA VIEW ROAD
McLOUGHLIN POINT TREATMENT PLANT SITE
McLOUGHLIN POINT TREATMENT PLANT OUTFALL
SITE PLAN 'A'
1: 2500
NORTH SAANICH
SIDNEY
NOT TO SCALE
CENTRAL SAANICH
SAANICH
HIGHLANDS
ESQUIMALT
VIEW ROYAL
LANGFORD
COLWOOD
VICTORIA
OAK BAY
METCHOSIN
McLOUGHLIN POINT WASTEWATER TREATMENT PLANT SITE
LOCATION OF DISCHARGE
LOCATION PLAN
EXISTING MACAULAY POINT PUMP STATION
PROPOSED FORCEMAIN
EXISTING MACAULAY POINT OUTFALL
McLOUGHLIN POINT OUTFALL
McLOUGHLIN POINT TREATMENT PLANT SITE
LOCATION OF DISCHARGE
KEY PLAN
1: 25000
Operational Certificate : ME-
Date:
R. Alexander
for Director, Environmental Management Act
Vancouver Island Region

CAPITAL REGIONAL DISTRICT
CORE AREA LIQUID WASTE MANAGEMENT PLAN

AMENDMENT No. 11

SECTION 13
(Replaces Section 13 in Amendment No. 8)

CRD – CORE AREA WASTEWATER TREATMENT PROGRAM
PROJECT SCHEDULE TO 2020
SEPTEMBER 2016

TYPE OF AMENDMENT: CRD INITIATED

See Table 13.1 (1 page), attached.

CAPITAL REGIONAL DISTRICT - CORE AREA WASTEWATER TREATMENT PROGRAM

OPTION 8a - McLoughlin Point Tertiary, Biosolids Treatment at Hartland

Stantec

Date: Thu 9/15/16

Task	Project Summary	Inactive Milestone	Manual Summary Rollup	Deadline	
Split	External Tasks	Inactive Summary	Manual Summary	Progress	
Milestone	External Milestone	Manual Task	Start-only	Manual Progress	
Summary	Inactive Task	Duration-only	Finish-only		