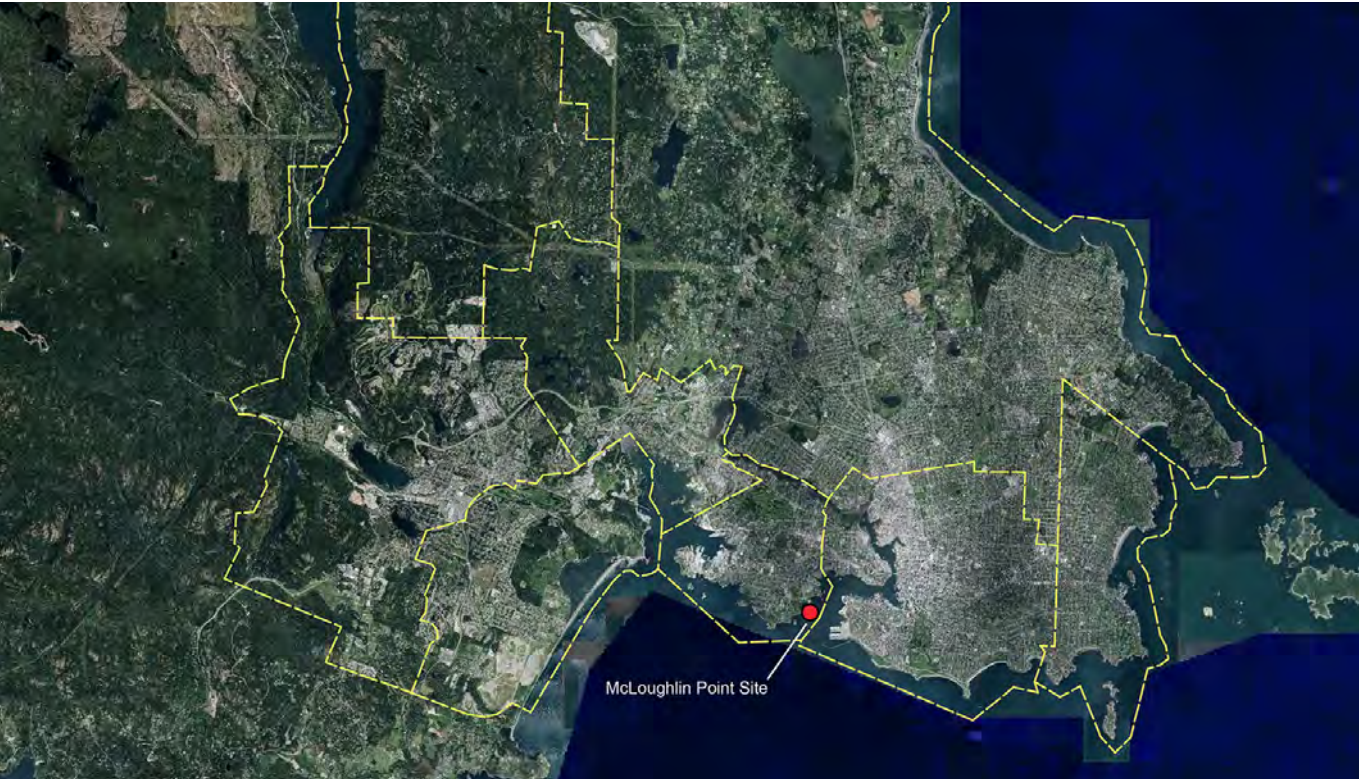


McLoughlin Point

Rezoning Application



Prepared for the
Corporation of the Township of Esquimalt

On behalf of the
CRD
Making a difference...together

January 2013

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1. Introduction

This application is submitted, on behalf of the Capital Regional District (CRD), to the Township of Esquimalt to request a site specific zone that will permit construction of a Wastewater Treatment Plant and Marine Outfall at McLoughlin Point, as part of the Capital Regional District's Core Area Wastewater Treatment Program (CAWTP). The application includes an Official Community Plan amendment pursuant to Section 877 (1) (f) of the Local Government Act (see Section 4).

The wastewater treatment plant and marine outfall is one of the projects that comprise the CAWTP. Other projects include construction of a Biosolids Energy Centre, and conveyance system upgrades. The Hartland landfill has been identified as the site for the Biosolids Energy Centre, however, the CRD continues to investigate other options for this Centre in order to reduce the distance sludge needs to be transported.

The application includes an overview of the history and requirement for wastewater treatment, and the process undertaken to identify McLoughlin Point as the site for the Wastewater Treatment Plant; a description of the site; the zoning and land-use rationale, and a brief summary of the technical analyses. Principles for the development of the Design Guidelines are also included in this report, along with an outline of the community input process and consultation with First Nations. Technical reports, including an environmental impact and mitigation report, community impact report, transportation study, archaeological assessment, servicing and hazardous risk assessment, and design guidelines report, are included as appendices to this report.

2. Background

Requirement for Wastewater Treatment

- In 2000, the CRD developed its Core Area Liquid Waste Management Plan, which included screening, source control, and monitoring.
- In 2006, the Minister of the Environment, in accordance with section 24 (3)(a) of the *Environmental Management Act*, required the CRD to amend this plan to detail a fixed schedule for the provision of wastewater treatment.
- The Federal Government, on July 18, 2012, proclaimed *Wastewater Systems Effluent Regulations*, which require secondary wastewater treatment across Canada.
- The Core Area Wastewater Treatment Program will bring the CRD into compliance with the Province of British Columbia *Municipal Sewage Regulation* and the Federal *Wastewater System Effluent Regulations* under the *Fisheries Act*.



Site Selection Process

In July 2010, the CRD Core Area Liquid Waste Management Committee selected a revised configuration for wastewater treatment, significantly reducing the cost from the previous system designs. This configuration includes a centralized, liquids-only treatment facility at McLoughlin Point, along with the marine outfall. The identification of McLoughlin Point as the site constitutes “Amendment 8” of the Liquid Waste Management Plan, and was approved by the BC Minister of the Environment in August 2010.

Core Area Wastewater Treatment Program

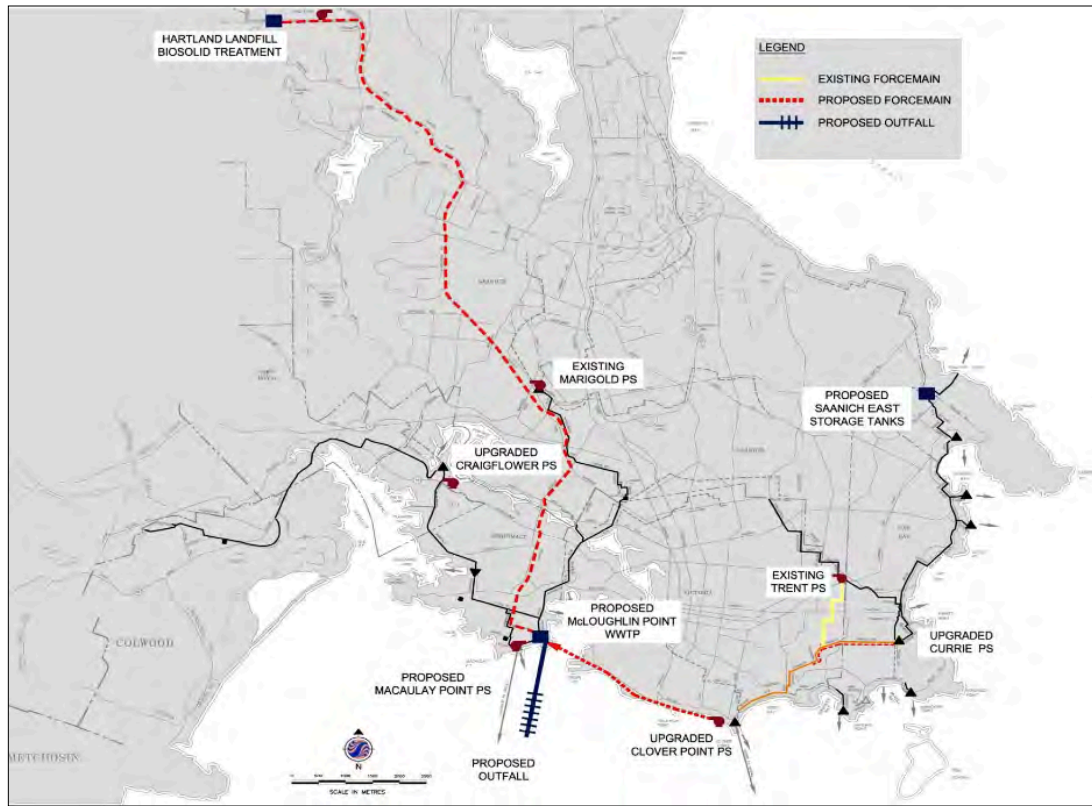
Below, Figure 1 shows the envisioned overall Core Area Wastewater Treatment Program (CAWTP). Effectively, flows from the current Macaulay and Clover Point catchment areas will be diverted to McLoughlin Point for treatment. Sludge will be processed at a biosolids facility to be constructed at the Hartland North site. (Other options for the biosolids facility continue to be explored by the CRD.)

The McLoughlin Point-Hartland facilities will also create opportunities for resource recovery, including biogas, phosphorous, dried biosolids to be used as a fuel substitute, and effluent heat recovery. The facilities will include:

- The Macaulay and Clover Point facilities, which will screen, remove grit, and pump wastewater to the McLoughlin Point treatment facility;
- The McLoughlin Point facility, which will treat and discharge the liquid effluent, and provide opportunities for effluent heat recovery;
- The Hartland North facility, which will anaerobically digest, dewater, and dry the solids, and recover resources that include biogas, phosphorous, dried biosolids, and effluent heat;
- Underground tanks on Arbutus Road to attenuate high wastewater flows during storm events; and
- Ancillary facilities, pump stations, and forcemains to convey wastewater between the facilities, including the Victoria Harbour crossing and an outfall at McLoughlin Point.



Figure 1: Core Area Waste Water Treatment Program



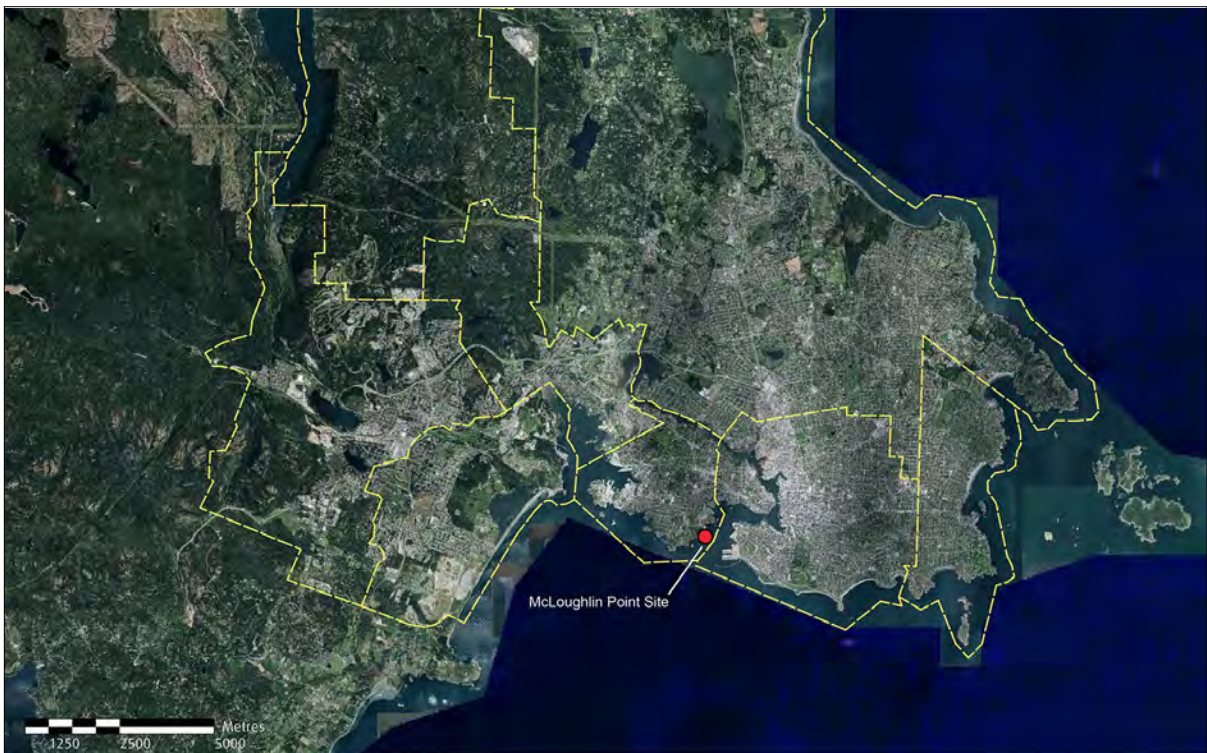
3. McLoughlin Point Site

Site Context

Figure 2 below shows the location of the proposed McLoughlin Point WWTP in a regional context. Figure 3 on the following page shows McLoughlin Point site and its geographic relation to municipal boundaries.

The property is located centrally to the capital region population served by the liquid waste treatment system and the two major pump stations (Clover Point and Macaulay Point outfalls) that will be routed to McLoughlin Point to undergo treatment prior to marine discharge.

Figure 2: Core Area Waste Water Treatment Program Regional Context



Site Description

McLoughlin Point is a 1.4 ha area of privately owned waterfront land, located within the municipal boundaries of the Township of Esquimalt. The land currently consists of five legal parcels that will be consolidated as part of the permitting process.

The property is unique in that it is isolated from municipal roads by the Department of National Defense’s (DND) “Macaulay Point/Work Point Barracks” lands, which comprise some 60 ha. The site is located at the southwest extremity of the DND lands. The nearest municipally regulated lands are located some 500 m away (see Figure 3).

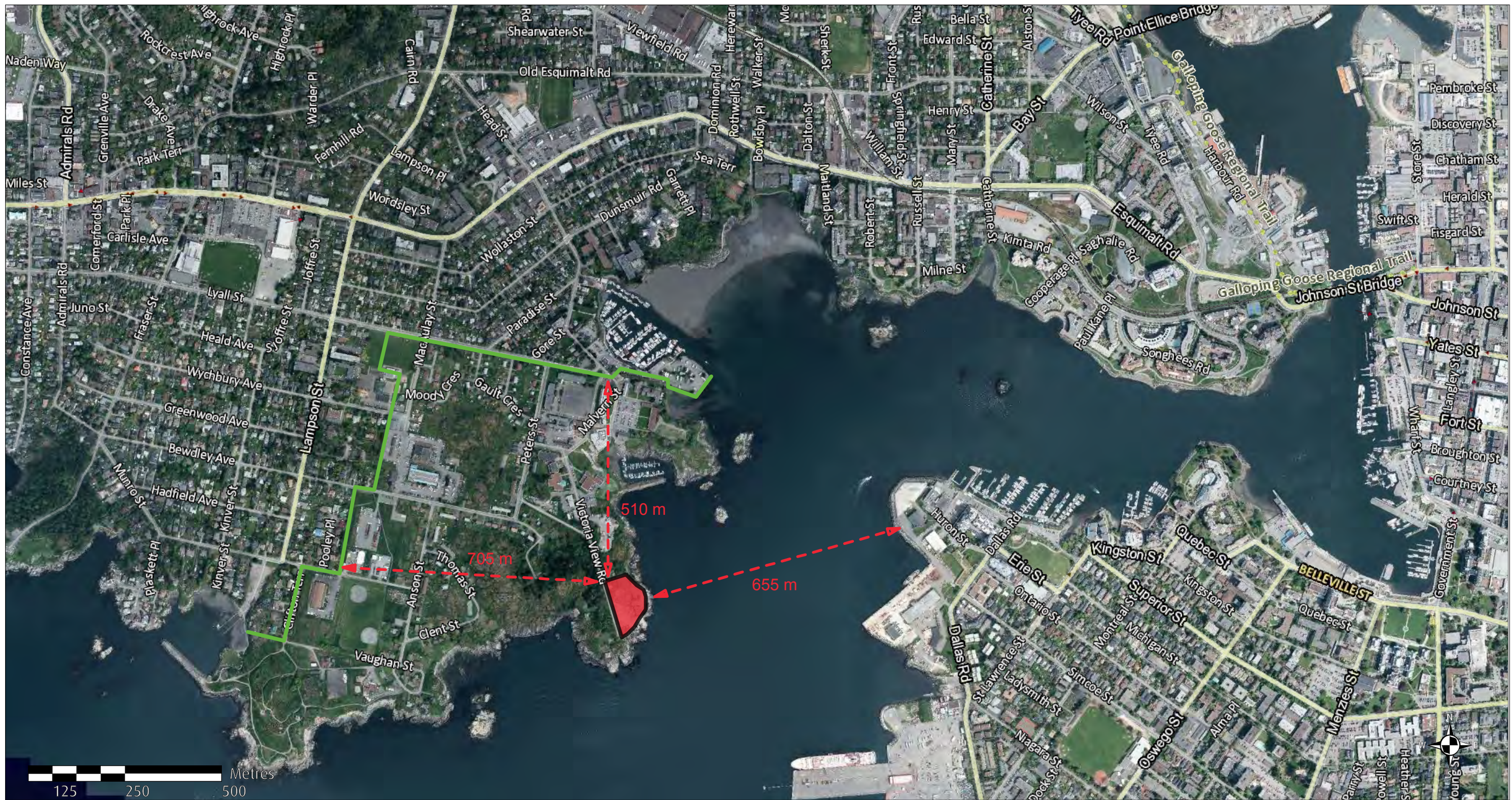


Figure 2.
McLoughlin Point – Site Context
 Core Area Wastewater Treatment Program

- - - Distance to site from nearest municipal boundaries
- DND/municipal Boundary

The site is further isolated by topography – there is a substantial rocky hill (elevation of approximately 23 metres) to the west that contains mature fir trees, and the site is also treed as it rises northward (see Figure 4 below). Both of these features protect the site in an important way from the sensory impacts (see *Community Impacts* section of this application) to the west, north and northeast. To the east, the nearest land is located across Victoria's Outer Harbour to Federal Coast Guard lands 650 m away. The southerly frontage faces Juan de Fuca Strait.

Figure 4: McLoughlin Point Current Conditions



The site has been significantly disturbed by its previous use as a petroleum storage facility. It is characterized by an exposed, rocky shoreline with much of the site disturbed and filled with retaining wall containment. Elements of rock outcroppings can be seen on the site (see Appendix A for detailed site survey).

There are two small areas of federally regulated foreshore leased to Imperial Oil, and that are included in site planning. These two areas combined comprise about 80 m². One very small area contains a concrete silt trap and oil interceptor that can re-used as part the storm water containment and interceptor plan. The other area is located toward the south end of the site, and the CRD has an agreement with Transport Canada acquire this area.



4. Proposed Land Use and Zoning Rationale

Official Community Plan Amendment

The application will require an Official Community Plan (OCP) amendment to address the requirements of Section 877 (1) (f) of the *Local Government Act*, which states that an OCP must include “statements and map designations for the area covered by the plan respecting the following: (f) the approximate location and type of present and proposed public facilities including ...waste treatment and disposal sites.”

While the OCP map already identifies the site as “Industrial”, an amendment to the bylaw will be required to provide a statement, and a map designation for the site as a public facility used for wastewater treatment.

Relevant OCP Policies

In support of the application, the following public policy considerations are provided:

1. Section 1: Regional Context Statement. The Township of Esquimalt is a party to the Regional Growth Strategy (RGS), adopted in 2003 by the CRD. As required, the Township’s OCP states that, as a partner in the RGS, Esquimalt commits to:

- Plan and manage growth in a collaborative manner by participating in achieving a regional vision and strategic initiatives;
- Consider cross-boundary impact; and
- Work toward a more sustainable region by considering the environmental, economic and social implications of local government decisions.

Comment: The Regional District has adopted the Core Area Liquid Waste Management Plan to meet legal obligations directed by senior levels of government, and to achieve sustainability objectives. The responsibility is regional, of which the Township of Esquimalt is a part. The CALWMP is consistent with the Regional Growth Strategy objectives, and the eight identified strategic directions. The Township of Esquimalt, in its OCP and as part of its Regional Context Statement, commits to working collaboratively with participating municipalities.

2. Section 2: General Land Use and Development Objectives provides reference to supporting increased residential densities (Section 2.0.2).

Comment: To meet both regional and Township goals for managing regional growth and focusing increased densities in a cost-effective manner, necessary infrastructure must match growth management. A regional wastewater treatment system, that will also serve the Township of Esquimalt, is an important part of this infrastructure, and has also been legally mandated by senior governments.

3. OCP Land Use Designation Map. The current OCP Land Use Map designates McLoughlin Point as “Industrial”, and is consistent with the intended use for a treatment facility.



Comment: There will be no need to change the OCP Land Use Map for the McLoughlin Point site. It is further noted that the Map also designates the CRD's Macaulay Point pumping station and outfall as "Industrial", and is described as "Existing Sewage Treatment".

4. Section 2.4.5 – Industrial Area Number 3: Oil Storage Facility. This section of the OCP describes the use of the lands as a bulk oil storage facility, and states that, should redevelopment plans be prepared for the surrounding DND lands, future uses for the site should complement the OCP.

Comment: There are currently no redevelopment plans for DND lands, however, should some process be considered in the future, recognizing the prioritization in divesting of Federal lands, the treatment system could be integrated into the redevelopment plan.

5. Section 2.6.2.1 – Macaulay Point – Work Point. Clause e) of this section states that "a regional treatment system at Macaulay Point is considered to be inconsistent with the development of a future neighbourhood at Macaulay Point".

Comment: The proposed treatment system is not located at Macaulay Point, but rather McLoughlin Point. There is a significantly different geographic context between Macaulay and McLoughlin Points in terms of proximity to existing residential neighbourhoods, with the location at McLoughlin Point being much more physically removed. There are no adjacent park lands at McLoughlin Point as there are with the lands leased to the Township at Macaulay Point Park.

6. Section 5.1.2.3 – Sewage Treatment Policies. This section of the OCP reiterates statements made in Section 2.6.2.1, referred to above, where current CRD liquid waste activities at Macaulay Point are recognized, but further states it "opposes" Macaulay Point as a site for a regional wastewater treatment facility.

Comment: See comment in 5. above. The Section goes on to say that the Township will work with the CRD to investigate a more appropriate location for a regional wastewater treatment plant.



Proposed Zoning for the Site

The site has been historically zoned for industrial use, and until recently was actively used as an oil storage facility for many years. The site is zoned I-3 – Bulk Petroleum Storage, which primarily limits the use to bulk oil storage tanks to reflect its past use. While a bulk petroleum storage facility, the site was serviced by both marine and vehicle (land) transport. The following historic photos show how extensively the site was used for industrial activities, including docking facilities.

Figure 5: Historical Use



Figure 6: Historical Use



A new industrial zone designation will be required, with the intention of providing a site-specific, purpose-designed zone to permit the use of the land as a regional wastewater treatment facility.

In addition to the new zone standards, Design Guidelines will be attached as a schedule to the new zone, in order to provide the design intention and framework for the facility's development.

The general terms of the new zone include:

Zone Conditions	Description of Conditions
Permitted use	Liquid wastewater treatment facility, outfall, accessory office, laboratory, service, storage, & repair shops
Size of site	1.44 ha
Area of buildings (excludes processing tanks & generators)	4,500 m ²
Maximum height of buildings	15 m above existing average grade
FSR	0.35.1
Parking requirements	34 stalls
Site coverage	75%
Design Guidelines	See Appendix B



Rationale for Zoning

The reasons the site is appropriate for the intended use include:

- From a regional perspective, the site is favourably located relative to the population the facility will serve. It is at the same elevation as the two main pumping facilities that will collect untreated liquid waste and deliver it to the site (Macaulay Point and Clover Point);
- The waterfront site will allow for relatively easy construction of the outfall;
- McLoughlin Point is a brownfield site that has been heavily disturbed;
- There will be no displacement of other uses or activities to accommodate the treatment plant;
- The site was historically industrially zoned, and it will continue to be industrially zoned. The Township's OCP Land Use Map designates the site for "industrial use";
- McLoughlin Point is private land adjacent to DND, with the nearest DND residence located about 70 m away. The nearest Township residence is located more than 500 m from the site. The site is physically buffered from other uses in the Township, is not visible from other Township vantage points, and has no legal road access;
- The nearest viewpoints are from Ogden Point and the Shoal Point shoreline, both within the City of Victoria and both waterfront industrial sites;
- The treatment facility will be designed to suit an urban setting with design and mitigation measures relating to aesthetics, noise, and odour; and
- The facility is a potential future heat recovery source for use by the Township.

Design Guidelines — Principles

A detailed set of Design Guidelines, along with schematic drawings and perspectives from designated viewpoints, can be found in Appendix B of this report. Key organizational principles that will guide the building and facilities design are described below:

- Be respectful of view impacts;
- Minimize foreshore disturbance to the extent possible;
- Respect and recognize working harbour principles and land use;
- Maintain a profile that blends with the landscape rather than stands out, while meeting the functional requirements of use;
- Design the Operations Facility to meet, or exceed, LEED® Silver standards and the *Esquimalt Green Building and Development Policy*;
- Design to mitigate off-site impacts relating to odour and noise;
- Design to address external risk factors relating to significant seismic and tsunami events, including post tsunami wave surge; and
- As a brownfield site, improve the biotic environment through planting of native materials compatible with an exposed marine environment.



5. McLoughlin Point Wastewater Treatment Plant & Facilities Operation

Wastewater will be conveyed from the Clover Point and Macaulay Point pumping stations to McLoughlin Point, where liquids' processing will take place. Secondary treatment will be provided for up to two times the average dry weather flow of wastewater. The plant will also provide enhanced primary treatment for wet weather flows up to four times the average dry weather flow.

The CRD has prepared an indicative design for the WWTP.

The wastewater is treated chemically during primary treatment to aid in removal of solids before passing through the biological filter. A system of heat exchange recovers heat from the wastewater to provide building heat with ability to expand the system to provide for a localized district energy system. The treated liquid is discharged through a 1.6 km long outfall into Juan de Fuca Strait, near the terminus of the existing Macaulay Point outfall.

Wastewater flows exceeding twice the average dry weather flow will bypass the biological filters after receiving primary treatment.

Chemicals used in the wastewater treatment process are similar to those used in drinking water treatment and are largely inorganic coagulant chemical agents (alum, polymers), or compounds, for cleaning treatment media (mild acids, caustics). These chemicals will be stored on site in secured tanks equipped with spill containment features.

Chlorine will only be used to disinfect treated effluent that will be reused for rinsing and cleaning tanks. The rinse water will be treated again to remove the chlorine and other materials before it is discharged through the outfall.

The treatment facility requires construction of deep concrete tanks partially above grade to reduce excavation quantities, and to achieve gravity discharge through the outfall. Other structures on the site include a covered building to house major process equipment, and an operations building, as well as roadways, parking facilities, and fencing.

During the procurement phase, additional treatment technologies and different options for building the facilities may be considered. These options are intended to improve the cost, time, and reliability of construction. All design options will be subject to Design Guidelines adopted as part of this application.

Refer to Figure 7 on page 15 for the overall site plan. More detailed site and general facilities' layout plans can be found in Appendix C.



Services and Utilities Requirements

The utility information in this section is based on the *McLoughlin Point WWTP Site Service Report* prepared by Stantec Consulting Ltd. (see Appendix D), and the landscape plan prepared by Murdoch de Greeff Inc. (see Appendix B).

Sanitary Sewer

As the proposed development is a wastewater treatment plant, there will be no need to connect to an external sewage collection system. All internally generated wastewater will be discharged to the on-site treatment plant.

Water

The total water demand consists of a combination of fire flow demand and, to a lesser extent, on-site water consumption. Esquimalt's water system is operated and maintained by the City of Victoria, and the City has confirmed the watermain location. Based on calculations in the Stantec report, the 200 mm ductile iron watermain on DND land, that dead ends adjacent to the site, will need to be replaced with a 250 mm to 300 mm watermain from Lyall Street through DND land to McLoughlin Point. On-site fire hydrants will also be installed.

Storm Drainage

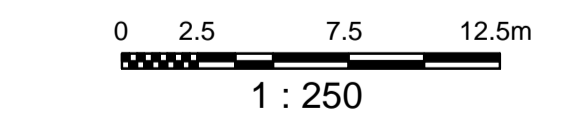
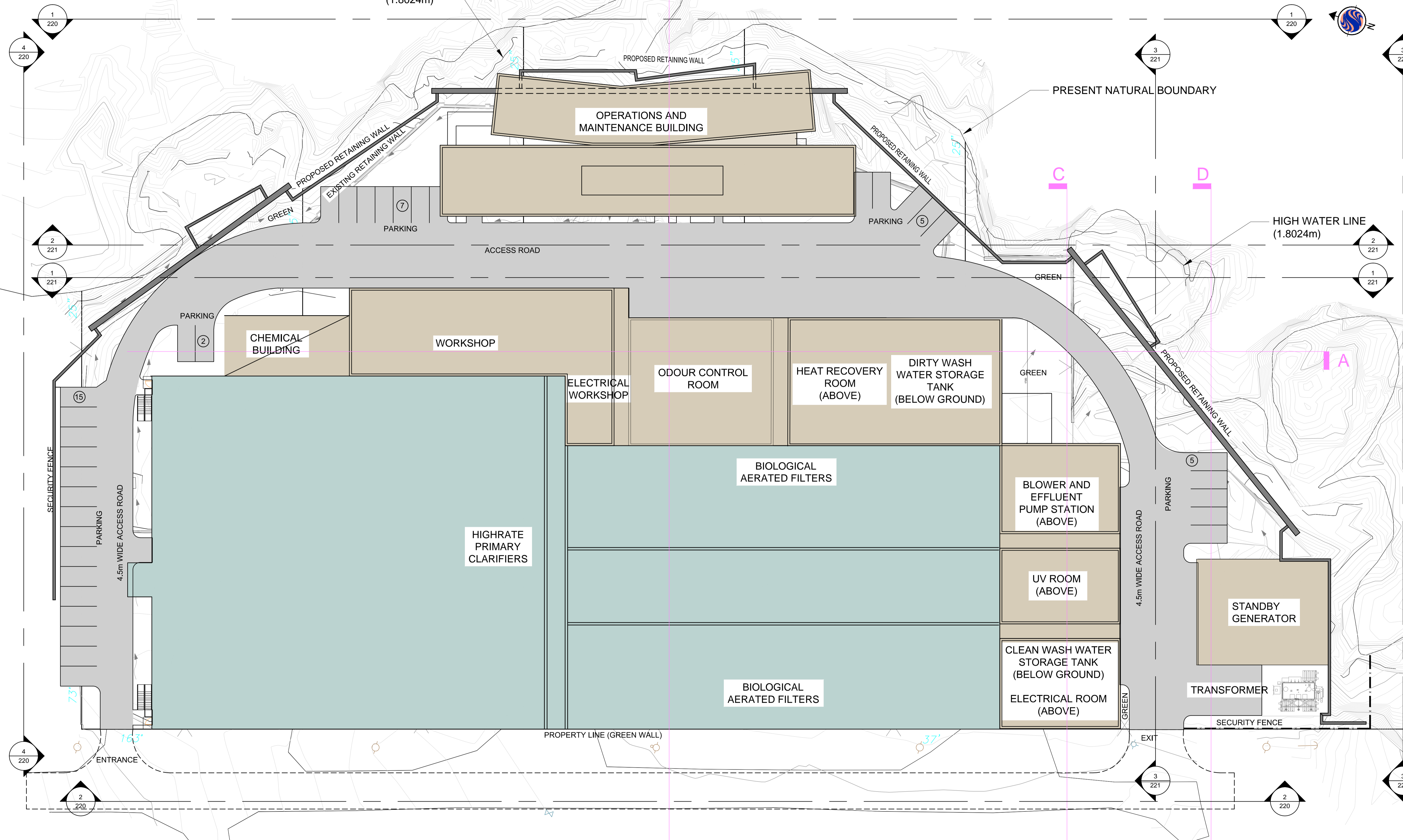
The existing site is situated on the shores of Victoria Harbour and runoff from the previous development is discharged to the marine environment. Given the site's proximity to the ocean and its impervious nature (i.e. it does not drain to a freshwater stream or other 'volume' sensitive receiving area, or infiltrate), stormwater retention is not required. Instead, the focus of the stormwater management plan is to manage run-off pollutants on-site. Pollution loads from road and parking surfaces will have the highest treatment priority. The following outlines the drainage system and stormwater management philosophy for the site:

1. A conventional storm drain will be installed with outfall to the ocean for peak flows.
2. Buildings will connect directly to the drain.
3. Stormwater from the internal roadways and parking areas will be treated prior to discharge. Building drainage will bypass the treatment system, however, a stormceptor, or similar end of pipe treatment device, could be installed if treatment of roof drainage is required. Redirection of stormwater to the treatment facility is not recommended.



VICTORIA HARBOUR

HIGH WATER LINE (1.8024m)



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Stantec

SEAL	BY	DATE	No.	REVISION	ENG.	No.	DATE	ISSUE

CRD
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Capital Regional District Core Area Wastewater Treatment Program	CORE AREA WASTEWATER TREATMENT PROGRAM	
DESIGNED MN/KC	SURVEYED -	Mc LOUGHLIN PT. SITE
DRAWN PRC	DATE 08/01/13	-
SCALE HORIZONTAL 1:250	CHECKED PP	SITE PLAN
SCALE VERTICAL -	APPROVED RAF	CONTRACT NUMBER -
		DRAWING NUMBER 5-B-XXX-201
		ISSUE -
		SHT. No. OF -

Electrical and Communications

Preliminary design calculations indicate that a new primary supply service for 5 MVA will be required to be routed to the plant from the existing substation near the intersection of Hereward and Devonshire Roads (approximately 3 km from the site). This will include new poles and 25 kV line to replace the existing poles and 12 kV line. Two new transformers will also be installed within the McLoughlin Point site.

BC Hydro will install the service lines and poles as necessary, with short-term hazards limited to the replacement of the existing power lines, and no new long-term health hazards. The final extent of upgrades and routing is the responsibility of BC Hydro.

Telus has confirmed that phone and communication services exist on Victoria View Road, adjacent to the site on DND lands. Fibre optics is available in the general area, and could be delivered to the site, if required.

Natural Gas

Although natural gas is not required for any treatment processes, it will be used for supplemental heating of buildings. Gas will need to be extended approximately 250 m to the site from where it currently terminates on Victoria View Road.

6. Risk Assessment

The following information summarizes the *Core Area Wastewater Treatment Program - McLoughlin Point Zoning Application, Township of Esquimalt McLoughlin Point Risk Assessment*, prepared by Stantec Consulting Ltd. The full assessment included as Appendix E to this report.

Tsunami

Stantec Consulting has reviewed and analyzed the updated modeling for a potential tsunami event, wave surge, and higher water effects of global warming impacts.

Based on this modeling, a top of wave height of 6.0 m has been established for the design of the treatment plant, and ancillary site structures and equipment. To mitigate the risk associated with a tsunami, all post-disaster structures and equipment will be constructed above this elevation, and/or be protected by a wall reaching an elevation higher than the designed top of wave height.

Earthquake

The Victoria area is considered a high earthquake zone with designed peak ground acceleration of $g=0.61$. The combination of solid rock base, and post-disaster higher safety factor design at McLoughlin Point site will mitigate the seismic risk, and have a resistant safety factor of at least 3.0 against the expected seismic loads.

Earthquake mitigation efforts include designing to post-disaster design standards, as prescribed in *National Building Code NBC 2010*. All concrete tankage will be designed in accordance with *American Concrete Institute ACI 350 "Code Requirements for Environmental Engineering Concrete*



Structures and Seismic Design for Liquid-Containing Concrete Structures". Non-structural elements, such as electrical cabinets, light fixtures, etc., will be designed to CAN CSA S832-01 "Guideline for Seismic Risk Reduction of Operation and Functional Components of Buildings".

Fire Protection

The proposed facility structures will be a combination of Fire Resistive and Non-combustive Construction, and will have a Low Hazard Occupancy, as defined in the *Water Supply for Public Fire Protection - A Guide to Recommended Practice*", published by the Fire Underwriters' Survey (FUS). As the building is isolated from other structures, risk to adjacent properties is considered minimal.

An internal roadway for improved access and egress, hydrants in the municipal road right-of-way, and non-restrictive access for emergency vehicles are all elements of the current design layout. Further modeling of the existing water network will confirm availability of adequate flow, and whether the existing system will require upgrading.

Chemical Storage

Chemicals used in the water treatment will be largely inorganic materials, such as polymers, caustics, coagulant chemical agents, or compounds for cleaning treatment media. The chemicals are standard materials common to this use, and are of low risk.

Chemical material will be stored in bulk storage tanks with suitable containment sumps. Drainage sumps will also be provided at chemical off-loading locations to capture any possible accidental spillage.

See also Community Impact and Mitigation Report in Appendix H.



7. Sustainability

The following features of the construction and operation of the wastewater treatment facility address sustainability objectives.

Buildings

The Operations and Maintenance building will be constructed to a minimum LEED® Silver equivalent. The building will also meet or exceed the *Esquimalt Green Building and Development Policy (No. Plan-35)*.

Atmospheric Emissions

Predicted CO₂e levels for construction and operation of the new wastewater treatment system indicate that after the initial construction phase, the capture of emissions, such as biogas, use of biosolids as a fuel alternative, and extraction of phosphorous for fertilizer production, results in a net gain in carbon sequestration of approximately 5,385 tonnes/year.

Heat Recovery

Recovered heat will be used to supplement natural gas heating of the on-site buildings. Provisions will be made for future expansion of heat recovery to generate heat for off-site users and generate additional carbon sequestration.

Stormwater Management

Best practices for stormwater management will be applied to facility site planning. Design specifications will include consideration of the following measures:

- Stormwater from the internal roadways and parking will be treated prior to discharge;
- Building drainage will bypass the treatment system, but will be conveyed through a stormceptor or similar treatment device;
- Bioswales adjacent to parking areas and roadway with raised overflow basins connected to the storm drain system;
- Aqua pave permeable paving, complete with the Inhibitex and under drain system, in discreet areas where run-off to a bioswale is not feasible;
- Use of oil interceptors; or
- A combination of the above.



Lighting

Facility planning and design will incorporate energy efficiency, BC Hydro “Power Smart” initiatives, and the applicable Leadership in Energy and Environmental Design (LEED®) standards for green buildings. Low energy fixtures will be used, and motion activation sensors will turn off or reduce lighting when rooms are unoccupied. It is anticipated facility designs will incorporate natural lighting in buildings to reduce reliance on artificial light.

The exterior lighting plan for the plant will include post-top sodium vapour lighting standards typical to residential streets. Higher intensity spot lighting may be needed for any night work, if required. To prevent lighting of the night sky, lighting will be directed downward, with shields installed.

Landscaping

Landscaping will incorporate pervious soils and vegetation to minimize run-off increases caused by the facility. Native vegetation will be used in landscaping to reduce irrigation demand (see Appendix B).

8. Archaeological Review

The following information summarizes the *Archaeological Review of the Proposed Capital Regional District McLoughlin Point Wastewater Treatment Facility*, prepared by Tera Environmental Consultants. The full report is attached as Appendix F to this report.

Activities that may affect archaeological features are limited to construction of the treatment facilities, and the ancillary facility pipelines. Their operation is not anticipated to have any impact. Field reconnaissance on the site indicates that ground disturbance associated with construction activities is unlikely to affect archaeological features. The pipeline connection to Macaulay Point pump station is approximately 75 to 100 m east of several registered archaeological sites. Unrecorded buried shell midden or cultural features may be uncovered during forcemain (piping) construction.

The CRD is committed to the following mitigation measures for the construction and operation of the McLoughlin Point treatment facility and ancillary activities:

- Monitor and avoid archaeological sites and features, and comply with requirements of the Archaeology Branch.
- Conduct tail-gate archaeological awareness training sessions before the start of construction-related activities to minimize risk with respect to the proposed development.
- If any unanticipated archaeological features are identified, halt construction-related activities in the area, and contact the Archaeology Branch for further direction.
- In partnership with the contractor, an Environmental Protection Plan (EPP) for construction at McLoughlin Point will be prepared, and will include response measures to the identification of archaeological resources that may be unearthed during project construction.



9. Traffic

Bunt and Associates, Transportation Planners and Engineers, has prepared a report entitled *Core Area Wastewater Treatment Program: McLoughlin Point Wastewater Treatment Facility – Traffic Considerations* (see Appendix G). The report examines traffic impacts on, and mitigation measures for Esquimalt road systems during construction and operation of the McLoughlin Point Wastewater Treatment Facility.

The report assumes all construction materials and equipment will be delivered by vehicles. However, the construction contractor may consider barging some of the construction materials and equipment to the site, which would reduce the impact on traffic volumes.

Construction of McLoughlin Point Wastewater Treatment Facility

The analysis indicates that trips generated from construction activities on major roads (i.e., Esquimalt Road) are expected to be minimal relative to existing traffic volumes, but will have noticeable impact on local roads, particularly south of Esquimalt Road, due to lower existing volumes, and the types of vehicles that will be used.

The report also indicates an average of 134 vehicles per day will be generated by the construction labour force, with a peak of 266 vehicles per day during the concrete work.

The report specifically identifies impacts on schools, particularly Macaulay Elementary School, (located closest to the site), and provides recommended mitigation measures. These include:

- Continuing to investigate the use of barges for delivery of materials and equipment to/from the site to reduce site-generated truck traffic;
- Prior to construction, the CRD, Township of Esquimalt, construction contractors and local stakeholders should establish a project liaison committee, and communication plan. This committee should have regular meetings, and be a valuable source for communication of activities, impacts, and any complaints to ensure timely delivery of information between affected parties;
- Establishing a staging area on or directly adjacent to the site to ensure that trucks do not park on roadways while waiting to deliver materials or equipment. Additionally, more complex scheduling could minimize the number of trucks in the area at one time.
- Avoiding schools, particularly during peak pick-up/drop-off periods;
- Working with representatives of Macaulay School to develop a program, which provides student safety education, and promotes the use of alternative roadways for pedestrian traffic accessing the school;
- Maintaining/implementing school crossing guards as deemed appropriate;
- Where feasible, scheduling trucking activity to occur outside the typical commuter peak periods (7:30am – 9:00am & 4:00pm – 6:00pm);



- Offering transit passes to construction workers that do not need to drive to the site;
- Vanpooling for construction staff should be offered to construction workers that do not need to drive to the site. Park & Ride facilities should be identified for this service;
- Restricting engine compression brake usage on municipal roads;
- Conducting regular vehicle safety inspections;
- Ensuring truck turning paths have adequate clearance, particularly on local roads – restrict on-street parking where necessary;
- Providing sufficient off-street parking space for construction crews;
- Prohibiting construction staff from parking on the adjacent roads. Temporary permits for residents could be provided and enforced; and
- An inventory of existing road surface conditions along construction traffic routes should be undertaken to ensure roadways are restored to their original conditions following project completion.

Conveyance Pipeline

Construction

The conveyance pipeline route between the McLoughlin Point Wastewater Treatment Facility and the Hartland Facility has not been finalized, and will be determined after a consultation process with neighbours. Pipeline construction mitigation measures will include:

- The construction contractor providing a Traffic Management Plan to the Township of Esquimalt for approval prior to construction activities;
- Restricting construction activities to single blocks at a time, and to outside of peak periods of vehicular activity;
- Determining final routing after consultation with neighbours, subsequent to the rezoning application;
- Ensuring all affected stakeholders receive adequate notice of construction activities.
- Restricting some areas of on-street parking, during periods of major activity or pipeline construction to provide additional space for vehicle traffic operation; and
- Restoring road surfaces and all disturbed areas to original condition.

Operations

Traffic impacts during operation of the facilities will be minimal. Recommended mitigation measures include:

- Avoiding school zones during peak student pick-up/drop-off periods;
- Discussing routing with Esquimalt staff; it may be beneficial to permit delivery trucks on alternate routes to avoid Macaulay School; and
- Restricting engine/air brake usage.



Access to DND Lands

Access to the McLoughlin Point Wastewater Treatment Facility from the closest public road is a distance of more than 500 m through DND lands. The CRD has received approval, in principle, from DND for construction and long-term operational access. Part of the consultation process for this application will include a community meeting with Work Point DND staff and residents.

On-site Parking – Operations

On-site parking demand will consist of parking for:

- Operation staff;
- Maintenance staff;
- Visitors; and
- Miscellaneous uses.

The total number of parking stalls is 34, with their distribution as follows:

Operational Staff (not all at the same time)	14
Maintenance Staff	10
Service Vehicles	4
Visitors/Misc./Surplus	6



10. Community Impacts and Mitigations

A *Community Impact and Mitigation Report* can be found in Appendix H of this document, and is based on the report prepared by Tera Environmental Consultants, *Terrestrial Environmental Effects of the Proposed Capital Regional District McLoughlin Point Wastewater Treatment Facility* (found in Appendix I), the *Opinion Letter* provided by D.R. Coell and Associates (found in Appendix J), the report entitled *Core Area Wastewater Treatment Program: McLoughlin Point Wastewater Treatment Facility – Traffic Considerations* (see Appendix G), and the professional judgment of CitySpaces Consulting Ltd.

Figure 8: Community Impact Assessment Summary

The community impact factors assessed include Quality of Life, Social, Operational, and Economic. The following table summarizes the assessment of community impacts.

Impact On	Level of Impact			
	Construction		Operation	
	Standard Practice	Enhanced Mitigation	Standard Practice	Enhanced Mitigation
QUALITY OF LIFE IMPACTS				
Noise, Vibration & Lighting	L	L	L	L to N
Odour			H	L to N
Visual Aesthetics	N		N	
Traffic				
• McLoughlin Point Facility	M to H	M to L	L	N
• Conveyance Pipeline	M to H	M to L		
SOCIAL IMPACTS				
Housing				
• Availability and Affordability	N		N	
• Residential Property Values	N		N	
School				
• Student Enrolment	N		N	
• Safety	M	L	L	L
FUNCTIONAL IMPACTS				
Disposal of Sludge		M	N	
Chemical Storage & Delivery			N	
Utilities				
• Sanitary Sewer			N	
• Water		L	N	
• Electrical & Communications		L	N	
• Natural Gas		N	N	
ECONOMIC IMPACTS				
Decreased tax revenue	N/A	N/A	M	L
Construction Employment	L+		N	

Legend:

N = Negligible, L = Low, M = Moderate, H = High, + = Indicates a positive impact



11. First Nations Engagement

Since 2009, consultation agreements have been in effect with the Songhees, Beecher Bay, and Esquimalt Nations, the Provincial Government, and the CRD. These agreements lay out the responsibilities and steps for engagement in wastewater treatment planning, and that responsibility for consultation lies with the Province with certain aspects delegated to the CRD.

Information sharing and feedback sessions have been held with each of the First Nations Bands regarding project design, siting, and marine monitoring. Meeting results were reported to the Ministry of the Environment.

The following key feedback has been received:

- Facilities should not be built on Crown land;
- There should be no impact on traditional fisheries or archaeological sites, primarily along the foreshore; and
- Adequate wastewater capacity should be available for future community development needs.

Most recently, each of the Bands was provided with the *January 2013 Project Update* prepared for the CRD Board of Directors. The Interim Program Director of the Core Area Wastewater Treatment Program will be meeting with Chief and Council of the Songhees Band on February 19, 2013 to provide an update and to discuss any further issues or concerns. This meeting was initiated by the CRD, as part of its proactive engagement with First Nations communities. The Interim Program Director has also recently contacted the other two Bands.

12. Community Input Process

Previous Consultation

In June 2010, the CAWMP Committee selected McLoughlin Point as the site for the treatment facility. Two community-wide open houses were held in July 2010 to provide information, and to seek input on design and mitigation. A comment form was available at the open houses and online. The following challenges and opportunities were identified:

- Concerns regarding possible odours, trucking noise, and the appearance of the facility;
- Concern about the constraints of the site for future growth, and the lack of a long-term plan to accommodate future growth;
- The overall cost of the treatment facility, and the impacts to taxpayers;
- Concerns about the possible negative impacts on property values in Esquimalt;
- Opportunities for resource recovery/new technologies;
- Strong desire to be involved in future consultation; and
- Opportunities for the facility to be aesthetically designed, and integrated into the public space.



Consultation Relating to the Rezoning Application

As part of this application, a community-wide open house is scheduled at the Archie Browning Centre in order to inform Esquimalt residents about the contents of this rezoning application, and to seek their feedback. In addition to receiving comments at the open house, a feedback form will be made available on the CRD's website.

The CRD, through its consultants, has also contacted the following Esquimalt organizations to request opportunities to meet, following the open house, in February or March 2013:

- Esquimalt Residents Association;
- Lyall Street Action Committee;
- West Bay Residents Association; and
- Esquimalt Chamber of Commerce.

A meeting has also been requested with the Base Commander and residents of DND.

As part of this application process, there is also a requirement for a public hearing, where input from the public will be provided directly to Council.

Pipe Routing Consultation

Once the McLoughlin site has been appropriately zoned to allow for the wastewater treatment plant, the CRD will undertake a separate consultation process with the Esquimalt community, and local neighbourhoods affected, to identify the best route for the pipe to transport sludge to the Biosolids Energy Centre, and any mitigation measures that may be required, particularly during construction. The relatively small pipes (200 mm or 8-inch) are required to be installed within the approved routing road rights-of-way in a common trench with other underground infrastructure.

Options for Biosolids Energy Centre Location

The CRD continues to explore other potentially suitable locations for the Biosolids Energy Centre that will reduce the distance for piping of sludge. At this time, Hartland North is the only site that has been identified. If another option, or options, become available, the CRD will undertake a public consultation program to identify the preferred site. In any event, the Hartland North site will remain available, if a closer, preferred site is not identified.





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