



Making a difference...together

Core Area Wastewater Treatment Project Frequently Asked Questions

Current Plan

How is this different than the last plan that the Capital Regional District (CRD) had (sometimes referred to as "Seattera")?

There are several differences between this plan and previous plans:

1. The wastewater will receive tertiary treatment in addition to secondary.
2. The wastewater plant design has been significantly revised from earlier designs: it has a smaller footprint, is set back from the shoreline, provides for a walkway between the building and the shore, has a multi-level green roof irrigated with treated water, and landscaping. The building will be built to a high standard in consideration of climate change, geotechnical and environmental conditions. The design refinements are intended to align with existing zoning and design guidelines and reflect concerns expressed by the residents of Esquimalt.
3. The budget includes an additional allowance of up to \$5 million to pay for further refinements to address design panel recommendations and other input as part of the development permit process in Esquimalt.
4. The site design, construction, provision of public space and off-site improvements, including road and infrastructure improvements, reflects Esquimalt's design guidelines.
5. A plant to treat residual solids at Hartland landfill to produce Class A biosolids, and interim storage of Class A biosolids, pending the introduction of a proposed integrated resource management solution for all waste streams.
6. There is a proposal for the CRD to engage in a separate comprehensive planning and consultation process to develop a waste management policy, including management of its solid and biosolid waste streams as part of an integrated resource management plan. This process will culminate in an integrated resource management program.
7. The capital cost of the recommended proposal is \$765 million. This is less expensive than previous plans.

Why didn't you look into a distributed system?

The Core Area Wastewater Treatment Project Board (Project Board) examined 28 options for wastewater treatment, including distributed systems, prior to recommending having one regional wastewater treatment plant at McLoughlin Point. Building one larger plant is significantly less expensive – in terms of both capital and operating costs – than building multiple smaller plants.

Does Colwood choosing not to conduct the \$2-million environmental impact assessment for a wastewater treatment plant impact the Project?

Colwood Council has requested the Project Board postpone the environmental impact assessment for a Colwood wastewater treatment plant until the McLoughlin Point wastewater treatment plant is within an estimated 5 years of capacity.

The Project Board respects Colwood's planning process and decision.

Finance

How will this plan impact my taxes?

Each municipality will determine what its actual user fee structure will be for the various connections existing in the municipality. Each municipality will receive from the CRD a lump sum requisition for their share of the total annual debt, operating and maintenance costs which they will pass onto their ratepayers. It is the individual municipality's choice as to how it will apportion the cost amongst different types of ratepayers (e.g. condo, townhouse, house, commercial business, industrial business, and institutional facilities) in the municipality. Possible approaches include contributions based on property assessment, water usage, occupancy levels, or a blend of these options.

Below is the estimated cost per household outlined in the Project Board Report.

Cost Per Household:

Municipality / Township	Annual Estimated Cost Per Household
Oak Bay	\$344
Saanich	\$208
Victoria	\$296
Esquimalt	\$258
View Royal	\$248
Colwood	\$146
Langford	\$239

Why do some municipalities pay more than others for treatment?

The age of sewage lines varies significantly throughout the CRD's core area municipalities. For example, in Oak Bay the average age is 100 years, whereas the western communities were only connected to CRD sewer trunk lines in 1996. Older sewers tend to have increased inflow and infiltration, which contribute to higher treatment costs. The cost of providing wastewater treatment to those areas with old sewer systems is therefore higher.

Wastewater Treatment Plant

What happens if Esquimalt does not approve your development permit for the wastewater treatment plant?

The Project Board is working closely with the Township of Esquimalt to address any issues that may affect the approval of the development permit. Efforts are being made to complete the permit process by early 2017.

Is McLoughlin Point too small to host a treatment plant for the whole core area?

The treatment plant capacity of 108 megalitre/day was developed based on municipal requests. These requests considered municipal sewage plans and population growth rates. Harbour Resource Partners, the contractor for the construction of the wastewater treatment plant, has produced an innovative design for a high capacity treatment plant that will handle flows (with projected population increases) past 2040 to fit on the McLoughlin Point site. The plant's capacity can be further extended as required, subject to government approvals, through the installation of minor treatment processes and operating modifications.

Why aren't we reusing the water?

This Project will treat wastewater to a tertiary level. This is the first step toward obtaining an effluent quality that will meet regulatory requirements for water reuse.

In order to reuse the water more work must be done including developing a reuse program and constructing a distribution system. Treating wastewater to this high standard gives the CRD the opportunity to move towards water reuse in the future.

McLoughlin is right on the water. Have you considered the possibility of a tsunami or sea level rise due to climate change?

All available modeling of a tsunami surge from a large (magnitude 9) earthquake off the coast of Vancouver Island has been reviewed to develop a design that would withstand a tsunami. The wastewater treatment plant includes a 6.5 metre concrete seawall to protect it from inundation from offshore. The height of the seawall incorporates a safety factor and allows for storm surge and projected sea level rise due to climate change. In addition, electrical equipment will be constructed above 6.1 metres or will be sealed to ensure protection against flooding.

In 2013, to support coordinated emergency management planning across the CRD, a study modeled potential tsunami inundation and run-up. This study modeled a 2.5 metre tsunami wave height for a major (magnitude 9) earthquake on

the Cascadia fault off the coast of Vancouver Island. This study was considered when developing the design of the wastewater treatment plant.

How will you ensure that odour from the plant is controlled and how will you guarantee that an odour problem is responded to and corrected quickly?

The wastewater treatment plant design includes state of the art odour control systems which will reduce odour emissions to a level not detectable by humans at the property line.

Back-up odour control equipment and back-up power generators will be installed, reducing the possibility of odour escaping the facility if there is an equipment failure. The treatment plant's operating procedures will include detailed procedures for responding to any odour issues, in the unlikely event that one occurs.

To ensure compliance with the odour control standard, a two year performance evaluation period is included as part of the contract. Should the odour control standard not be met, the contractor must ensure compliance.

Residual Solids Treatment and Conveyance

What are you doing with the residual solids?

Residual solids from the treatment plant at McLoughlin Point will be piped to Hartland landfill, where they will be treated in anaerobic digesters and turned into what are known as "Class A" biosolids. These biosolids are a high quality by-product treated such that it is safe for further use. The current plan calls for the storage of treated biosolids at Hartland landfill on an interim basis.

The Project Board report included recommendations that the CRD develop a separate planning process to develop an Integrated Resource Management program for the CRD that will incorporate the treated biosolids. In undertaking this planning process, which will take place between 2017 and 2019, the CRD will engage with municipalities and First Nations, and the public in a review of its regional waste management policy and develop a definitive plan for Hartland landfill and integrated resource management.

What is an Integrated Resource Management Program?

There has been a longstanding interest in the CRD to move to integrated resource management. This means managing biosolids, organics and municipal solid waste as part of a holistic process to maximize potential resource recovery.

The CRD will undertake a separate public process, distinct from this Project, with the participation of municipalities, First Nations, and the public to review its regional waste management policy and develop a definitive plan for Hartland landfill and integrated resource management.

What is the residual solids conveyance route and is it subject to change?

The residual solids route runs between McLoughlin Point and Hartland landfill and will, for the vast majority of the route be within existing road rights-of-ways and, where possible, avoid busy commuter routes. The Project Board is working

with municipal engineers to review the residual solids conveyance route, address construction impacts, and look for opportunities to improve roads and trails along the route.

The distance between McLoughlin Point and Hartland seems like a long way. Why are you locating the residual solids treatment plant at Hartland?

Locating the residual solids treatment plant next to the existing active landfill allows for future integration between the Region's solid waste and liquid waste management systems. Part of the Wastewater Treatment Plan includes a process to create an integrated resource management solution for waste in the CRD.

How can you pipe residual solids that far uphill?

The residual solids being moved in the pipe are made up mostly of water (approximately 98%). The small particles of solids are then removed from the water and processed at the residual solids treatment plant to become biosolids.

Pipes and pumps are often used to transport residual solids from one location to another. Some examples include:

- Edmonton: *digested biosolids pipe* – 12km
- McAlpine Creek, NC: *residual solids pipe* – 12km
- San Diego, CA: *digested biosolids pipe* – 27km; *residual solids pipe* – 8km
- Colorado Springs, CO: *residual solids pipe* – 29km

There are over 175 pump stations and 110 kilometres of existing sanitary sewer pipe in the Core Area similar to the pipe that will move the residual solids. The pump stations and pipes are in every municipality in the Core Area and transport wastewater to the regional collection system.

What happens there is a residual solids leak at the residual solids treatment plant?

All treatment processes will be completed within closed containers designed to the required earthquake standards. Surface water quality will continue to be monitored by the CRD near the residual solids treatment site as part of the environmental monitoring program for Hartland landfill.

A robust spill containment plan is necessary to meet Federal and Provincial requirements for environmental protection and operator protection. Containment and spill planning and response activities will be required from the successful RFP proponent for the residual solids treatment plant.

What happens if there is a leak in the conveyance line?

The pipe from the wastewater treatment plant to the residual solids treatment plant will be made of a durable material proven to perform well in earthquake-prone areas. The CRD has an ongoing operations and maintenance program in which pipe and pump stations are regularly evaluated.

The CRD will prepare a stringent spill response plan that includes the immediate repair of the leak, groundwater monitoring and mapping of the spill impact area, removal, replacement and potentially disinfection of the contaminated material.

What is happening at Clover Point?

The existing Clover Pump Station will be upgraded and expanded to meet current standards, increase its capacity and direct wastewater to the treatment plant at McLoughlin Point. The expanded Clover Pump Station will be below ground, beside the existing underground pump station. The seaside walkway and the rock wall along the existing pump station will be extended to make room for the new facility.

The Project Board is working with the City of Victoria to improve the use and safety of the area surrounding the Clover Pump Station. In addition, the City of Victoria and the Project Board are collaborating to align the conveyance pipe from Clover Point to McLoughlin Point directly underneath a new, two-way bike path identified in the City's Official Community Plan and Bicycle Master Plan. This will reduce the social, environmental and economic impacts of both projects.

Construction

When will construction start?

Major construction on the Wastewater Treatment Plant will begin in mid-2017. Some early works in preparation for the plant construction and construction on some of the conveyance system is anticipated to begin in early-2017. Detailed construction schedules are being developed and will be shared with the public as part of the stakeholder and community engagement program currently being developed.

For the residual solids plant at Hartland, a procurement process will need to be completed prior to construction. Construction of that facility is scheduled to begin in mid-2018.

How will traffic be managed?

Prior to construction of any part of the Project, a traffic management plan will be developed to address safety, work zone speed limits, parking issues, traffic disruptions and truck traffic. This plan will be communicated to residents, businesses and road users as part of the stakeholder and community engagement program currently being developed.

How will I be notified of construction activities near my house?

Information letters will be provided to residents and community associations surrounding the construction zone at the start of construction and updated, as required, throughout the Project. Construction updates will also be posted on a project website, linked to the CRD website. As part of the stakeholder and community engagement planning process, the Project Board will be discussing with residents and community associations options to communicate regularly.

What impact will the construction have on my property?

The CRD will ensure that any impact due to construction and operation of any part of the Project are kept to a minimum. There will be traffic impacts especially during construction of the conveyance pipe system. Advance notice will be provided to residences and businesses which may be affected prior to construction activities.