



# CLOVER PUMP STATION & CONVEYANCE PIPE



## Project Background

As part of the Seaterra Program, 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.

Clover Pump Station was first built in 1975 and is in need of upgrades to meet new wastewater regulations in order to serve the region's growing population. The expanded Clover Pump Station will be located 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, but no change will be apparent above ground on Dallas Road, following construction.

A new conveyance pipe (forcemain) will run from the Clover Pump Station along a proposed route south of Dallas Road to Ogden Point, then under the Victoria Harbour via a marine crossing to the Treatment Plant planned for McLoughlin Point. The Seaterra Program is collaborating with the City of Victoria to align the conveyance pipe underneath what will become a separated bike path from Clover Point to Ogden Point.

The Seaterra Program is working with local residents to provide information on the project and receive community feedback, concerns and potential mitigation options that can be provided to the design team for consideration.

## Improved Treatment

Clover Pump Station currently provides screening of raw wastewater prior to discharge at Clover marine outfall. Under the Seaterra Program, raw wastewater will no longer be discharged at the Clover marine outfall, except during an extreme wet weather storm event. Instead, the new Clover Pump Station will pump wastewater to the Treatment Plant at McLoughlin Point for secondary treatment to meet new federal and provincial regulations.

# Design Criteria for the Clover Pump Station

## NOISE CONTROL

A noise control consultant will be retained to develop appropriate noise level criteria for the pump station. Typically, the consultant will conduct a 24-hour noise level measurement at the proposed pump station site to determine the lowest nighttime background noise level. Once that information is known, the design team can then design the pump station to not exceed that noise level at the property line. This is typically accomplished by acoustical silencing of the pumps, motors, and fans, and emitting the dampened noise through acoustical louvers placed in discrete locations away from residences.

## ODOUR CONTROL

An odour control specialist will also be retained to design a comprehensive odour control system to contain and suppress odour by:

- >> incorporating sophisticated ventilation and scrubbing systems;
- >> maintaining the wet well area of the pump station at negative pressure to draw air into the scrubber; and
- >> directing all foul air through an activated carbon absorber system to remove odours prior to releasing the air to atmosphere.

## SECURITY

The expanded pump station will continue to be owned and operated by the CRD. Staff visit the site regularly and the building is remotely monitored on a 24/7 basis by the CRD's Supervisory Control And Data Acquisition (SCADA) monitoring system.

To discourage vandalism and negative activity at the pump station site, a combination of robust and aesthetic materials will be incorporated into the design (to blend in with the look of the existing pump station). Regular upkeep will ensure that the building and site are maintained in excellent condition.

## AESTHETICS

In keeping with the existing pump station, the proposed expansion will be below ground level and will not be visible from Dallas Road. The seaside walkway and the existing split rock wall facing the waterfront will be extended in order to allow access to the pump station. Similar materials will be used so that the expanded facility will blend in with the existing facility and surrounding area. The rooftop surface above the pump station could be restored back to its original (grass and parking area), or other park use options could be considered. There will be no net loss of current park use and there could be an opportunity to improve park use and/or the natural environment (by revegetating with native landscape materials).

## "GREEN" DESIGN ELEMENTS

The design of the pump station will be consistent with sustainable design practices including: specifying ecoSmart concrete, applying leadership in energy and environmental design (LEED) principles, adopting an energy efficient design, and using PowerSmart electrical equipment. Other sustainable design initiatives that are recommended include:

- >> a green roof and possible revegetation with native grasses and plants;
- >> rainwater run-off control on-site by means of infiltration into landscaped areas;
- >> and low level lighting to minimize light pollution.



# Managing Construction Impacts

Projects of this size and complexity will create some construction-related impacts. The Seaterra Program will work with municipal staff and the public to ensure that impacts are kept to a minimum and opportunities are identified for enhancement and mitigation.

## CONSTRUCTION DURATION:

It is anticipated that construction on the pump station will start in fall 2014 and will take just over a year to complete. Construction on the conveyance pipe will start in winter 2014 and both projects will be complete in early 2016. An opening event for the pump station and bike path will be planned for summer 2016.

Peak construction activity for the pump station will occur in the first few months during excavation and pouring concrete. After this, the work will be similar to a large residential construction project, with various trades completing their portions of the work. The conveyance pipe will be installed in specific segments along Dallas Road to minimize impacts to residents, public events and tourists. Where impacts are unavoidable, a comprehensive mitigation plan will be implemented.

## ARCHAEOLOGY:

The Seaterra Program is working with archaeologists, First Nations, and the City of Victoria to develop a protocol should artifacts be discovered during construction. Archaeological Impact Assessments will be completed and an archaeologist will be on-site observing the work. In September 2013, Seaterra Program staff participated in a ground blessing ceremony with the Esquimalt and Songhees First Nations prior to commencing construction on Seaterra Program facilities. The Seaterra Program has partnered with the City of Victoria and Songhees and Esquimalt First Nations to commence with preparing a respectful and honouring reburial ground, should any significant artifacts be uncovered and require reburial.

Continued on reverse>>



### *Managing Construction Impacts Cont.*

#### **SAFETY:**

A traffic management plan will address traffic disruptions, truck traffic and maintain access to nearby residences. Even during peak construction times, one lane of traffic will remain open on Dallas Road.

Fencing and warning signs will be installed around the pump station and conveyance pipe construction zones.

When required, flag persons will direct vehicles and pedestrians around construction areas.

Construction drivers will observe speed limits and exercise caution along Dallas Road.

#### **NOISE:**

Construction activities will comply with the local noise bylaw for hours of work and noise levels.

Work will typically occur on weekdays from 7 a.m. – 6 p.m.

No work will be planned for Sundays or holidays (except in an emergency or where a critical piece of work must be completed promptly to reduce impacts).

#### **ENVIRONMENT:**

An Environmental Management Plan (EMP) will be prepared to mitigate potential environmental impacts. The EMP will address issues including

soil management, air quality, water quality and waste management. An environmental monitor will be on-site during the course of construction to ensure compliance with the plan.

#### **COMMUNICATION:**

Information letters (with contact names and phone numbers) will be provided to local residents and community associations at the start of construction and updated, as required, throughout the project. The Seaterra Program will provide regular updates on the Clover Pump Station at: [www.seaterraprogram.ca](http://www.seaterraprogram.ca).

## Further Information

Seaterra Program staff are committed to ensuring that residents and businesses are informed about the Clover Pump Station and forcemain project.

**A Community Open House** will be held to discuss the pump station, conveyance pipe and bike path in early 2014. The Open House date and location will be posted online and notifications will be sent to residents.

Additional information about the project is available at: [www.seaterraprogram.ca](http://www.seaterraprogram.ca).

If you have any questions or comments about the project, please contact:

**Kristin Quayle**, *Communications Coordinator*

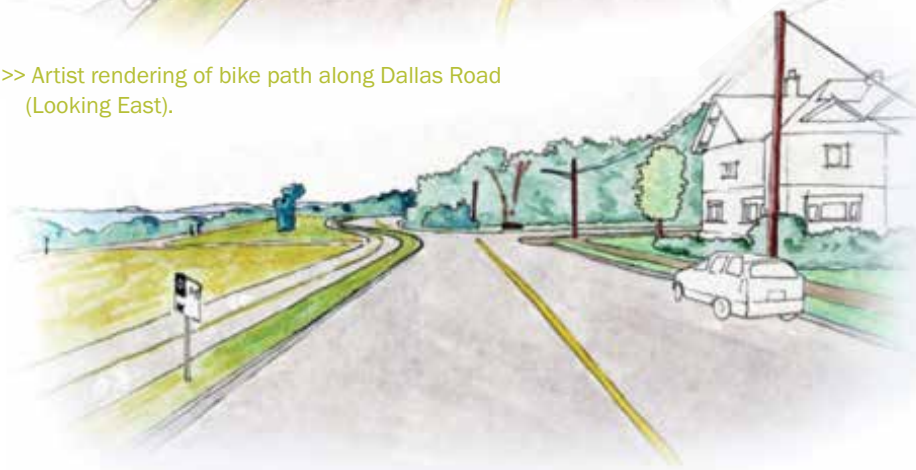
CRD Seaterra Program

510 – 1675 Douglas Street, Victoria, BC V8W 2G5

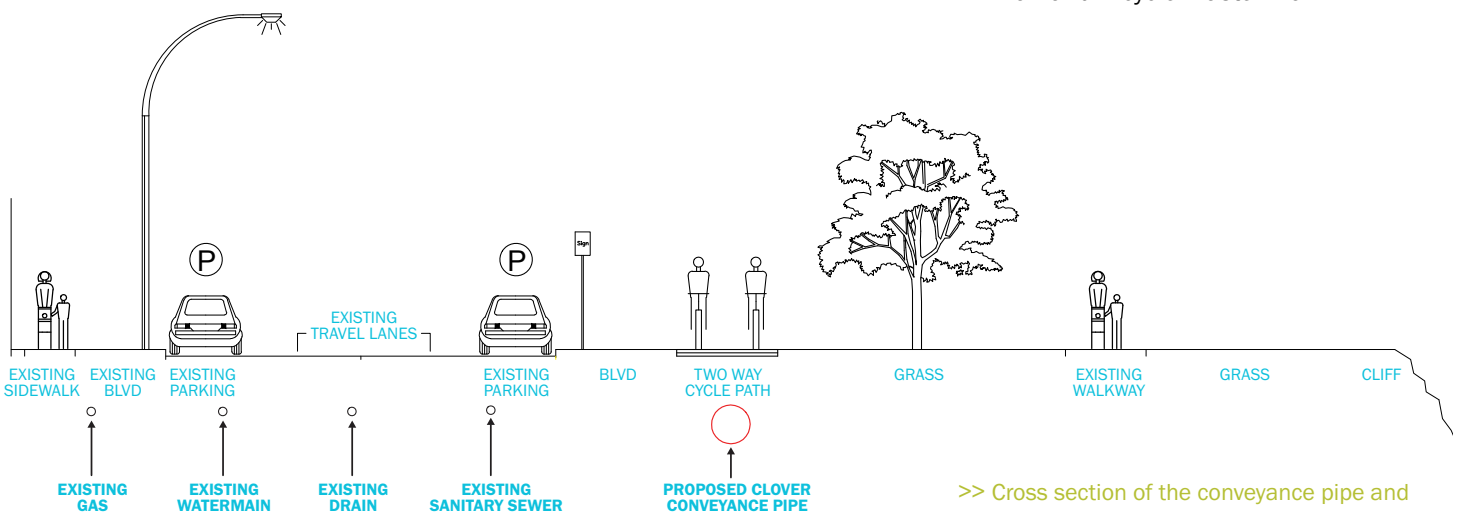
**T:** 250.360.3623 | **F:** 250.360.3071



>> Artist rendering of bike path along Dallas Road (Looking East).



>> Artist rendering of bike path along Dallas Road (Looking West).



>> Cross section of the conveyance pipe and bike path along Dallas Road.

### CONVEYANCE PIPE

A new conveyance pipe will run from the Clover Pump Station along a proposed route south of Dallas Road to Ogden Point, then under the Victoria Harbour via a marine crossing to the Treatment Plant planned for McLoughlin Point. The pipe will be about 1.2 metres in diameter and will be installed about 1 metre below the ground surface. The total length of the conveyance pipe from Clover Point to Ogden Point will be about 3.4 kilometres.

### WORKING TOGETHER REDUCES COSTS

By aligning the conveyance pipe directly underneath the City of Victoria's new, separated two-way bike path, the same corridor can be utilized for both projects, which will minimize environmental and social impacts and save costs for Seaterra and the City. Seaterra is collaborating with the City of Victoria on the bike path, which has been long identified in the City's Official Community Plan and Bicycle Master Plan.

## Conveyance Pipe and Bike Path Route



### CONVEYANCE PIPE ROUTE

The conveyance pipe will run along the south side of Dallas Road from Clover Pump Station to Ogden Point.

### ROADWAYS AND WALKWAYS

The conveyance pipe and resulting bike path will not reduce the width of the travel lanes along Dallas Road, but may require revising some angled parking spaces to parallel parking in some locations along Dallas Road. Existing pedestrian walkways along the Dallas Road Waterfront will not be reduced by the installation of the conveyance pipe and bike path.

### ENVIRONMENT

The City of Victoria has completed an initial tree assessment along the proposed conveyance pipe and bike path corridor and it appears feasible that an alignment could be selected that would have little to no impact on any significant boulevard trees.

Further information will be provided when environmental consultants commence their work. The goal is to improve the environment by removing invasive species, revegetating with native species, and improving surface water drainage where possible.

### SAFETY

The proposed bike path will be designed to improve safety along the corridor from Clover Point to Ogden Point by:

- >> Providing a new two-way bike path separated from the road and existing walking paths
- >> Improving sightlines along the route to provide better visibility for all users
- >> Installing signage that will alert drivers, cyclists and pedestrians as to proper use of the corridor

The bike path will be designed by specialists in accordance with the CRD Pedestrian and Cycling Master Plan Design Guidelines.

## Further Information

For more information about the bike path along Dallas Road, contact the City of Victoria:

**Steve Hutchison, ASC**  
Transportation Planner, City of Victoria  
T: 250.361.0338

[www.victoria.ca](http://www.victoria.ca)

For more information about construction related to the conveyance pipe, contact the Seaterra Program:

**Kristin Quayle,**  
*Communications Coordinator*  
CRD Seaterra Program  
T: 250.360.3623 | F: 250.360.3071

[www.seaterraprogram.ca](http://www.seaterraprogram.ca)