

## seaterra SEATERRA PROGRAM program





The Seaterra Program will provide wastewater treatment for CRD core area municipalities. The Program includes:

- >> Wastewater Treatment Plant at McLoughlin Point
- >> Resource Recovery Centre (RRC) at Hartland landfill
- >> Pumping stations and connecting conveyance pipes

The Seaterra Program will provide preliminary, primary and secondary wastewater treatment for the core area municipalities:

- >> Colwood
- >> Esquimalt
- >> Langford
- >> Oak Bay
- >> Saanich
- >> Victoria
- >> View Royal

The Seaterra Program will bring the core area wastewater treatment and disposal into compliance with provincial and federal government regulations.



# SITING AND FACILITY DEVELOPMENT



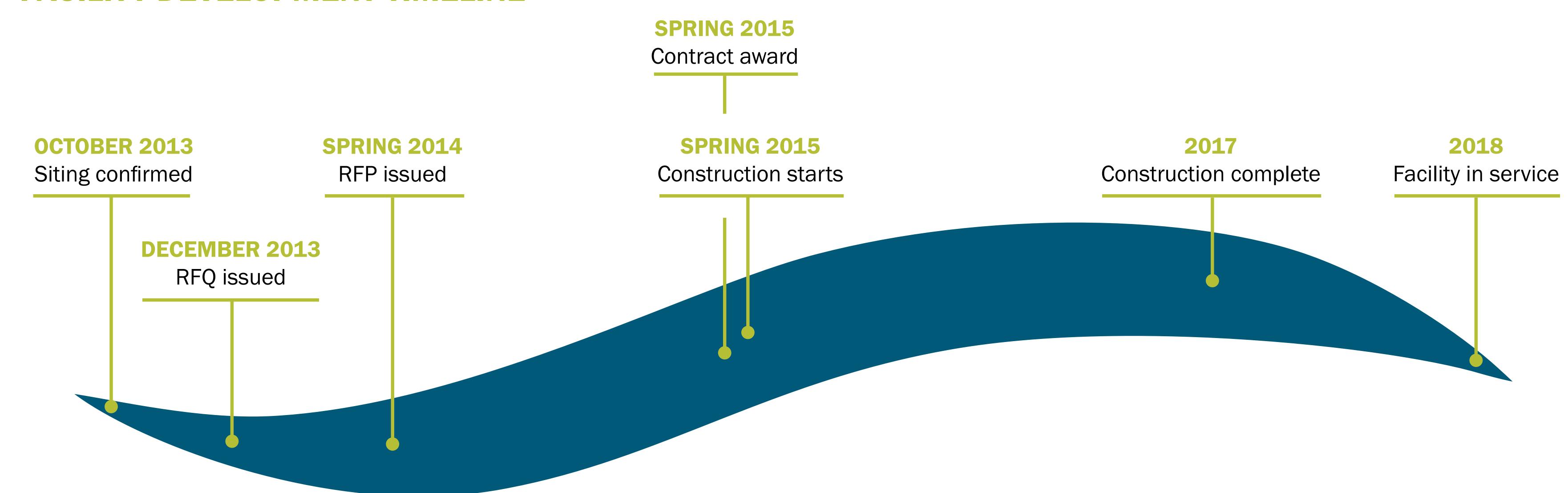
The Seaterra Program's Resource Recovery
Centre (RRC) will be located at Hartland
landfill. After extensive review of 58 possible
sites, the CRD Board has now made the
final decision on the siting of this facility.

The Hartland landfill site was confirmed as the preferred option for the RRC for many reasons, including:

- >> This site has the greatest distance (1km) from residential neighbours
- >>> It is not part of the Agricultural Land Reserve, a Park, or the Ecological Land Reserve
- >> There is low likelihood of future residential encroachment

- >> The land is owned by the CRD
- >>> Locating the RRC facility next to the existing landfill will allow for integration between the region's solid waste and liquid waste management systems

### RESOURCE RECOVERY CENTRE FACILITY DEVELOPMENT TIMELINE





### COMMUNITY INPUT AND FEEDBACK



Local residents will have the opportunity to provide input and feedback to inform facility planning and the Request for Proposals (RFP) process.

Seaterra Program staff are working with local community associations to coordinate information sessions and provide opportunities for local residents to share their concerns and ideas between now and when the RFP is issued.

Later in the process, a community liaison committee will be developed to ensure that the winning proponent and local residents continue to share information, address issues, and manage impacts of construction and operations.

Additional information about the RRC will be mailed to residents, provided to community associations and is available at: www.seaterraprogram.ca.





# seaterra program RESOURCE RECOVERY CENTRE



#### **FACILITY**

The Resource Recovery Centre (RRC) is one of the major components of the Seaterra Program. It will treat and recover resources from the wastewater residual solids received via an underground pipe from the Treatment Plant at McLoughlin Point.

The RRC will recover methane (biogas), phosphorus and produce biosolids.

Biosolids are wastewater residual solids that have been biologically digested to reduce the volume, control pathogens and have had much of the water removed at the RRC.

The RRC will require at least two hectares of land and will consist of several buildings and large self-contained tanks, mainly above ground. The RRC facility is planned for the Hartland North site, to the north of the active landfill and adjacent to Willis Point Road. Clearing and leveling of the site will be performed, as required, in preparation of construction of the project.



#### HARTLAND NORTH





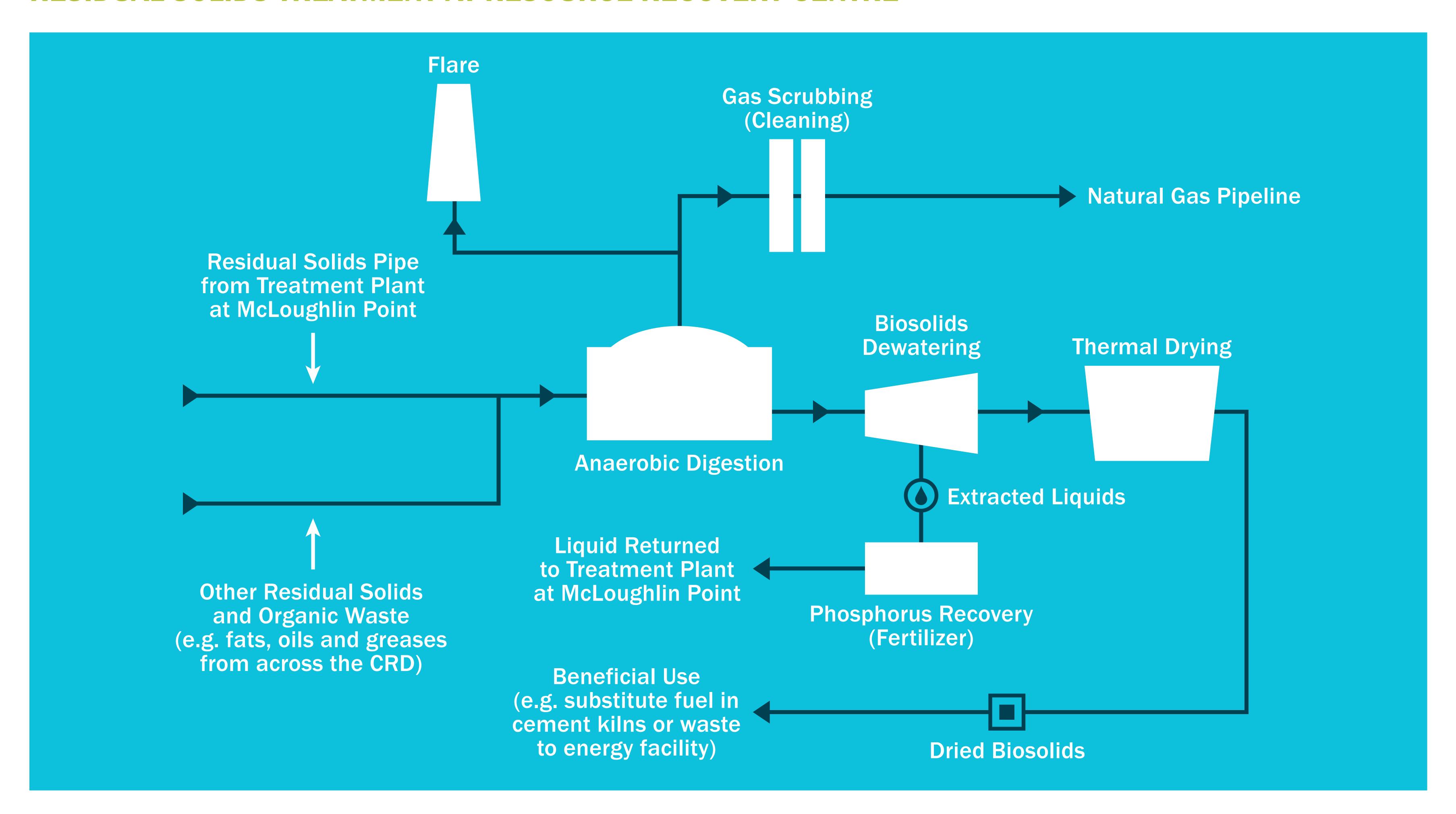




### seaterra TREATMENT PROCESS



#### RESIDUAL SOLIDS TREATMENT AT RESOURCE RECOVERY CENTRE



Biosolids are treated wastewater residual solids, which must be used in accordance with regulatory requirements. Biosolids are comprised mostly of water, nutrients and organic matter (also called humus). Once operating, the Resource Recovery Centre will receive residual solids from across the CRD for processing into biosolids. The approved plan for the Seaterra Program is to produce biosolids for a beneficial use. Biosolids may be temporarily stored on site in the landfill, exported as a substitute fuel or used in a waste to energy facility.



### seaterra FACILITY PLANNING CRITERIA



#### SEATERRA PROGRAM STAFF ARE WORKING TO INCORPORATE KEY FACILITY PLANNING CRITERIA AND CONCERNS INTO THE DEVELOPMENT OF THE RRC, INCLUDING:

#### **ODOUR CONTROL**

The Resource Recovery Centre (RRC) will be designed so that no odours are detectable beyond the property line, as all facilities will be enclosed.

Odour control systems to vent enclosures could include bio-filters, wet chemical scrubbing systems, and dry scrubbing systems, such as activated carbon.

Odour control systems will incorporate redundancies, including backup equipment and standby power.

#### **NOISE AND VIBRATION**

Noise from the operation of RRC facility will be minimal and will comply with the current District of Saanich Noise Control Bylaw.

Sound reducing building materials will be used to reduce noise levels and special exhaust systems will be used to diminish the noise from backup generators.

#### **TRAFFIC**

Once the RRC is operational, the volume and frequency of traffic to and from the site will be minimal and will depend on the end use of the biosolids.

#### SAFETY

Design of the RRC will include backup safety features to comply with the Municipal Wastewater Regulation and to reduce the chance of accidents and malfunctions.

Once constructed, the RRC will have onsite operators during normal working hours and will be remotely monitored on a 24/7 basis.

• DO THESE CRITERIA COVER ALL THE KEY ISSUES? : ARE THERE OTHER ISSUES THAT NEED TO BE CONSIDERED?



### seaterra FACILITY PLANNING CRIFERA



#### SEATERRA PROGRAM STAFF ARE WORKING TO INCORPORATE KEY FACILITY PLANNING CRITERIA AND CONCERNS INTO THE DEVELOPMENT OF THE RRC, INCLUDING:

#### **WATER QUALITY**

All treatment processes will be completed within closed containers designed to the required earthquake standards. No water will be released from the RRC into the surrounding environment.

Surface water quality will continue to be monitored near the RRC site by the CRD as part of the environmental monitoring program for the Hartland landfill.

The conveyance pipe from the Treatment Plant to the RRC will be installed according to municipal specifications and made of an

extremely durable material, which has been proven to perform well in earthquake-prone areas. The CRD has an ongoing operations and maintenance program in which the pipe and pump stations will be regularly inspected.

#### **BIOSOLID MANAGEMENT**

Biosolids are a soil-like by-product of wastewater treatment processes that have been treated in a way to make it safe for further use. Biosolids may be temporarily stored on site in the landfill, exported as a substitute fuel or used in a waste to energy facility.

#### LEAK AND SPILL RESPONSE

In the unlikely event that a leak does occur in the pipe, a leak detection system will be designed into the Wastewater Treatment Plant at McLoughlin Point and the RRC that will automatically shut down pumping operations.

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 ELSE SHOULD BE CONSIDERED?



### seaterra CONVEYANCE PIPE





An underground pipe will transport residual solids from the Wastewater Treatment Plant at McLoughlin Point to the RRC. The residual solids are made up mostly of water (only 2% solids). Water extracted from the residual solids processed at the RRC will be piped back to the Treatment plant at McLoughlin Point. No wastewater will be released at Hartland landfill.

The conveyance pipes will be designed to rigorous industry standards to ensure their integrity.

### PIPE RUN?

The conveyance pipe route between the Treatment Plant at McLoughlin Point and the RRC has not been finalized.

The preliminary routing has the pipes running along municipal right of ways along Interurban Road, West Saanich Road, and Willis Point Road. Pipe routing, design and installation will be sensitive to water crossings. Once the route has been finalized, Seaterra Program staff will work with local communities to minimize construction impacts.



### seaterra CONSTRUCTION IMPACTS



#### THE SEATERRA PROGRAM STAFF WILL WORK WITH MUNICIPAL STAFF AND THE PUBLIC TO ENSURE THAT CONSTRUCTION IMPACTS ARE KEPT TO A MINIMUM, INCLUDING:

#### **CONSTRUCTION DURATION**

Clearing and leveling of the Hartland North site will be performed, as required, in preparation for construction of the project. It is anticipated that the RRC construction will begin in the second quarter of 2015 and be completed by the end of 2017.

#### **CONSTRUCTION NOTIFICATION**

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.

#### **NOISE AND VIBRATION**

Construction activities will comply with the applicable District of Saanich bylaws for hours of work and noise levels. Work will usually occur on weekdays from 7 a.m. to 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).

#### **TRAFFIC**

Prior to construction, a traffic management plan will be developed to address safety, work zone speed limits, traffic disruptions and truck traffic during construction of the conveyance pipe. Some lane closures will occur during construction of the conveyance pipe to the RRC. Flag persons will direct vehicles and pedestrians around these construction areas.

Sufficient on-site parking at the RRC for construction crews is expected. Alternative

transit options including van-pooling, ridesharing, and park-and-ride programs will be developed if necessary.

#### WATER QUALITY

A stormwater management plan will be prepared prior to the start of construction. The plan will identify strategies for managing rainwater during construction. Erosion and sediment control plans will be prepared and implemented during construction

#### **DUST AND CONSTRUCTION**

The CRD Code of Practice for "Construction and Development Activities" will be used to minimize dust and mud impacts.

: WHAT OTHER IMPACTS SHOULD BE CONSIDERED?



### seaterra PROVIDE INPUT AND STAY INFORMED



Local residents will have the opportunity to provide input and feedback to inform facility planning and the Request for Proposals (RFP) process.

- >> Fill out a feedback form
- >> Contact Seaterra Program staff with questions or concerns
- >> Learn more about the project at community meetings, mailed information sheet or online

#### **UPCOMING ACTIVITIES**

Seaterra Program staff will report back on the key issues and concerns identified and how they can be addressed. These findings will be presented to the community in early 2014.

A community liaison committee will be identified in the spring of 2015 to ensure that winning proponent and local residents continue to share information, address issues, and manage impacts of construction and operation.

#### **QUESTIONS?**

#### **COMMUNITY CONTACTS**

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