



# Wastewater Treatment Project

Treated for a cleaner future

## CRD Wastewater Treatment Project

### Monthly Report

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Reporting Period: April 2018

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## 1 Executive Summary

### 1.1 Introduction

This monthly report covers the reporting period of April 2018 and outlines the progress made on the Wastewater Treatment Project during this time.

The Wastewater Treatment Project (the “Project”) includes three main Project components (the “Project Components”): the McLoughlin Point Wastewater Treatment Plant (the “McLoughlin Point WWTP”), the Residuals Treatment Facility (the “RTF”) and the Conveyance System (which includes upgrades to the conveyance network, including the construction of pump stations and pipes). The Project scope will be delivered through a number of contracts with a variety of contracting strategies. Over the reporting period HRP also completed the pipe assembly on Niagara Street and the Victoria Harbour Crossing pipe pull.

Overall the Project is progressing as planned with no changes to the construction/commissioning start and completion dates.

The WWTP Project Component is continuing with Harbour Resource Partners (“HRP” as the Design-Build Contractor for the McLoughlin Point WWTP) progressing: engineering of the WWTP and outfall; and site work at McLoughlin Point including continuing installation of the foundation piles, continuing concrete pours for the tsunami and planter walls and starting excavation for underground piping.

The RTF Project Component is continuing with Hartland Resource Management Group (“HRMG” as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) progressing pre-construction planning and design engineering activities.

The Conveyance System is being delivered through seven contracts, including two design-build contracts and five design-bid-build contracts.

Progress on the two design-build contracts over the reporting period included:

- Clover Point Pump Station: Kenaidan Contracting Limited (“Kenaidan”, as the Design-Build Contractor):
  - held the 90% design workshop;
  - held the 90% hazard and operability workshop;
  - progressed development of the final design submission; and
  - commenced construction of the new hydro feed to prepare for installation of the caisson piles.
- Macaulay Point Pump Station and Forcemain: Kenaidan Contracting Ltd. (“Kenaidan” as the Design-Build Contractor):
  - progressed design activities, leading to submission of the 50% design submission;
  - held the 50% design workshop; and
  - held the 50% hazard and operability workshop.

The five design-bid-build Conveyance System contracts are in the engineering phase. Progress over the period included:

- Clover Forcemain:
  - the Project Team evaluated the Request for Qualifications (“RFQ”) responses and selected the shortlist of pre-qualified contractors to participate in the Request for Proposals (“RFP”) for the construction of the Clover Forcemain;
  - the Project Team progressed development of the RFP for the construction contract; and
  - Kerr Wood Leidal (“KWL”, as the Design Consultant for the Clover Forcemain) progressed development of the final (100%) design.
- Residual Solids Conveyance Line (the “RSCL”):
  - the Project Team evaluated the RFQ responses and selected the shortlist of pre-qualified contractors to participate in the RFP for the construction of the RSCL;
  - the Project Team held a workshop with the District of Saanich and Parsons to present the draft (50%) design submission; and
  - the Project Team held a design review meeting with the Township of Esquimalt and Parsons to present the 50% design; and
  - Parsons (as the Design Consultant for the RSCL) progressed the development of the 90% design.

Related to the Clover Point Pump Station and Clover Forcemain, the Project Team held the 90% design workshop with City of Victoria staff and Lekwungen representatives for:

- Clover Point Pump Station public realm improvements and building exterior;
- Dallas Road (Clover) Cycle Path alignment and design;
- Clover Forcemain alignment and design; and
- Esquimalt and Songhees Nations considerations.

## 1.2 Dashboard

Table 1 indicates the high level status of the Project and each Project Component with regards to the six Key Performance Indicators (“KPIs”) that were defined within the Project Charter.

Two changes were made to the dashboard since the Project’s previous report, both to the stakeholders key performance indicator.

- the WWTP indicator has changed from yellow to green, as the work at Ogden Point and Niagara Street has been completed and the Team believes that good relationships here have been built related to the ongoing work at McLoughlin Point; and
- the Conveyance System indicator has changed from green to yellow, as the Project Team believes that more engagement will be required to build good relationships related to the conveyance components of the Project. The Project Team has a Communications and Engagement Plan in place and will continue to implement and update the Plan over the duration of the Project.

Table 1- Executive Summary Dashboard

Key Performance Indicators		Project Overall	WWTP	RTF	Conveyance System	Comments
Safety	Deliver the Project safely with zero fatalities and a total recordable incident frequency (TRIF) of no more than 1*.					No recordable incidents; site inspections ongoing.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction					No environmental issues.
Regulatory Requirements	Deliver the Project such that the Core Area complies with provincial and federal wastewater regulations.					No regulatory issues.
Stakeholders	Continue to build and maintain positive relationships with First Nations, local governments, communities, and other stakeholders.					Engagement activities were ongoing in the reporting period. Significant efforts were made to provide accurate and timely information to stakeholders, in particular related to the Niagara Street work for the WWTP component of the Project.
Schedule	Deliver the Project by December 31, 2020.					No schedule issues
Cost	Deliver the Project within the Control Budget (\$765 million).					Project expenditures within Control Budget but cost pressures identified. Corrective action has been identified and is being implemented (see section 2.7 for details).

\* A TRIF of no more than 1 means that there is 1 or fewer recordable incidents (being a work-related injury or illness that requires medical treatment beyond first aid or causes death, days away from work, restricted work or transfer to another job, or loss of consciousness) for every 200,000 person-hours of work.

Status	Description
	KPI unlikely to be met
	KPI at risk unless correction action is taken
	KPI at risk but corrective action has been identified/is being implemented
	Good progress against KPI

## 2 Wastewater Treatment Project Progress

### 2.1 Safety

Safety information for the reporting period and cumulative for the Project from January 1, 2017 is summarised in Table 2. The total recordable incident frequency (TRIF) for the reporting period, inclusive of Project Contractors and Project Management Office (PMO) staff was zero.

Site safety tours and weekly safety inspections were carried out by PMO construction and safety personnel over the reporting period at all active worksites: Clover Point Pump Station, Ogden Point Harbour Crossing, McLoughlin Point WWTP, and RTF sites.

With ongoing construction activities on the Project these inspections continued and site inspections were performed weekly with the relevant prime contractor and CRD representative. Office and site orientations were delivered as required. Over the reporting period there were two safety-related incidents that did not result in recordable incidents: one near-miss incident and one report-only incident.

The near-miss incident occurred at McLoughlin Point on April 4, and involved a tower crane slewing ring light transformer being bumped out of position as it had not been tied down. When the operator swung the crane, the ladder in the slewing ring made contact with the transformer, bending the frame and knocking it over. The operator heard the noise and immediately stopped the crane.

HRP reviewed the incident and took the following actions:

- the tower crane was shut down and inspected by the site supervisor and electrician. No damage was found to the crane or light transformer; and
- the transformer was secured in a new position and the crane was put back into service.

The report-only incident occurred on April 10 at the intersection of Niagara Street and Oswego Street in Victoria. The incident involved a member of the public that was using the temporary stairs that had been installed by HRP to allow pedestrian access across the intersection during the pipe pull activities. A young child under the supervision of his father accidentally fell while utilizing the temporary stairs. HRP staff were at the intersection when the incident occurred and contacted ambulance services. An ambulance arrived, the boy received medical attention and as a precautionary measure the boy was taken to hospital.

HRP reviewed the incident and took the following actions:

- the temporary stairs were closed to the public while a review was undertaken; and
- the following additional safety measures were put in place to reduce the chance of a similar incident occurring:
  - boarding was installed between the handrails; and
  - additional signage was put in place to remind the public to be mindful while using the stairs.

Key safety activities conducted over the reporting period included:

- weekly prime contractor progress meetings;
- review of safety document submissions from prime contractors;
- review of incident investigations;

- site tours performed at all active sites;
- monthly office/site inspection with contractors and CRD Corporate Safety Representative at all active sites;
- monthly communication meeting with WTP Safety Manager and CRD Corporate Safety Manager;
- review of any high risk tasks;
- hazard assessment review for pipe pull on Niagara Street;
- site safety plan review with Kenaidan's OHS Manager for Macaulay Point Pump Station;
- Critical Lift Plan review for pipe pull on Niagara Street; and
- traffic management reviews for Dallas Road and Niagara Street traffic.

Other safety activities conducted over the reporting period included:

- accompanied CRD CAO Robert Lapham on a safety tour of the Niagara Street Pipe Pull and Clover Point Projects;
- performed a site safety tour with HRP group on Niagara Street to review safety details for the pipe pull;
- behavioural-based safety observations during site tours with recommendations based on findings; and
- participated in HRP Risk Review safety walk at Niagara Street for pending work.

Table 2 – WTP Safety Information

	Reporting Period (April 2018)	Project Total to-Date (from January 1, 2017)
<b>Person Hours</b>		
PMO	4,796	50,801
Project Contractor	37,250	166,326
Total Person Hours	42,046	217,127
<b>Employees</b>		
PMO	29	
Project Contractors working on Project sites	143	
Total Number Of Employees	172	
<b>Incidents</b>		
Near Miss Reports	1	5
High Potential Near Miss Reports	0	2
Report Only	1	1
First Aid	0	1
Medical Aid	0	0
Medical Aid (Modified Duty)	0	0
Lost Time	0	0
Total Recordable Incidents	0	0
<b>Frequencies</b>		
First Aid Frequency	0	1
Medical Aid Frequency	0	0
Lost Time Frequency	0	0
Total Recordable Incident Rate	0	0



## 2.2 Environment and Regulatory Management

Environmental and regulatory activities continued over the reporting period related to both the planning and permitting of upcoming work and the execution of current work.

### 2.2.1 Environment

On April 20, a team of PMO employees represented the CRD Project Team at HRP's Earth Day Event, which included removing invasive species on DND lands at McLoughlin Point.

Environmental work in April progressed as planned.

Key environmental management activities completed in April included:

- Parsons (as the Design Consultant for the RSCL) completed and submitted to the CRD an Environmental Impact Study (EIS) and Environmental Assessment and Protection Plan (EAPP) for the RSCL. The EIS evaluates potential effects on the environment from construction of the RSCL. The EAPP summarizes those potential effects and provides mitigation measures;
- Kerr Wood Leidal (as the Design Consultant for the Clover Forcemain) submitted to the CRD an Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) for the Clover Forcemain. The EIA evaluates potential effects on the environment from construction of the Clover Forcemain. The EMP summarizes those potential effects and provides mitigation measures; and
- Millennia Research (the Project's Archaeologist) continued advancing archaeological studies, while developing detailed Archaeological Management Plans for the construction of the RSCL, Clover Forcemain and Macaulay Pump Station and Forcemain.

Two environmental incidents occurred during the reporting period:

- on April 6<sup>th</sup>, there was a release of drilling fluid (bentonite slurry) at the Ogden Point end of the Cross-Harbour Forcemain when a hydro-vac truck malfunctioned. Bentonite slurry (an inert material) is utilized in the Horizontal Directional Drill (HDD) process to lubricate the drill head and carry rock cuttings from the hole. The volume of drilling fluid released to the ground at Ogden Point was approximately one cubic metre. Crews worked immediately to stop and contain the release, and cleanup of the site with a second hydro-vac truck took place that day. There were no adverse effects on the environment from the release; and
- on April 23, while sweeping the streets following the Cross-Harbour Forcemain pipe pull, the street sweeper leaked hydraulic oil on Niagara Street and Dallas Road. As soon as the driver of the street sweeper became aware of the leak he stopped work and informed HRP. HRP engaged a spill response company to assess the situation and remediate the sites. The streets were cleaned and no hydraulic oil entered the storm sewer system.

## 2.2.2 Regulatory Management

In April the Project Team continued to monitor the advancement of construction-related regulatory approvals and supported or led the advancement of permit applications. Key permitting activities for the reporting period involved supporting HRP (as the Design-Build Contractor for the McLoughlin Point WWTP), Kenaidan (as the Design-Build Contractor for the Macaulay Point Pump Station and Forcemain), Kerr Wood Leidal (as the Design Consultant for the Clover Forcemain) and Parsons (as the Design Consultant for the RSCL) in the development of permit applications; engaging with the provincial government in support of obtaining key permits (summarized in Table 3); and continuing to advance the MWR Registration and planning for future permit applications.

Key permitting activities for April included:

- Kenaidan (as the Design-Build Contractor for the Macaulay Point Pump Station and Forcemain) received a Development Permit for the Macaulay Point Pump Station from the Township of Esquimalt;
- the PMO, with support from Kerr Wood Leidal submitted an application to ENV for a Notice from the Director to Construct under Section 40 (b) of the MWR to authorize construction of the Clover Forcemain;
- Kenaidan submitted an application to ENV for a Notice from the Director to Construct under Section 40 (b) of the MWR to authorize construction of the Macaulay Pump Station and Forcemain;
- the PMO, with the support of Parsons submitted an application to ENV for a Notice from the Director to Construct under Section 40 (b) of the MWR to authorize construction of the RSCL;
- the BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNR) issued a *Water Sustainability Act* Section 11 approval to the Project, permitting the crossing of several watercourses along the RSCL alignment. A separate *Water Sustainability Act* Section 11 approval for three culvert replacements and a Colquitz River crossing will be applied for once the design and construction methods are finalized;
- the CRD, Stantec, and HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) continued to advance the MWR Registration application. This included holding bi-weekly coordination meetings with ENV.

The status of key Project permits are summarized in Table 3. The table is not a list of all required Project permits, but rather a summary of the status of key Project permits.

Table 3 has been updated since the Project's January – March 2018 Quarterly Report as follows:

- The status of the following permits have been updated:
  - McLoughlin Point WWTP:
    - Township of Esquimalt Development Permit Amendment has been removed from the table as it was received in the last reporting period; and
    - the anticipated date for the Township of Esquimalt Phased Building Permits has been updated from 'TBD' (to be determined) to Q2, 2018 to reflect HRP's submission of the 90% design.

- McLoughlin Point Outfall:
  - Provincial Tenure Crown Grant has been removed from the table as it was received in the last reporting period; and
  - Fisheries and Oceans Canada (DFO) *Fisheries Act* Authorization has been delayed until Q3, 2018 to reflect the re-submission of the application in response to DFO's request. Depending on DFO's review and approval timing, the start of outfall construction may be delayed until the winter 'least-risk timing window' of December 2018 - February 2019.
- Macaulay Point Pump Station:
  - Township of Esquimalt Development Permit has been changed to received.
- Clover Point Pump Station:
  - Notice from the Director to Construct under section 40(b) of the MWR has been removed from the table as it was received in the last reporting period.
- RSCL:
  - Ministry of Transportation and Infrastructure permits (works access) removed as no longer required as outlined in the Project's Q1 2018 Quarterly Report.

Table 3 - Key Permits Status

Permit / Licence	Anticipated Date	Status	Party Responsible for Obtaining Permit
<i>McLoughlin Point WWTP</i>			
Township of Esquimalt Phased Building Permits (Phase 1 obtained; Phase 2 submitted and anticipated in Q2 2018 - Future phases to be determined by HRP with Township of Esquimalt)	Q2 2018	<b>Phase 2 submitted: under review by Township of Esquimalt</b> On Track	HRP
Municipal Wastewater Regulation ("MWR") Registration	Q4 2019	On track	CRD
<i>McLoughlin Point Harbour Crossing</i>			
Transport Canada Lease	Following completion of construction	On Track	HRP
<i>McLoughlin Point Outfall</i>			
Fisheries and Oceans Canada (DFO) <i>Fisheries Act</i> Authorization	Q3 2018	Submitted: under review by DFO	HRP
Transport Canada Facility Alteration Permit	Q2 2018	Submitted: under review by Transport Canada	HRP
Transport Canada Licence (works access)	Q2 2018	Submitted: under review by Transport Canada	HRP

Permit / Licence	Anticipated Date	Status	Party Responsible for Obtaining Permit
Transport Canada Lease	Following completion of construction	On track	HRP
Notice from the Director to Construct under Section 40 (b) of the MWR	Q2 2018	On track	HRP
<i>Macaulay Point Pump Station Upgrade</i>			
Township of Esquimalt Development Permit	Q1 2018	<b>Received</b>	<b>Kenaidan</b>
<b>Notice from the Director to Construct under Section 40 (b) of the MWR</b>	<b>Q2 2018</b>	<b>On track</b>	<b>Kenaidan</b>
<i>Clover Forcemain</i>			
<b>Notice from the Director to Construct under Section 40 (b) of the MWR</b>	<b>Q2 2018</b>	<b>On track</b>	<b>Kerr Wood Leidal</b>
<i>ECI/Trent Twinning</i>			
<b>Notice from the Director to Construct under Section 40 (b) of the MWR</b>	<b>Q4 2018</b>	<b>On track</b>	<b>Design engineer</b>
City of Victoria Licence (works access)	Q1 2019	On track	Design engineer
<i>Arbutus Attenuation Tank</i>			
<b>Notice from the Director to Construct under Section 40 (b) of the MWR</b>	<b>Q3 2018</b>	<b>On track</b>	<b>Kerr Wood Leidal</b>
<i>Residual Solids Conveyance Line</i>			
<b>Notice from the Director to Construct under Section 40 (b) of the MWR</b>	<b>Q2 2018</b>	<b>On track</b>	<b>Parsons</b>
<i>Residuals Treatment Facility</i>			
Operational Certificate	Prior to start of RTF operations	On track	HRMG
District of Saanich Development and Building Permits	Q2 2018	On track	HRMG

### 2.3 First Nations

First Nations communication and engagement was ongoing in April.

Chief Andy Thomas of the Esquimalt Nation passed away suddenly in April. Members of the CRD and the Project Team attended the funeral and paid their respects to the family. Chief Thomas' son, Ed Thomas, was the Project Liaison and will assume the role of Hereditary Chief of the Esquimalt Nation. Esquimalt Nation will be nominating a new Liaison.

The Project Team updated the First Nation Consultation Report and Log to reflect on-going consultation and engagement activities. The Consultation Report and Log are used to support permit applications for the Project.

The Project Team continued to consider how to continue to engage the W̱SÁNEĆ Nations in meaningful ways. The Project Team anticipates sharing the RSCL EIS with the W̱SÁNEĆ Leadership Committee at the next meeting.

## 2.4 Stakeholder Engagement

The Project maintained its ongoing two-way Communications and Engagement Plan to provide Project information to stakeholders, communities and the public and to respond to public inquiries. The key focus of the communications and engagement activities over the reporting period was to keep residents and stakeholders informed of Project plans, progress and construction information, and to receive and respond to questions and concerns raised by the community. A variety of communications tools and engagement activities were utilized to support the implementation of the Plan, including stakeholder meetings, Project website updates, notifications of construction through notices, and a public inquiry program, among other methods.

The month of April marked the transition of the Niagara Street construction work from the pipe assembly phase to the pipe pull phase. As part of notifying residents and businesses, the Project website was updated frequently during this period to provide construction updates and information on the reopening of roads. The Help Tent, located at the corner of Niagara and Oswego Streets, was operational from the start of pipe assembly activities until the conclusion of the pipe pull. There were more than 1,881 interactions at the Help Tent in this period to provide information and assistance to residents in the neighbourhood. In addition, the communications and engagement team was on-site during the three-day pipe pull, which commenced on April 17, assisting the public and answering questions while the process was underway.

HRP provided many opportunities for the local community to be engaged with the Project, including offering a section of the pipe to a local artist to paint, classroom presentations from construction workers and engineers, and class field trips to learn about the Project.

### **Construction Communications**

#### **Construction Notices and Updates:**

Nine construction notices and updates were issued to stakeholders in the reporting period:

- Niagara Street Construction Update (April 3, 2018) (Appendix A);
- Niagara Street Construction Update: Pipe Pull (April 9, 2018) (Appendix B);
- Macaulay Point Pump Station and Forcemain: Preliminary Early Works (April 10, 2018) (Appendix C);
- Niagara Street Construction Update: Pipe Pull (April 11, 2018) (Appendix D);
- Niagara Street Construction Update: Pipe Pull (April 12, 2018) (Appendix E);
- Niagara Street Construction Update: Pipe Pull (April 13, 2018) (Appendix F);
- Niagara Street Construction Update: Pipe Pull (April 19, 2018) (Appendix G);
- Niagara Street Construction Update: Pipe Pull (April 20, 2018) (Appendix H); and
- Clover Point Pump Station: BC Hydro Service Works (April 24, 2018) (Appendix I).

#### **Community Event Invitation**

HRP and the Project Team issued an invitation for residents of Niagara and surrounding streets to a community BBQ on May 1, 2018 at the Victoria Edelweiss Club as a thank you for their patience during the pipe assembly and pipe pull (Appendix J). The invitation was hand delivered to 1000 residents and businesses, emailed to more than 100 stakeholders and posted to the Project website.

**Project Website**

Throughout the month of April, the Project website, wastewaterproject.ca, was updated with information about the Project. The following items were posted: construction notices and the ongoing updates for the Niagara-specific information section of the website.

**Community Meetings**

Over the reporting period the Project Team held meetings with the following community groups and representatives, and municipality representatives:

- City of Victoria staff;
- District of Saanich staff;
- James Bay Neighbourhood Association;
- Township of Esquimalt Liaison Committee; and
- Township of Esquimalt staff.

**Public Inquiries**

Public inquiry numbers from the Project email address and 24/7 information phone line (1-844-815-6132) are noted in Table 4.

*Table 4- Project Inquiries – April 2018*

Inquiry Source	Contacts for April
Information phone line inquiries	105
Email inquiries responded to	28

Key themes of the public inquiries were as follows:

- Requests for contractor contact information for hiring purposes;
- requests to be added to distribution list for construction notices;
- questions about work on Niagara Street (how the pipe pull works, noise, when will the roads reopen, remediation of the site);
- inquiring about the route of the bike path on Dallas Road;
- questions about when and where construction will start on Dallas Road;
- concern about water pooling on pathway around construction at Clover Point; and
- general Project questions (such as about the level of treatment and when will the project be finished).

**2.5 Resolutions from Other Governments**

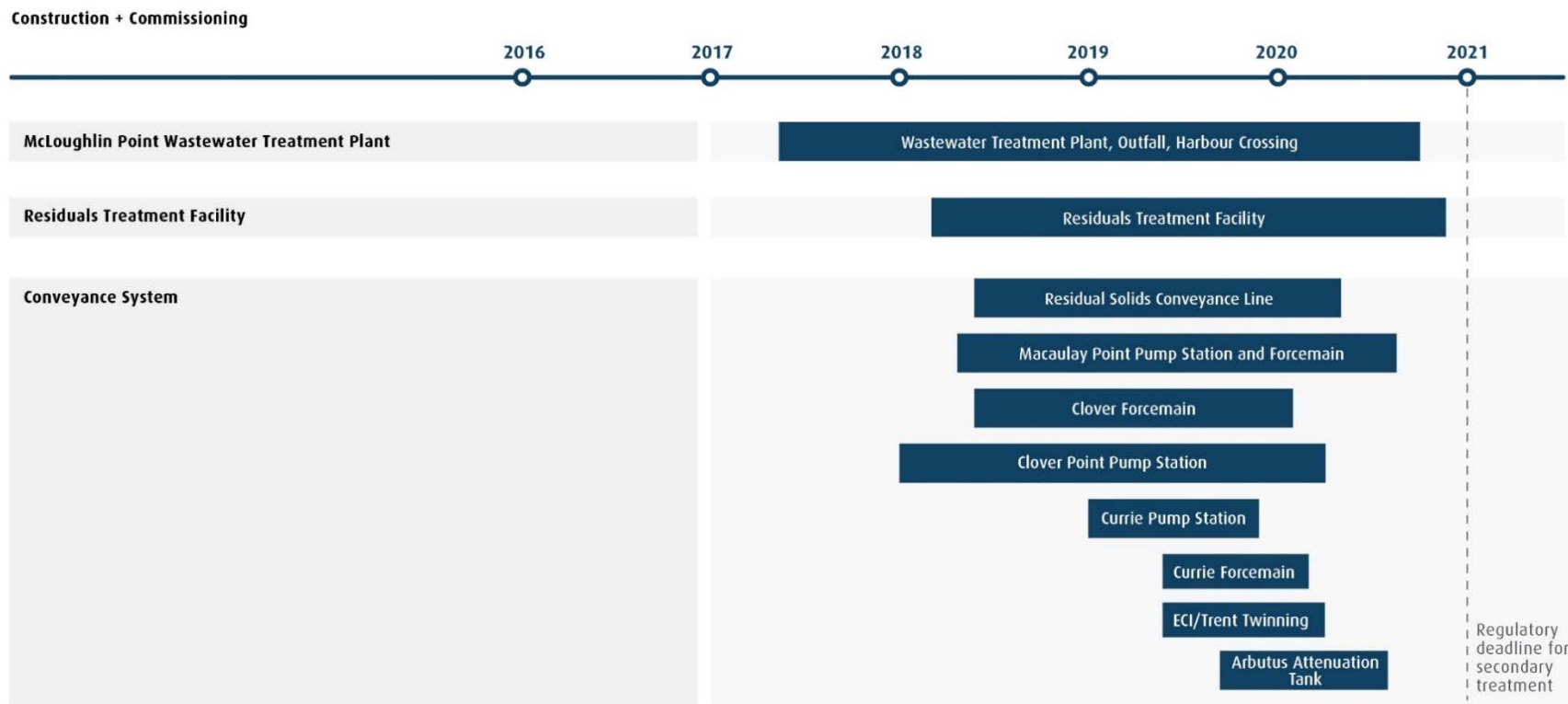
There were no resolutions related to the Project passed by other Governments during the reporting period.

**2.6 Schedule**

Overall the Project’s scheduled activities progressed as planned during April. All major and key interface milestones were on target to be completed as per the schedule. Progress over the reporting period is summarised in section 2.9.

Figure 1 shows the high-level Project schedule. This schedule is unchanged from that shown in the previous Project report, however it remains subject to optimization as the Project and planning progresses.

Figure 1-High-Level Project Schedule<sup>1</sup>



*\*Schedule subject to updates as project planning progresses.*

<sup>1</sup> The schedule remains subject to optimization.

### 2.6.1 30 and 60 day lookahead

#### **Key activities and milestones for the next 30 days (May) are:**

##### **Safety**

- review of Kenaidan's Macaulay Point and HRMG's RTF site specific plans;
- site tours performed at all active sites;
- monthly office/site inspections with contractors and CRD Corporate at all active sites;
- monthly communication meeting with WTP Safety Manager and CRD Corporate Safety Manager;
- weekly HRP and CRD management site safety tour;
- traffic management reviews; and
- incident reporting review with prime contractors at active work locations.

##### **Environment and Regulatory Management**

- HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) to submit an application to ENV for a Notice from the Director to Construct under Section 40 (b) of the MWR to construct the McLoughlin Point Outfall; and
- Parsons (as the Design Consultant for the RSCL) to begin preparing an application to the Ministry of Forests, Lands, Natural Resource Operations and Rural Development for a *Water Sustainability Act* Section 11 authorization of works 'in and about a stream' to replace three culverts along the RSCL, as well as for the Colquitz River crossing.

##### **First Nations**

- Work with Esquimalt Nation to find a replacement Liaison, as the current Liaison is now Chief of the Nation; and
- continue biweekly meetings with Songhees Nation Liaison

##### **Stakeholder Engagement**

- ongoing construction communications with stakeholders;
- ongoing community liaison meetings; and
- distribution of Project Update #5.

##### **Cost Management and Forecast**

- assign WBS codes to the new contracts;
- prepare cost reports;
- prepare finance modelling;
- monitor schedule; and
- submit funding claims to Infrastructure Canada (under the Building Canada Fund and Green Infrastructure Fund).



## **Construction**

### **Ogden Point**

- backfill HDD area;
- demobilise office and crew facilities; and
- final clean-up of Niagara Street.

### **McLoughlin Point**

- install piles in the following areas: odour control; plate settlers; and dirty backwash;
- place mud slab and gravel mattress at Biological Aerated Filters areas;
- install underground process piping in secondary treatment area; and
- continue construction of tsunami and planter walls.

### **Clover Point Pump Station**

- install new BC Hydro service feed;
- remove and dispose of existing duct bank;
- install concrete lock block shoring system; and
- install concrete guide wall for secant installation.

### **Macauley Point Pump Station**

- perform utility locates;
- topographical survey of forcemain alignment;
- laydown area “E” base preparation and fencing; and
- mobilise office trailer.

## **Engineering**

### **McLoughlin WWTP:**

- Construction Package 2 Deep Foundations: Final (100%) Design Deliverable;
- Construction Package 3 Under Slab Pipe: Final (100%) Design Deliverable;
- Construction Package 4 Yard Pipe: Final (100%) Design Deliverable;
- Construction Package 5 BAF Slabs: Final (90%) Design Deliverable;
- Construction Package 6 O&M Building and Utilities: Final (100%) Design Deliverable;
- Construction Package 7 Tertiary Area Foundation: Final (100%) Design Deliverable;
- advance 100% design;
- 90% Design Workshop; and
- 90% Hazard and Operability Workshop.

### **Clover Point Pump Station:**

- Construction Package 1 Foundations: Final (100%) Design Deliverable;
- Construction Package 2 Civil and Structural: Final (100%) Design Deliverable; and
- advance 100% design.

### **Macauley Point Pump Station and Forcemain:**

- Construction Package 1 Demolition: Final (90%) Design Deliverable; and
- advance 90% design.

Residual Solids Conveyance Line:

- Package 1 Residuals Solids Pipes: 90% Design Deliverable;
- Package 1 Residuals Solids Pipes: 90% Design Workshop; and
- Package 1 Residuals Solids Pipes: Final (RFP Ready) Design Deliverable.

Clover Point Forcemain:

- Construction Package: Final (RFP Ready) Design Deliverable.

**Procurement**

Clover Point Forcemain:

- Construction Package: issue RFP for construction to the shortlisted contractors.

**Key activities and milestones for the next 60 days (June) are:**

**Safety**

- review of any site specific safety plans or high risk tasks;
- WTP Safety Manager and/or Construction Manager will conduct regular site inspections at all active Project work sites;
- develop monthly project summary for CRD Corporate Safety Manager in regards to Project activities;
- site tours performed at all active sites;
- monthly office/site Inspections with contractors and CRD Corporate at all active sites;
- monthly communication meeting with WTP Safety Manager and CRD Corporate Safety Manager;
- weekly HRP and CRD management site safety tour;
- review of any site specific safety plans or high risk tasks;
- traffic management reviews; and
- incident reporting review with prime contractors at active work locations.

**Environment and Regulatory Management**

- HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) anticipates receipt of the Notice from the Director to Construct under Section 40 (b) of the MWR authorizing construction of the McLoughlin outfall construction; and
- HRP, Stantec and the CRD to continue advancing the MWR Registration.

**First Nations**

- First Nations members will be in the field, supporting Millennia archaeologists as they complete ongoing archaeological investigations and monitor construction activities; and
- continue working with Songhees and Esquimalt Liaisons on topics of shared interest, including management of archaeological resources, identification of employment opportunities, and the development of plans for the installation of signage, artwork and use of native plants in landscaping for Clover Forcemain, Clover Point Pump Station, Macaulay Point Pump Station and McLoughlin Point WWTP.

### **Stakeholder Engagement**

- ongoing construction communications with stakeholders; and
- ongoing community liaison meetings.

### **Cost Management and Forecast**

- assign WBS codes to the new contracts;
- prepare cost reports;
- finance modelling;
- monitor schedule;
- prepare CRD WTP annual budget; and
- submit funding claims to Infrastructure Canada (under the Building Canada Fund and Green Infrastructure Fund).

### **Construction**

#### McLoughlin Point

- complete construction of tsunami and planter walls;
- continue installing foundation piles in west Densadegs and north apron areas;
- install underground process piping in primary and secondary treatment areas;
- construction of base/mud slabs at Biological Aerated Filters, tertiary treatment and odour control area;
- continue drilling program for delineation of contamination in groundwater; and
- continue surface runoff/groundwater treatment and discharge.

#### Clover Point Pump Station

- install secant wall and caissons.

#### Macaulay Point Pump Station

- establish construction power;
- connect power to office trailer; and
- commence demolition of workshop and laboratory.

#### Residuals Treatment Facility

- commence rock blasting and excavation; and
- widen site access road.

### **Engineering**

- receive 100% design of the McLoughlin Point WWTP;
- review early works packages and continue development of 50% design for the RTF;
- complete the 90% design for the Macaulay Point Pump Station and Forcemain;
- complete final design for the Clover Point Pump Station;
- complete design of RSCL Package 1 (Residuals Solids Pipes);
- advance design of RSCL Package 2 (Residuals Solids Pump Stations); and
- continue development of detailed design for the Arbutus Attenuation Tank.

## **Procurement**

### **Clover Point Forcemain:**

- respond to inquiries from pre-qualified contractors and issue addenda, as necessary.

### **Residuals Solids Conveyance Line:**

- issue Request for Proposals for construction to the shortlisted contractors.

## **2.7 Cost Management and Forecast**

The monthly cost report for April is attached as Appendix K. The cost report summarizes Project expenditures and commitments by the three Project Components and the major cost centres common to the Project Components.

We have held constant the status of the cost key performance indicator as yellow, as a result of cost pressures identified in the Project's Q4 2017 Quarterly Report. In order to address these pressures the Project Team in concert with Stantec (as the Owner's Engineer providing technical support for the CRD WTP), are reviewing the scope and construction cost estimates for the remainder of the contracts and identifying opportunities where savings could be realized. With this corrective action our confidence level is still high that we will be able to deliver the Project within the Control Budget.

### **2.7.1 Commitments**

Commitments were made over the reporting period in furtherance of delivering the Project. The commitments made during the reporting period resulted in an increase in committed costs of \$899 thousand.

### **2.7.2 Expenses and invoicing**

The Project expenditures for the reporting period were as expected and were within the budget allocations for each of the budget areas. The main Project expenditures incurred over the reporting period were associated with WWTP construction activities and PMO-related costs.

### **2.7.3 Contingency and Program Reserves**

There were no contingency or program reserve draws over the reporting period. The draws to-date and remaining contingency and program reserve balance are summarized in Table 5. The remaining contingency and program reserve is anticipated to be sufficient to deliver the Project within the Control Budget.

Table 5 - Contingency and Program Reserve Draw-Down Table

WTP Contingency and Program Reserve Draw	Draw Date	\$ Amount
<b>Total Contingency and Program Reserve Draw/Reallocation as at March 31, 2018</b>		<b>\$1,903,456</b>
<b>Total Contingency and Program Reserve Draw/Reallocation over the Reporting Period</b>		<b>\$ 0</b>
<b>Total Contingency and Program Reserve Draw/Reallocation as at Apr. 30, 2018</b>		<b>\$1,903,456</b>
<b>Total Contingency and Program Reserve Remaining</b>		<b>\$71,221,507</b>

### 2.7.4 Project Funding

The federal and provincial governments are assisting the Capital Regional District in funding the Project.

The Government of British Columbia will provide up to \$248 million towards the three components of the project, while the Government of Canada is contributing:

- up to \$120 million through the Building Canada Fund – Major Infrastructure Component towards the McLoughlin Point WWTP;
- up to \$50 million through the Green Infrastructure Fund towards the conveyance system project; and
- up to \$41 million towards the RTF through the P3 Canada Fund.

The status of funding claims is summarised in Table 6. Note that the timing for the provision of the Government of British Columbia and Government of Canada’s funding differs by funding source. The Project Team will submit claims to the funding partners in accordance with the relevant funding agreements. In accordance with the funding agreements, funding from the P3 Canada Fund and Government of British Columbia cannot be claimed until the relevant Project components are substantially complete, which is scheduled to occur in 2020.

The Project Team received notification from the Government of Canada that P3 Canada, having fulfilled its mandate, was dissolved in March and that Infrastructure Canada will carry out the P3 Canada Fund Agreement as if it were the original party to the agreement – including ensuring that all financial commitments and obligations are honoured.

Table 6 – Grant Funding Status

Funding Source	Maximum Contribution	Funding Received in the Reporting Period	Funding Received to Date
Government of Canada (Building Canada Fund)	\$120M	\$6.7M	\$17.4M
Government of Canada (Green Infrastructure Fund)	\$50M	-	-
Government of Canada (P3 Canada Fund)	\$41M	-	-
Government of British Columbia	\$248M	-	-
<b>TOTAL</b>	<b>\$459M</b>	<b>\$6.7M</b>	<b>\$17.4M</b>

## 2.8 Key Risks and Issues

The Project Team actively identified and managed Project risks over the reporting period.

Table 7 summarizes the highest-level risks that were actively managed over the reporting period, as well as the mitigation steps identified and/or undertaken over the reporting period.

The following risk was added to the active risks summary during the reporting period:

- Lack of integration between Project Components was reported with a risk level of medium in consideration of the possibility that planning challenges and system integration between the WWTP, RTF and Conveyance System components of the Project could result in schedule delays and/or additional Project costs.

Table 7- Project Active Risks Summary

Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level (based on likelihood and potential impact)	Trend in risk level from previous reporting period
<b>Project</b>				
Misalignment between First Nations' interests and the implementation of the Project	The assessed risk level reflects the Project Team's priority of establishing strong and effective relationships with First Nations interfacing with, or interested in, the Project.	First Nations engagement activities remained ongoing over the reporting period (see section 2.3 for further details).	M	No change
Divergent interests between multiple parties and governance bodies whose co-operation is required to successfully deliver the Project	The assessed risk level reflects the Project Team's priority of establishing strong and effective relationships with municipal, provincial and federal government departments.	The Project Team continued engagement with municipal, provincial and federal government departments throughout the reporting period.	M	No change
Misalignment between Project objectives/scope and stakeholder expectations	The assessed risk level reflects the Project Team's priority of establishing strong and effective community stakeholder engagement.	Community engagement activities were on-going over the reporting period (see section 2.4 for further details).	M	No change
Lack of integration between Project Components	Planning challenges and system integration between the WWTP, RTF and Conveyance System components of the Project results in schedule delays and/or additional Project costs	Physical and schedule interfaces are clearly delineated in all construction contracts along with the requirement for commissioning and control plans.  The Project Team is using a single Owner's engineer (Stantec) to develop the indicative design for all critical project components with significant interfaces.	M	<b>Actively Managed</b>

Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level (based on likelihood and potential impact)	Trend in risk level from previous reporting period
Senior government funds issue delayed	The assessed risk level reflects the Project Team’s priority of ensuring Project funding commitments are honoured.	Responsibility for meeting funding commitments have been assigned and are being monitored.	M	No change
Downstream works delays	Delay from conveyance projects delay delivery of wastewater to WWTP.	Schedule has sufficient time allowance to ensure conveyance elements complete prior to requirement. Contractor agreements will include terms that require the contractor to recover schedule delays and/or allow for CRD acceleration.	M	No change
Downstream works delays	Delay of the delivery of residual solids to the RTF.	Contract with HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) includes terms that require the contractor to recover schedule delays and/or allow for CRD acceleration. Liquidated damages for late delivery in HRP contract.	M	No change
Provincial or Federal government/agency permit requirements not met	Project Component required Provincial or Federal permit conditions are not met by Project contractors resulting in delays or work stoppage.	The Project Team maintain a centralized permit compliance register to monitor and manage Project permit condition compliance by Project contractors. Meetings held with Federal and Provincial agencies to fully understand and meet requirements in a timely fashion.	M	No change
Public directly contacting contractors at sites	Direct contact between the public and contractors could expose both parties to worksite hazards and potential injuries.	Communications and engagement plan, contractor orientation.	M	No change



Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level (based on likelihood and potential impact)	Trend in risk level from previous reporting period
Change in Law	A change in law impacts the scope, cost or schedule of the Project.	Keep apprised of proposed modifications to relevant regulations so as to do the following as appropriate: submit comments on proposed modifications; consider including anticipated modifications in contracts.	M	No change
Labour - Availability and/or cost escalation	There is insufficient labour available to construct the Project, and/or there is significant labour cost.	The Project Team will, through the use of competitive selection processes for all construction contracts, ensure that all Project Contractors have appropriate experience and therefore understand labour risk.	M	No change
<b>McLoughlin Point Wastewater Treatment Plant</b>				
Unexpected contaminated soil conditions during excavation	Site has more contaminated soils than initial assessment.	CRD and HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) are working collaboratively to minimize the costs associated with remediating the McLoughlin Point site while ensuring that contaminated materials are removed and disposed of in accordance with all applicable legislation.	H	No change

Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level (based on likelihood and potential impact)	Trend in risk level from previous reporting period
<b>Conveyance</b>				
Unexpected geotechnical conditions results in higher procurement and/or construction costs	Geotechnical conditions result in redesign and/or higher construction cost than budgeted.	Ensure adequate investigations to manage the risk of unexpected geotechnical conditions: comprehensive geotechnical investigations have been undertaken for the Clover Forcemain, Macaulay Point Pump Station and Forcemain, and RSCL. This geotechnical information has been provided to procurement participants. Geotechnical investigations are to be undertaken for ECI and Currie Forcemain.	M	No change
Due to high cost escalation (inflation) Conveyance works contracts' amount higher than budgeted	Cost of conveyance contracts higher than estimated and budgeted.	Conveyance contracts will be competitively-procured. The Project team in concert with Stantec are reviewing the scope and construction cost estimates for the contracts that haven't yet been awarded in order to identify opportunities where savings could be realized to offset escalation.	H	No change
Engineering design development results in increases to the estimated construction cost.	Conveyance contract amounts higher than budget due to design development (through indicative and detailed design phases).	Reconfirm construction cost estimates at each stage of the design process. The Project team in concert with Stantec are reviewing the scope in order to identify opportunities where savings could be realized to offset any increases during design development. Application of Value Engineering during design development and associated updated costs estimates at discrete design points.	H	No change

<b>Risk Level Key</b> - Assessed risk level (based on likelihood and potential impact)	
L	Low
M	Medium
H	High

## 2.9 Status (Engineering, Procurement and Construction)

### 2.9.1 Wastewater Treatment Plant (WWTP)

The WWTP Project Component is continuing with Harbour Resource Partners (“HRP” as the Design-Build Contractor for the McLoughlin Point WWTP) progressing: engineering of the WWTP and outfall; and site work at McLoughlin Point including continuing installation of the foundation piles, continuing concrete pours for the tsunami and planter walls and starting excavation for underground piping.

#### **Engineering**

HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) progressed planning and design activities in April, including:

- responded to outstanding issues from the detailed design report (50%);
- submitted updated Computational Fluid Dynamic (CFD) Modeling Report for CRD review;
- submitted Construction Package 3 (90%) for CRD review;
- submitted Construction Package 4 (90%) for CRD review;
- submitted Construction Package 6 (90%) for CRD review;
- submitted Construction Package 7 (90%) for CRD review;
- submitted the detailed design report (90%) for CRD review; and
- submitted Outfall Basis of Design Report (90%) for CRD review.

#### **Construction**

Photographs of construction progress at McLoughlin Point are shown in Figures 2 – 8. Key construction activities in progress or completed by HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) in April were as follows:

##### **McLoughlin Point**

- installed piles in Biological Aerated Filters (BAF) area;
- installed piles in odour control area;
- continued form, installed rebar and placed concrete of tsunami walls;
- continued form, installed rebar and shotcrete of planter walls;
- drilling and blasting in the tertiary area; and
- installed mesh and shotcrete at sections of tertiary wall requiring additional support.

##### **Ogden Point**

- completed 54” reaming pass for the Harbour Crossing;
- completed the internal lining of the Harbour Crossing pipe;
- mobilized equipment for the pipe pull;
- completed the swabbing passes of the Harbour Crossing Tunnel;
- welded the pull head on to the Harbour Crossing pipe;
- completed the Harbour Crossing pipe pull;
- demobilized equipment from Niagara Street;
- installed the hydrostatic test heads on the Harbour Crossing pipe;
- hydrostatic test was performed on Victoria Harbour Crossing pipe and passed; and
- BC Hydro installed new utility poles and power lines and reinstated power to the 100 block of Niagara Street.



*Figure 2 – Harbour Crossing pipe welded and assembled on Niagara Street*



*Figure 3- Pull head to be welded on to Harbour Crossing Pipe.*



Figure 4 – Drilling piles in the BAF area



Figure 5 – Mobilizing equipment for the Pipe Pull.



Figure 6 – Pipe pull complete, coming out at McLoughlin side



Figure 7 – Hydrostatic test head installed on the Ogden end of the Harbour Crossing pipe.



*Figure 8 – Hydrostatic test in progress – the test passed.*

### 2.9.2 Residuals Treatment Facility (RTF)

The RTF Project Component continued scheduled activities with HRMG (as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) progressing: pre-construction planning and design engineering activities. There was no site activity in April, but the site was monitored by HRMG’s subcontractor Scansa.

HRMG progressed planning and design activities in April, including:

- continued design development and working toward 60% design submission in July;
- prepared and submitted various project plans and submittals;
- progressed with vendor selection;
- issued Independent Certifier RFP;
- working with BC Hydro to confirm power requirements to the site; and
- working with District of Saanich on permitting requirements.



### 2.9.3 Conveyance System

#### **Engineering**

##### Clover Point Pump Station - Kenaidan (as the Design-Build Contractor):

- held a 90% design workshop with CRD and Stantec staff;
- held a 90% Hazard and Operability workshop;
- held a 90% Design Workshop with City of Victoria and Lekwungen representatives; and
- advanced the overall final (100%) design deliverable.

The Project Team presented the 50% design of the following to the City of Victoria Council and Council unanimously-approved the 50% design for the following:

- design proposal for the exterior of the Clover Point Pump Station and the Public Realm Improvements associated with the Clover Point Pump Station; and
- feedback heard through community engagement, and how that feedback has been considered in the design.

##### Macaulay Point Pump Station and Forcemain - Kenaidan (as the Design-Build Contractor):

- held a 50% design workshop with CRD and Stantec staff;
- held a 50% Hazard and Operability workshop; and
- advanced the overall 90% design deliverable.

##### Clover Forcemain (CFM) - Kerr Wood Leidal (as the Engineer of Record):

- held the 90% design workshop with CRD and staff;
- held a 90% Design Workshop with City of Victoria and Lekwungen representatives; and
- advanced development of the final (100%) design deliverable.

The Project Team presented the 50% design of the following to the City of Victoria Council and Council unanimously-approved the 50% design for the following:

- alignment of the Clover Forcemain;
- alignment and design of the Cycle Path (connecting Clover Point to Dock Street) associated with the Clover Forcemain; and
- feedback heard through community engagement, and how that feedback has been considered in the design.

##### Residuals Solids Conveyance Line (RSCL) - Parsons (as the Engineer of Record):

- held a design workshop with the District of Saanich to present the draft (50%) Design Submission;
- held a design review meeting with the Township of Esquimalt to present the 50% design deliverable; and
- advanced the overall 90% design deliverable.

## **Procurement**

### **Clover Forcemain:**

- the Project Team evaluated the Request for Qualifications (“RFQ”) responses and selected the shortlist of pre-qualified contractors to participate in the Request for Proposals (“RFP”) for the construction of the Clover Forcemain; and
- the Project Team progressed development of the RFP for the construction contract.

### **Residuals Solids Conveyance Line:**

- evaluated responses to the Request for Qualifications for construction and finalised a shortlist of Proponents.

## **Construction**

### **Clover Point Pump Station**

Photographs of construction progress at Clover Point Pump Station are shown in Figures 9 to 11. Key construction activities in progress or completed by Kenaidan (as the Design-Build Contractor for the Clover Point Pump Station) in April were as follows:

- excavated and installed temporary and permanent duct bank;
- installed temporary diesel generator to power existing pump station;
- hydro seeded stockpiled soils;
- connected power and internet to the consultant’s trailer;
- relocated lamp standard to the east side of Clover Point Road; and
- placed concrete on east seawall walking path to drain ponding water.



Figure 9 – BC Hydro contractor excavating for duct bank and pull box west side of Clover Point Road.



Figure 10 – BC Hydro contractor installing duct bank and pull box on north side of Dallas Road



*Figure 11 – Existing permanent power locked out to switch over to temporary power.*

## Appendix A: April 3, 2018 – Niagara Street Construction Update



April 3, 2018

### Niagara Street Construction Update

- Montreal Street, Oswego Street and Menzies Street at Niagara are now closed for the duration of the pipe assembly and pipe pull
- The pipe is now laid out along Niagara Street from St. Lawrence Street to South Turner Street
- All local businesses will remain open
- Since the start of the pipe assembly a total of 72 calls have been responded to through the 24-7 call centre

#### Current Activities

April 2 - April 7

- Final tie-in weld to be completed this week
- Internal coating of the three tie in welds to be completed
- Ground preparations on the 100 block of Niagara in anticipation of crane mobilization

#### Completed Work

March 12 - March 17

- Completed welding of the second and third large sections of pipe
- Moved the second large section of pipe in the 300/400 block of Niagara Street
- Moved the third large section of pipe in the 200 block of Niagara Street
- Completed internal coating of the welds in the first section of pipe in the 500 block and the second section of pipe in the 300/400 block of Niagara Street

March 19 - March 24

- Completed welding of the fourth large section of pipe
- Completed internal coating of the welds in the third and fourth sections of pipe in the 200 and 100 blocks of Niagara

March 26 - March 31

- Completed two tie-in welds connecting the large sections of pipe

#### About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees Nations and will be complete by the end of 2020.

For more information, please visit [wastewaterproject.ca](http://wastewaterproject.ca)

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit [wastewaterproject.ca](http://wastewaterproject.ca). To contact the project, please email [wastewater@crd.bc.ca](mailto:wastewater@crd.bc.ca) or call 1.844.815.6132.

**Appendix B: April 9, 2018 – Niagara Street Construction Update: Pipe Pull****Wastewater  
Treatment Project**  
Treated for a cleaner future**Construction Notice**

April 9, 2018

**Niagara Street Construction Update: Pipe Pull**

The pipe assembly and pipe pull work along the surface of Niagara Street is entering the final stage with the pipe pull anticipated to begin April 13.

**What to Expect**

Cranes and side booms will be mobilized on the 100 block of Niagara Street the week of April 9. During the pipe pull, cranes will pick up the pipe and thread it into the tunnel at Ogden Point. The equipment pulling the pipe will be located at the McLoughlin Point side of the harbour. The pull will be continuous until the pipe is all the way through to the other side.

During the pipe pull, there will be hydrovac trucks and other equipment running at the Ogden Point worksite. Part of the sound wall will be removed so that the pipe can be threaded through the pipe tunnel. Measures are being taken to minimize noise including placing mufflers on generators and not using back up beepers after 7:00 p.m. whenever possible. Any equipment running at night will have spotters and be driven forward.

**Hours of Work**

- During the pipe pull, work will take place 24 hours a day for approximately three days, anticipated to be Friday April 13 to Sunday April 15.

**Traffic/Access**

- There will be pedestrian and emergency service access on Niagara Street at all times.
- There will be resident-only access to the 100 block of Niagara Street.
- Niagara Street will remain closed to vehicle traffic for the duration of the pipe pull. Cross streets will reopen as the pipe is pulled through the tunnel.
- Dallas Road will be closed at 7:00 a.m. on April 12 to vehicle and pedestrian traffic at Niagara Street. There will be local traffic only on Dallas Road between Montreal and Simcoe streets. Dallas Road is anticipated to reopen April 16.

**Viewing Opportunities**

- Two designated viewing areas will be located on Dallas Road on either side of the pipe (see reverse for map).

Once the pipe pull is complete, equipment will be removed during regular work hours.

**Thank you for your patience as this work is completed.**

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit [wastewaterproject.ca](http://wastewaterproject.ca). To contact the project, please email [wastewater@crd.bc.ca](mailto:wastewater@crd.bc.ca) or call 1.844.815.6132.

**Wastewater Treatment Project**  
Treated for a cleaner future

**Construction Notice**

**About the Wastewater Treatment Project**

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees Nations and will be complete by the end of 2020.

For more information, please visit [wastewaterproject.ca](http://wastewaterproject.ca)

**Map of Viewing Areas**



To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit [wastewaterproject.ca](http://wastewaterproject.ca). To contact the project, please email [wastewater@crd.bc.ca](mailto:wastewater@crd.bc.ca) or call 1.844.815.6132.

## Appendix C: Construction Notice - Macaulay Point Pump Station and Forcemain



**Wastewater  
Treatment Project**  
Treated for a cleaner future

### Construction Notice

April 10, 2018

#### Macaulay Point Pump Station and Forcemain: Preliminary Early Works

Construction of the new Macaulay Point Pump Station and Forcemain will be built as part of the Wastewater Treatment Project. The forcemain will pump wastewater directly to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment. The pump station will continue to provide bypass pumping to the existing outfall during heavy rainfall or emergency events.

The contractor for this component of the Project, Kenaidan Contracting Ltd., will begin to mobilize the site in the coming weeks in preparation for construction. Construction is anticipated to begin late spring 2018 and is anticipated to be complete in summer 2020. The waterfront trail will remain open during construction and operations.

#### What to Expect

Early works are anticipated to commence late April 2018 and will generally include the following activities:

- Installation of site offices.
- Setup of erosion and sediment controls.
- Establishing the laydown area and the temporary construction power feed.
- Demolition of the existing workshop.

#### Work Hours

- 7:00 a.m. to 5:00 p.m. Monday to Friday
- 9:00 a.m. to 5:00 p.m. Saturday

#### Traffic Impacts

- Traffic impacts are expected to be minimal during early works as the majority of work will be conducted on the existing Macaulay Point Pump Station site, and in the laydown area, which is located within the field between Vaughan Street and Munro Street.
- Truck traffic to and from the site will follow the Traffic Management Plan approved through the Township of Esquimalt.
- Additional notifications will be provided prior to work on the forcemain if work is required within the local roadways.

#### About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees Nations and will be complete by the end of 2020.

For more information, please visit [wastewaterproject.ca](http://wastewaterproject.ca)

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit [wastewaterproject.ca](http://wastewaterproject.ca). To contact the project, please email [wastewater@crd.bc.ca](mailto:wastewater@crd.bc.ca) or call 1.844.815.6132.



## Appendix D: April 11, 2018 – Niagara Street Construction Update: Pipe Pull



**Wastewater  
Treatment Project**  
Treated for a cleaner future

**Construction Update**

April 11, 2018

### Niagara Street Construction Update: Pipe Pull

- We are continuing preparations for the pipe pull.
- The pipe pull that was scheduled to begin on Friday, April 13 is now anticipated Monday, April 16.
- During the pipe pull, work will take place 24 hours a day for approximately 3 days, currently anticipated from Monday April 16 to Wednesday April 18.
- Dallas Road is currently anticipated to be closed to vehicle and pedestrian traffic at Niagara Street starting 7 am on Sunday, April 15.
- There will be local traffic only on Dallas Road between Montreal and Niagara Street and between Simcoe Street and Niagara Street.
- We will keep you updated as construction progresses.
- For the most up-to-date information please see the traffic signs, visit the Help Tent or our website at [wastewaterproject.ca](http://wastewaterproject.ca)

#### About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees Nations and will be complete by the end of 2020.

For more information, please visit [wastewaterproject.ca](http://wastewaterproject.ca)

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit [wastewaterproject.ca](http://wastewaterproject.ca). To contact the project, please email [wastewater@crd.bc.ca](mailto:wastewater@crd.bc.ca) or call 1.844.815.6132.

## Appendix E: April 12, 2018 – Niagara Street Construction Update: Pipe Pull



Wastewater  
Treatment Project  
Treated for a cleaner future

### Construction Notice

## Update

April 12, 2018

### Niagara Street Construction Update: Pipe Pull

The pipe assembly and pipe pull work along the surface of Niagara Street is entering the final stage with the pipe pull anticipated to begin Monday, April 16.

#### What to Expect

Cranes and side booms are mobilizing on the 100 block of Niagara Street. During the pipe pull, cranes will pick up the pipe and thread it into the tunnel at Ogden Point. The equipment pulling the pipe will be located at the McLoughlin Point side of the harbour. The pull will be continuous until the pipe is all the way through to the other side.

During the pipe pull, there will be hydrovac trucks and other equipment running at the Ogden Point worksite. Part of the sound wall will be removed so that the pipe can be threaded through the pipe tunnel. Measures are being taken to minimize noise including placing mufflers on generators and not using back-up beepers after 7:00 p.m. whenever possible. Any equipment running at night will have spotters and be driven forward.

#### Hours of Work

- During the pipe pull, work will take place 24 hours a day for approximately three days, anticipated to be Monday, April 16 to Wednesday, April 18.

#### Traffic/Access

- There will be pedestrian and emergency service access on Niagara Street at all times.
- There will be resident-only access to the 100 block of Niagara Street.
- Niagara Street will remain closed to vehicle traffic for the duration of the pipe pull. Cross streets will reopen as the pipe is pulled through the tunnel.
- Dallas Road is anticipated to be closed starting at 7:00 a.m. on April 15 to vehicle and pedestrian traffic at Niagara Street. There will be local traffic only on Dallas Road between Montreal and Niagara streets and between Simcoe and Niagara streets. Dallas Road is anticipated to reopen April 19.

#### Viewing Opportunities

- Two designated viewing areas will be located on Dallas Road on either side of the pipe (see reverse for map).

Once the pipe pull is complete, equipment will be removed during regular work hours.

**Thank you for your patience as this work is completed.**

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit [wastewaterproject.ca](http://wastewaterproject.ca). To contact the project, please email [wastewater@crd.bc.ca](mailto:wastewater@crd.bc.ca) or call 1.844.815.6132.

**Wastewater Treatment Project**  
Treated for a cleaner future

**Construction Notice**

**About the Wastewater Treatment Project**

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees Nations and will be complete by the end of 2020.

For more information, please visit [wastewaterproject.ca](http://wastewaterproject.ca)

**Map of Viewing Areas**



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**Appendix F: April 13, 2018 – Niagara Street Construction Update: Pipe Pull****Wastewater  
Treatment Project**  
Treated for a cleaner future**Construction Notice****Update**

April 13, 2018

**Niagara Street Construction: Pipe Pull**

The pipe assembly and pipe pull work along the surface of Niagara Street is entering the final stage with the pipe pull anticipated to begin Tuesday, April 17.

**What to Expect**

Cranes and side booms will be mobilized on the 100 block of Niagara Street the week of April 16. During the pipe pull, cranes will pick up the pipe and thread it into the tunnel at Ogden Point. The equipment pulling the pipe will be located at the McLoughlin Point side of the harbour. The pull will be continuous until the pipe is all the way through to the other side.

During the pipe pull, there will be hydrovac trucks and other equipment running at the Ogden Point worksite. Part of the sound wall will be removed so that the pipe can be threaded through the pipe tunnel. Measures are being taken to minimize noise including placing mufflers on generators and not using back up beepers after 7:00 p.m. whenever possible. Any equipment running at night will have spotters and be driven forward.

**Hours of Work**

- During the pipe pull, work will take place 24 hours a day for approximately three days, anticipated to be Tuesday April 17 to Thursday April 19.

**Traffic/Access**

- There will be pedestrian and emergency service access on Niagara Street at all times.
- There will be resident-only access to the 100 block of Niagara Street.
- Niagara Street will remain closed to vehicle traffic for the duration of the pipe pull. Cross streets will reopen as the pipe is pulled through the tunnel.
- Dallas Road is anticipated to be closed starting at 7:00 a.m. on April 16 to vehicle and pedestrian traffic at Niagara Street. There will be local traffic only on Dallas Road between Montreal and Niagara streets and between Simcoe and Niagara streets. Dallas Road is anticipated to reopen April 20.

**Viewing Opportunities**

- Two designated viewing areas will be located on Dallas Road on either side of the pipe (see reverse for map).

Once the pipe pull is complete, equipment will be removed during regular work hours.

**Thank you for your patience as this work is completed.**

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit [wastewaterproject.ca](http://wastewaterproject.ca). To contact the project, please email [wastewater@crd.bc.ca](mailto:wastewater@crd.bc.ca) or call 1.844.815.6132.

**Wastewater Treatment Project**  
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**Construction Notice**

**About the Wastewater Treatment Project**

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees Nations and will be complete by the end of 2020.

For more information, please visit [wastewaterproject.ca](http://wastewaterproject.ca)

**Map of Viewing Areas**



To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit [wastewaterproject.ca](http://wastewaterproject.ca). To contact the project, please email [wastewater@crd.bc.ca](mailto:wastewater@crd.bc.ca) or call 1.844.815.6132.

## Appendix G: April 19, 2018 – Niagara Street Construction Update: Pipe Pull



Wastewater  
Treatment Project  
Treated for a cleaner future

Construction Update

### Update

April 19, 2018

### Niagara Street Construction Update: Pipe Pull

- Day 3 of the pipe pull along Niagara Street.
- Additional equipment has been required for the final section of the work.
- The noise is from an air compressor that is helping push the pipe through the tunnel.
- This will continue throughout the day until the work is complete.
- The intersections at Menzies and Oswego Street are now open.
- Dallas Road will re-open when the pipe pull is finished.
- Thank you for your patience and understanding as we safely complete this work.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit [wastewaterproject.ca](http://wastewaterproject.ca). To contact the project, please email [wastewater@crd.bc.ca](mailto:wastewater@crd.bc.ca) or call 1.844.815.6132.

## Appendix H: April 20, 2018 – Niagara Street Construction Update: Pipe Pull



April 20, 2018

### Update

#### Niagara Street Construction Update

- The pipe pull along Niagara Street is now complete and under the harbour.
- Dallas Road and the intersections at Menzies and Oswego Street are now re-opened.
- Montreal Street will be re-opened by the end of day.
- Site demobilization is underway to remove equipment and return Niagara Street to its pre-construction condition.
- Side streets along Niagara Street will re-open as soon as possible.
- BC Transit has returned to their regular routes for Bus #2, #3 and #10. Please visit their website [here](#).
- Thank you for your patience and understanding throughout the completion of this work.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit [wastewaterproject.ca](http://wastewaterproject.ca). To contact the project, please email [wastewater@crd.bc.ca](mailto:wastewater@crd.bc.ca) or call 1.844.815.6132.

**Appendix I: April 24, 2018 – Clover Point Pump Station: BC Hydro Service Works****Wastewater  
Treatment Project**  
Treated for a cleaner future**Construction Notice**

April 24, 2018

**Clover Point Pump Station: BC Hydro Service Works**

The Clover Point Pump Station is being upgraded and expanded as part of the Wastewater Treatment Project. The current pump station pumps sewage directly into the ocean. The expanded pump station will pump wastewater to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment and provide bypass pumping to the existing outfall during extreme storm events.

**What to Expect**

A new electrical service feed will be constructed for the expanded pump station. This work will include:

- Trenching across Dallas Road at the intersection of Clover Point Road.
- Installation of electrical conduit and junction boxes within the trench to facilitate the installation of underground electrical cables.

**Work Hours**

- Work activities will take place from April 25 - May 4 between 7:00 a.m. and 5:00 p.m.

**Traffic Impacts**

- Single lane alternating traffic will be required on Dallas Road at the intersection of Clover Point Road to facilitate construction activities.
- Temporary sidewalk closure on the north side of Dallas Road will be required.
- Traffic control areas will be marked by cones, signs and controlled by flaggers.
- Pedestrians will be re-routed around the construction zone via signage.
- Access to the seawall and parking at Clover Point will remain open.

**About the Wastewater Treatment Project**

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For more information, please visit [wastewaterproject.ca](http://wastewaterproject.ca).

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit [wastewaterproject.ca](http://wastewaterproject.ca). To contact the project, please email [wastewater@crd.bc.ca](mailto:wastewater@crd.bc.ca) or call 1.844.815.6132.



## Appendix J: Community Event – Community BBQ Invitation



### Community BBQ Invitation

Harbour Resource Partners and the Wastewater Treatment Project Team would like to invite the residents of Niagara and surrounding streets to a community BBQ as a thank you for your patience during the pipe assembly and pipe pull.

#### BBQ Details

Tuesday, May 1, 2018

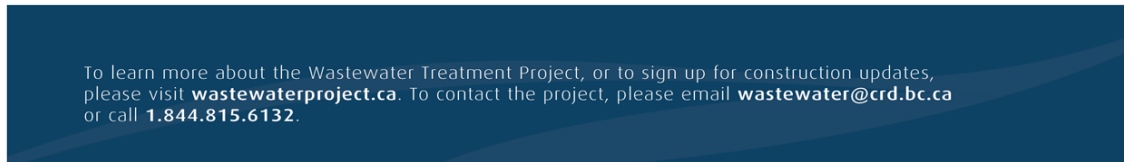
4:30 p.m. to 7:30 p.m.

Victoria Edelweiss Club, 108 Niagara Street



Please let us know if you are interested in attending [wastewater@crd.bc.ca](mailto:wastewater@crd.bc.ca).

We look forward to seeing you.





**Appendix K: April Monthly Cost Report**

ASSET MANAGEMENT COST REPORT as at April 30, 2018															
Project Component	Control Budget	Allocated Budget	COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE		
			Expended to March 31, 2018	Expended over reporting period (April 2018)	Expended to April 30, 2018	Expended to April 30, 2018 as a % of Budget	Remaining (Unexpended) Budget at April 30, 2018	Total Commitment at April 30, 2018	Unexpended Commitment at April 30, 2018	Uncommitted Budget at April 30, 2018	Forecast to Complete	Forecast at Completion	Variance at Completion \$	Variance at Completion as a % of Budget	
5.4	101.9	27%	273.3	339.6	237.7	35.6	273.3	375.2	-	0%	McLoughlin Point Wastewater Treatment Plant <sup>A</sup>	378.0	375.2	96.5	
0.7	14.3	8%	162.4	149.4	135.1	27.3	162.39	176.7	-	0%	Residuals Treatment Facility <sup>A</sup>	195.0	176.7	13.6	
1.8	35.8	17%	177.2	104.7	68.9	108.3	177.19	213.1	-	0%	Conveyance System <sup>A</sup>	192.0	213.1	34.0	
<b>7.9</b>	<b>152.0</b>	<b>20%</b>	<b>612.9</b>	<b>593.7</b>	<b>441.7</b>	<b>171.2</b>	<b>612.9</b>	<b>765.0</b>	<b>-</b>	<b>0%</b>	<b>Total Costs</b>	<b>765.0</b>	<b>765.0</b>	<b>144.1</b>	

A - Including PMO and Common Costs  
<sup>\*</sup> Values presented in \$millions, results in minor rounding differences  
<sup>\*\*</sup> Cost report presents approved expenditures