



**REPORT TO CORE AREA WASTEWATER TREATMENT PROJECT BOARD  
MEETING OF WEDNESDAY, JANUARY 20, 2021**

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**SUBJECT**     **Wastewater Treatment Project November 2020 Monthly Report**

**ISSUE**

To provide the Core Area Wastewater Treatment Project Board with the Wastewater Treatment Project November 2020 Monthly Report.

**BACKGROUND**

On May 25, 2016 the Regional Board of the CRD:

- i)     Adopted by resolution the Core Area Wastewater Treatment Project Board Terms of Reference (Project Board Terms of Reference) for the purposes of establishing principles governing the Core Area Wastewater Treatment Project (the Wastewater Treatment Project or the WTP);
- ii)    Established the Core Area Wastewater Treatment Project Board (Project Board) under Bylaw 4109 (the CRD Core Area Wastewater Treatment Board Bylaw No. 1, 2016) for the purposes of administering the Core Area Wastewater Treatment Project; and
- iii)   Delegated certain of its powers, duties and functions to the Project Board under Bylaw 4110 (the CRD Core Area Wastewater Treatment Project Board Delegation Bylaw No. 1, 2016).

On September 14, 2016 the Regional Board of the CRD:

- i)     Received the final report of the Project Board with respect to its recommendation for the CAWTP, dated September 7, 2016 (the Final Report); and
- ii)    Approved the business case attached as Appendix 1 (the Business Case) to the Final Report.

**DISCUSSION**

The Core Area Wastewater Treatment Project Board (the Project Board) Terms of Reference requires, amongst other things: that the Project Board provide the CRD Board with monthly progress reports and a comprehensive quarterly report on the Project.

The monthly report for the period of November 2020 is attached as Appendix A.

**RECOMMENDATION**

That the Core Area Wastewater Treatment Project Board approve the following resolution:

**RESOLVED that:**

The Staff Report, 'Wastewater Treatment Project November 2020 Monthly Report', be received for information and forwarded to the Core Area Liquid Waste Management Committee and CRD Board for information.



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Elizabeth Scott, Deputy Project Director  
Wastewater Treatment Project



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Dave Clancy, Project Director  
Wastewater Treatment Project  
Concurrence

Attachments: 1

Appendix A: Wastewater Treatment Project November 2020 Monthly Report

ES:er



# Wastewater Treatment Project

Treated for a cleaner future

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## CRD Wastewater Treatment Project

### Monthly Report

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Reporting Period: November 2020

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# 1 Executive Summary

## 1.1 Introduction

This Monthly Report covers the reporting period of November 2020 and outlines the progress made on the Wastewater Treatment Project over 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 is being delivered through a number of contracts with a variety of contracting strategies.

Over the reporting period the COVID-19 public health emergency continued to have impacts on the Project. The Project Team and Project contractors are actively monitoring the status of the COVID-19 public health emergency and are taking additional precautions to protect our staff, contractors, and the public. At each of the remaining Project sites, construction is ongoing in accordance with guidelines established by the Provincial Health Officer.

While construction is ongoing, the public health emergency is impacting the Project. However, based on current progress the Wastewater Treatment Project remains on schedule to meet the regulatory deadline for treatment by the end of 2020.

The McLoughlin Point WWTP Project Component is continuing with Harbour Resource Partners (“HRP” as the Design-Build contractor for the McLoughlin Point WWTP) commencing acceptance testing and progressing site landscaping.

The RTF Project Component is continuing with Hartland Resource Management Group (“HRMG” as the Design-Build-Finance-Operate-Maintain contractor for the RTF) progressing construction activities including: draining water from Digester 1, and the Digested Solids Storage Tank; ongoing commissioning of various systems; completing site landscaping, and installation of fencing and the main gate.

The Conveyance System is being delivered through seven construction contracts: two design-build contracts and five design-bid-build contracts, one of which (the Clover Forcemain) concluded in October 2020.

The two design-build Conveyance System contracts progressed over the reporting period as follows:

- Clover Point Pump Station: Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction and commissioning activities over the reporting period including: completion of exterior stone veneer; and grading for walkways outside of the pump station.
- Macaulay Point Pump Station: Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction and commissioning activities over the reporting period including: completing demolition of the old pump station; installation of screen covers; and completed air balancing and grit sampling tests.

The design-bid-build Conveyance System contracts progressed over the reporting period, as follows:

- Residual Solids Conveyance Line (“RSCL”): the RSCL is being delivered through two construction contracts, with work progressing as follows:
  - Residual Solids Pipes: Don Mann Excavating Ltd. (“Don Mann” as the Construction Contractor) continued construction activities over the reporting period for the Saanich infrastructure improvement being undertaken at Peers Creek, and began construction of a BC Hydro access road in the Township of Esquimalt including,
    - for the Peer’s Creek culvert replacement: pumps being set up to lower the water level and inverts cut into the culverts; and line painting including replacement of crosswalk lines, fog lines, and centreline; and
    - for the BC Hydro access road: lawn basin was installed at Bewdley Avenue, and commencement of tree removal and roadwork for the BC Hydro Access Road.
  - Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor) continued construction and commissioning activities including: installation of odour control heat trace and insulation at pump stations 1, 2 and 3; commencement of irrigation work at pump stations 1, and 2; and landscape restoration, trail screening and odour control unit damper installation at Marigold pump station.
- Arbutus Attenuation Tank (“AAT”): NAC Constructors Ltd. (as the Construction Contractor) continued construction activities including: caisson wall system cleaning; installation of column reinforcing steel; ongoing concrete pours for majority of columns; installed wall formwork; and perimeter wall and interior room divider wall concrete pours.
- Trent Forcemain: Jacob Bros. Construction Inc. (as the Construction Contractor) progressed construction activities including: completion of gravity main low-pressure air test; installation of approximately 60 meters of sheet piles along Ross Bay seawall; excavation of pipe trench; pre-fused high density polyethylene pipe at laydown area; and restoration of curb and gutter, sidewalk, pavement and topsoil along the forcemain’s route.

## 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 (“KPI”) that were defined within the Project Charter.

There were no changes made to the KPIs over the reporting period.

The safety KPI for the Project and the conveyance system remains yellow. Over the reporting period no recordable safety incidents occurred and the total recordable incident frequency at the end of the reporting period remained at 1.6, as it was at the end of October 2020.

The Project Team continues to work with and ensure that all of the prime contractor partners maintain safety as their number one priority. The Project Team is also actively monitoring the status of the COVID-19 public health emergency and is taking additional precautions to protect our staff, contractors, and the public. The BC Government has designated construction as an essential service, and issued guidelines for construction sites to minimize the risks of COVID-19 transmission or illness. All Project contractors have implemented additional precautions to ensure the health and safety of their workers. These measures follow the direction set by the BC Government, including emphasizing the importance of maintaining social distance, increasing handwashing stations, reducing in-person meetings and increasing cleaning of common areas. The Project Team will continue to monitor contractors' compliance with the direction of the government as the situation evolves.

The schedule KPI for the Project overall and the Project components remains green. The COVID-19 public health emergency is impacting the Project. However, construction is ongoing in accordance with provincial guidelines and commissioning of each of the key facilities continued over the reporting period, and based on current progress the Wastewater Treatment Project remains on schedule to meet the regulatory deadline for treatment by the end of 2020.

























The cost KPI for the Project overall and the conveyance system remained red over the reporting period, and are expected to remain red for the duration of the Project, primarily as a result of inflation in the Vancouver Island construction market. Other factors that have contributed to budget pressures include: design development to incorporate stakeholder input; geotechnical considerations including removal and disposal of contaminated material; and schedule constraints associated with the requirement to provide wastewater treatment by the regulatory deadline of December 31, 2020. As a result of these budget pressures, the Project Team forecast the cost to complete the Project at \$775M, or \$10M over the Project's control budget. In May 2019 the CRD Board approved an increase in the Project's budget by \$10M to \$775M.

Subsequent to May 2019 the Project Team have continued to manage risks and there have been two main opposing budget drivers:

- i) The Project's financing costs to-date have been lower than budgeted for two reasons: firstly as a result of low interest rates since the start of the Project, and secondly due to the receipt of funding from the provincial government earlier than forecast; and
- ii) The Project's construction costs may be higher than budgeted as many contractors have advised that there are cost impacts from the COVID-19 public health emergency. Impacts include labour availability, work modifications to comply with provincial guidelines, and delays to the delivery of equipment and supplies.





It is too early to determine the cost impact to the Project, but given the ability to offset the unforeseen costs of COVID-19 through the finance cost savings, the Project Team remain confident that, if construction continues at the current pace, the Project cost will be within the Project's \$775M budget.

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 occurred over the reporting period. Site inspections are ongoing. The Project Team is actively monitoring the status of the COVID-19 public health emergency and is taking additional precautions to protect our staff, contractors, and the public. All Project contractors have implemented additional precautions to ensure the health and safety of their workers. The Project Team will continue to monitor and follow the direction of the government during this evolving situation.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.					There were no environmental incidents over the reporting period. HRMG are continuing with spill remediation and environmental monitoring associated with the October 13, 2020 release of residual solids at the Residuals Treatment Facility.
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 over the reporting period. Significant efforts were made to provide accurate and timely information to stakeholders.
Schedule	Deliver the Project by December 31, 2020.					The COVID-19 public health emergency has and is impacting the Project. The schedule KPI for the Project overall and the Project components remains green. The COVID-19 public health emergency is impacting the Project's progress. However, construction is ongoing in accordance with provincial guidelines and commissioning of each of the key facilities continued over the reporting period, and based on current progress the Wastewater Treatment Project remains on schedule to meet the regulatory deadline for treatment by the end of 2020.
Cost	Deliver the Project within the Control Budget (\$765 million).					<p>The CRD Board approved an increase to the Project's budget by \$10M, to \$775M, based on the Project Team's forecast of the cost to complete the Project. The increase was required primarily as a result of inflation in the Vancouver Island construction market. Other factors that have contributed to budget pressures include: design development to incorporate stakeholder input; geotechnical considerations including removal and disposal of contaminated material; and schedule constraints associated with the requirement to provide wastewater treatment by the regulatory deadline of December 31, 2020.</p> <p>Many contractors have advised that there are cost impacts from the COVID-19 public health emergency. It is too early to determine the cost impact to the Project, but given the ability to offset the unforeseen costs of COVID-19 through the finance cost savings, the Project Team remain confident that, if construction continues at the current pace, the Project cost will be within the Project's \$775M budget.</p>



\* 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 summarized in Table 3.

The Project Team is actively monitoring the status of the COVID-19 public health emergency and is taking additional precautions to protect our staff, contractors, and the public. The BC Government has designated construction as an essential service, and issued guidelines for construction sites to minimize the risks of COVID-19 transmission or illness.

All Project contractors have implemented additional precautions to ensure the health and safety of their workers. These measures follow the direction set by the BC Government, including emphasizing the importance of maintaining social distance, increasing handwashing stations, reducing in-person meetings and increasing cleaning of common areas. The Project Team will continue to monitor contractors' compliance with the direction of the government during this evolving situation.

Site safety tours and weekly safety inspections were carried out by Project Management Office ("PMO") construction and safety personnel over the reporting period at all active worksites: McLoughlin Point WWTP, RTF, Macaulay Point Pump Station, Clover Point Pump Station, Residual Solids Pipes; Residual Solids Pump Stations; Arbutus Attenuation Tank and Trent Forcemain.

Over the reporting period (November 2020) five safety incidents occurred, comprising: two near-miss and three report-only incidents, as summarized in Table 2.

*Table 2: Safety Incidents over the Reporting Period*

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
<b>November 3, 2020</b>	McLoughlin Pt WWTP	Report Only	While demobilizing site trailers at the laydown area workers were removing de-energized temporary power cables.	All cables were tested and deemed not energized. Unfortunately there were a number of cables and it was determined after removal that they had cut a low voltage cable which was to remain in service.	There were no injuries and the cable was reinstalled.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
November 12, 2020	Trent Forcemain	Report Only	A vehicle moving through an active worksite struck and damaged the contractor's site trailer. The trailer was well off the travelled portion of the road and delineators adequately placed around the trailer.	The driver misjudged the roadway and drove over the delineators. The front right of the vehicle hit the corner of the trailer damaging a panel. At the time of the incident normal two-way traffic was occurring though the site on Dallas Road.	The contractor ensured the driver was uninjured, contacted the police and aided in safely removing the vehicle. Delineators were reinstated around the corner of the trailer.
November 12, 2020	McLoughlin Pt WWTP	Near Miss	Worker while moving around the site stopped, made eye contact with a driver of a moving vehicle. The driver signaled for the worker to proceed.	The driver pulled forward while worker was in close proximity to the vehicle.	Tool-box talk held to discuss proper communication and eye contact. Emphasis placed on vehicle movement and signaling pedestrian to proceed.
November 24, 2020	McLoughlin Pt WWTP	Report Only	Operator identified a leak from a manway door in the BAF area.	The manway was isolated and resealed.	No injuries or damage to any equipment were recorded.
November 26, 2020	McLoughlin Pt WWTP	Near Miss	While demobilizing site trailers at the laydown area workers were removing a stockpile of crushed blast rock. While excavating the operator notice a conduit exposed in the side of the bank.	A conduit was exposed and removal of rock immediately ceased. Upon investigation it was determined that the conduit housed an active 120V power feed.	There were no injuries or damage recorded. The conduit was re-buried and the contractor reviewed Ground Disturbance requirements when removing stockpiles from site.

Key safety activities conducted during November included:

- bi-weekly project update meetings with prime contractors: Knappett, NAC, HRMG, Jacob Brothers, Don Mann and Kenaidan;
- monthly update meetings with prime contractor: HRP;
- monthly Incident Investigation reviews;
- participated in BC Hydro access road pre-job planning meeting;
- hosted Prime Contractor Safety Meeting;
- reviewing daily progress reports and contacting Primes of any safety notations or observations contained within those reports;
- reviewed COVID-19 document submissions from CRD Corporate;
- reviewed site specific safety plans and high risk tasks; and
- Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites.

Table 3: WTP Safety Information

	Reporting Period (November 2020)	Project Totals
<b>Person Hours</b>		
PMO	2780	164,049
Project Contractor	52,857	2,288,223
Total Person Hours	55,637	2,452,272
<b>Total Number of Employees</b>		
PMO	24	
Project Contractors (& Project Consultants) working on Project Sites	223	
Total Number of Employees	247	
<b>Near Miss Reports</b>		
Near Miss Reports	2	49
High Potential Near Miss Reports	0	7
Report Only	3	185
First Aid	0	68
Medical Aid	0	12
Medical Aid (Modified Duty)	0	2
Lost Time	0	5
Total Recordable Incidents	0	19
		<b>Project Frequency (from January 1, 2017)</b>
First Aid Frequency		5.6
Medical Aid Frequency		1.1
Lost time Frequency		0.4
Total Recordable Incident Frequency		1.6

## 2.2 Environment and Regulatory Management

Environmental and regulatory activities continued over the reporting period relating primarily to the execution of current work.

### 2.2.1 Environment

Environmental work progressed as planned over the reporting period. The focus was on environmental monitoring of construction activities.

Key environmental management activities completed in November included:

- An end-of-spill report was submitted to the BC Ministry of Environment and Climate Change Strategy (ENV) in fulfilment of requirements related to the minor release of residual solids that occurred on October 19 at a low point drain valve location on the Residual Solids Conveyance Line within Hartland Landfill;
- An end-of-spill report was submitted by HRP to ENV in fulfilment of requirements related to the small release of wastewater into the ocean at the McLoughlin Point site that occurred on October 27; and

- HRMG continued with spill remediation and environmental monitoring associated with the release of residual solids at the Residuals Treatment Facility (RTF) site that occurred on October 13.

## 2.2.2 Regulatory Management

Over the reporting period, the Project Team continued to support or lead the advancement of the few regulatory approvals remaining.

Key permitting activities over the reporting period included:

- The Department of National Defence approved an Environmental Effects Determination Amendment related to the construction of a BC Hydro access road in the Township of Esquimalt.

The status of the two remaining key Project permits are summarized in Table 4. The table is not a list of all required Project permits, but rather a summary of the status of key Project permits. There were no changes made to the status of the key outstanding permits from the table presented in the October 2020 Monthly Report.

*Table 4- Key Permits Status*

<i>Permit/Licence</i>	<i>Anticipated Date</i>	<i>Status</i>	<i>Party Responsible for Obtaining Perming</i>
McLoughlin Point Harbour Crossing			
Transport Canada Lease	Q1 2021	On track	CRD
McLoughlin Point Outfall			
Transport Canada Lease	Q1 2021	On track	CRD

## 2.3 First Nations

First Nations communication and engagement was ongoing over the reporting period. Meetings with the Esquimalt and Songhees' liaisons continued, as did meetings with the WSÁNEĆ Leadership Council's (WLC) liaison. The meetings are a forum for covering both Project-related issues with the potential to impact First Nations, as well as an opportunity for broader discussion of CRD-related issues.

## 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 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 and notifications of construction through notices and a public inquiry program, among other methods.

## **Construction Communications**

One construction notice and one letter were issued to stakeholders in the reporting period:

- McLoughlin Point: BC Hydro Access Road (November 6, 2020) (Appendix A)
- Trent Forcemain: Dallas Road Update Letter (November 23, 2020) (Appendix B)

The construction notice was hand delivered to 54 homes on: Thomas Street; Bewdley Avenue between Peek Street and Anson Street; and Anson Street between Bewdley Avenue and Thomas Street.

A letter providing more information to residents about the Trent Forcemain work taking place along the Dallas Road Seawall was hand delivered to 54 residents along Dallas Road between Clover Point and Memorial Crescent, Bushby Street between Dallas Road and George Street, and Eberts Street between Dallas Road and Bushby Street.

In addition, as part of ongoing construction communications, residents affected by localized, temporary disruptions, such as driveway impacts, were notified by hand delivery of notices.

A sign was posted at the Macaulay Point Pump Station providing an update on the work that was taking place (Appendix C).

## **Project Website**

Over the reporting period the Project website, wastewaterproject.ca, was updated with information about the Project. The construction notice and Macaulay Point Pump Station sign were posted.

The CRD's Twitter account was used to provide Project information to the public, including: information about the McLoughlin Point Wastewater Treatment commissioning.

## **Community Meetings**

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

- Esquimalt Liaison Committee;
- City of Victoria Technical Working Group;
- District of Saanich Technical Working Group; and
- meeting and RTF site tour with representatives from the Willis Point Residents Association.

## **Public Inquiries**

Public inquiry numbers from the Project email address and 24/7 information phone line (1 844 815-6132) are noted in Table 5.

*Table 5 – Project Inquiries- November 2020*

<b>Inquiry Source</b>	<b>Contacts for November 2020</b>
Information phone line inquiries	32
Email inquiries responded to	19

Key themes of the public inquiries were as follows:

- questions regarding vibrations caused by Trent Forcemain work;
- questions regarding odour on Willis Point Road and nearby areas during the commissioning process; and
- interest in restoration, landscaping and the final look of Project facilities.

## 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

Progress over the reporting period is summarized in Section 2.9.

Figure 1 shows the high-level Project schedule. There has been no change from that shown in the October 2020 Monthly Report.

Over the reporting period the COVID-19 public health emergency continued to have impacts on the Project. However, construction is ongoing at all of the Project's sites, in accordance with provincial guidelines, and based on current progress the Wastewater Treatment Project remains on schedule to meet the provincial and federal regulations for treatment for the Core Area's wastewater by December 31, 2020.

Figure 1- High-Level Project Schedule

### Wastewater Treatment Project Schedule\*

Construction + Commissioning



\*Schedule subject to updates as Project planning progresses.

### 2.6.1 30 day look ahead

Key activities and milestones for the next 30 days (December) are outlined below by function.

#### Safety

- bi-weekly and monthly prime contractor progress meetings;
- review of any site specific safety plans or high risk tasks;
- review prime contractor document submissions;
- issue Safety Notices for trending observations or similar incidents occurring on project sites;
- review Daily Progress reports and contact Primes of any safety notations or observations contained within those reports;
- WTP Safety Manager will conduct regular site inspections at all active Project work sites; and
- incident reporting review with prime contractors at active work locations.

#### Environment and Regulatory Management

- HRMG to continue environmental monitoring related to the October 13, 2020 release of residual solids at the Residuals Treatment Facility; and
- Ongoing environmental monitoring of all other active construction sites.

#### First Nations

- CRD and Songhees and Esquimalt liaisons will continue to work on interpretive sign content.

#### Stakeholder Engagement

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

#### Cost Management and Forecast

- prepare cost reports;
- prepare for year-end; and
- monitor schedule.

#### Construction

##### McLoughlin Point

- training; and
- connect servers to network at site.

##### Clover Point Pump Station

- install pathways;
- install water fountain, benches, garbage cans, and bike maintenance station and public art; and
- install washroom accessories.

##### Macaulay Point Pump Station

- complete demolition of old pump station;
- clean up and demobilize site; and
- restore area E to green space.



### Residuals Treatment Facility

- complete process commissioning with residuals;
- complete biogas commissioning; and
- complete site landscaping.

### Residual Solids Pump Stations

- complete landscaping; and
- complete clean up and demobilization.

### Arbutus Attenuation Tank

- install electrical duct banks;
- install monorail and platform in valve chamber;
- install stainless steel piping and valves flowmeter to tank;
- form and pour suspended slab and curbs in main tank; and
- install Fiberglass Reinforced Plastic (FRP) stairway.

### Trent Forcemain

- install sanitary sewer on Dallas Rd between Bushby and Eberts streets; and
- surface restoration as required.

## 2.6.2 60 day look ahead

Key activities and milestones for the next 60 days (January) are outlined below by function.

### Safety

- bi-weekly and monthly prime contractor progress meetings;
- review of any site specific safety plans or high risk tasks;
- review prime contractor document submissions;
- issue Safety Notices for trending observations or similar incidents occurring on project sites;
- WTP Safety Manager will conduct regular site inspections at all active Project work sites; and
- incident reporting review with prime contractors at active work locations.

### Environment and Regulatory Management

- HRMG to submit an end-of-spill report to ENV related to the October 13 residual solids spill.

### First Nations

- Songhees and Esquimalt to host a ceremonial burning to honour the ancestors that were encountered during Project construction, prior to their reburial.

### Stakeholder Engagement

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

### Cost Management and Forecast

- prepare cost reports;
- monitor schedule; and
- fiscal year end close.

## **Construction**

### **McLoughlin Point**

- clean up and demobilize site.

### **Clover Point Pump Station**

- installation of public art; and
- ongoing landscaping.

### **Macaulay Point Pump Station**

- reinstate surfaces.

### **Residuals Treatment Facility**

- load testing; and
- commence acceptance testing.

### **Residual Solids Pump Stations**

- landscaping.

### **Arbutus Attenuation Tank**

- install electrical duct banks for power;
- install valve chamber piping;
- install air intake and supply tank;
- install air intake heating ventilation and air conditioning (HVAC) ducting;
- install gas detection panel and system in electrical room;
- install motor control centre; and
- complete roofing.

### **Trent Forcemain**

- install sanitary sewer on Dallas Rd between Bushby and Clover Point Pump Station; and
- surface restoration as required.

## 2.7 Cost Management and Forecast

The monthly cost report for November is attached as Appendix D. The cost reports summarize Project expenditures and commitments by Project Components and the major cost centres common to the Project Components.

The Project Team has been reporting budget pressures through its monthly reports to the Project Board (and CRD Board) since September 2017, primarily as a result of inflation in the Vancouver Island construction market. Other factors that have contributed to budget pressures include: design development to incorporate stakeholder input; geotechnical considerations including removal and disposal of contaminated material; and schedule constraints associated with the requirement to provide wastewater treatment by the regulatory deadline of December 31, 2020.

The Project Team forecast the cost to complete the Project at \$775M, or \$10M (1.3%) over the Project's control budget. In May 2019 the CRD Board approved an increase in the Project's budget by \$10M to \$775M, and on August 14, 2019, the associated amendment to the 2019-2023 Financial Plan was approved.

Subsequent to May 2019 the Project Team have continued to manage risks and there have been two opposing budget drivers:

- i) The Project's financing costs to-date have been lower than budgeted for two reasons: firstly as a result of low interest rates since the start of the Project, and secondly due to the receipt of funding from the provincial government earlier than forecast; and
- ii) The Project's construction costs may be higher than budgeted as many contractors have advised that there are cost impacts from the COVID-19 public health emergency. Impacts include labour availability, work modifications to comply with provincial guidelines, and delays to the delivery of equipment and supplies.

It is too early to determine the cost impact to the Project, but given the ability to offset the unforeseen costs of COVID-19 through the finance cost savings, the Project Team remain confident that, if construction continues at the current pace, the Project cost will be within the Project's \$775M budget.

### 2.7.1 Commitments

Commitments were made over the reporting period in furtherance of delivering the Project. The net commitments made during the reporting period resulted in an increase in committed costs of \$2.1 million. The significant commitments made in the reporting period include work on the BC Hydro access road, ferric dosing at the WWTP, and the approval of provisional items in construction contracts and contract change orders.

### 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 commissioning, construction activities and project management office-related costs.

### 2.7.3 Contingency and Program Reserves

Over the reporting period contingency draws of \$0.6M were made as summarised in Table 6. The draws to-date and remaining contingency and program reserve balances are also summarized in Table 6.

*Table 6- Contingency and Program Reserve Draw-Down Table*

WTP Contingency and Program Reserve Draws and Reallocations	Draw Date	\$ Amount
<b>Contingency and Program Reserve (in Control Budget)</b>		<b>\$ 69,318,051</b>
Net Contingency and Program Reserve draws to October 31, 2020		\$ (54,499,997)
<b>Contingency and Program Reserve balance as at October 31, 2020</b>		<b>\$ 14,818,054</b>
Costs associated with seeking the Certificate of Compliance for Remediation of WWTP Site	Nov-20	\$ (15,909)
Ferric dosing at the Wastewater Treatment Plant	Nov-20	\$ (457,100)
<b>WWTP Total Draw</b>		<b>\$ (473,009)</b>
<b>RTF Total Draw</b>		<b>\$ -</b>
Additional SCADA Licenses for Clover Point Pump station	Nov-20	\$ (24,414)
Relocation of the Cathodic Protection Rectifier Panel	Nov-20	\$ (83,440)
Additional SCADA Licenses for Macaulay Point Pump Station	Nov-20	\$ (24,414)
<b>Conveyance Total Draw</b>		<b>\$ (132,267)</b>
<b>PMO Total Draw</b>		<b>\$ -</b>
<b>BC Hydro Total Draw</b>		<b>\$ -</b>
<b>WTP Program Reserve Draw</b>		<b>\$ -</b>
Contingency and Program Reserve draws in the reporting period		\$ (605,276)
<b>Contingency and Program Reserve balance as at November 30, 2020</b>		<b>\$ 14,212,778</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 \$248 million towards the three components of the Project, while the Government of Canada is contributing:

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

The Project Team has applied to the Federation of Canadian Municipalities (FCM) for additional funding and has executed a grant agreement for the contribution of up to \$346,900 towards the delineation of the contamination and remediation and risk assessment for the McLoughlin Point Wastewater Treatment Plant.

The status of funding claims is summarised in Table 7. Note that the timing for the provision of 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, the remainder of the funding cannot be claimed until relevant Project components are substantially complete.

*Table 7- Project Funding Status*

Funding Source	Maximum Contribution	Funding Received in the Reporting Period	Funding Received to Date
Government of Canada (Building Canada Fund)	\$120M	-	\$108M
Government of Canada (Green Infrastructure Fund)	\$50M	-	\$45M
Government of Canada (P3 Canada Fund)	\$41M	-	-
Government of British Columbia	\$248M	-	\$186M
Federation of Canadian Municipalities	\$0.3M	-	-
<b>TOTAL</b>	<b>\$459.3M</b>	-	<b>\$339M</b>

## 2.8 Key Risks and issues

The Project Team actively identified and managed Project risks over the reporting period. Table 8 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. No changes were made to the risk register since the October 2020 Monthly Report.

The COVID-19 public health emergency continued to have impacts on the Project over the reporting period. It is anticipated that these impacts may affect several of the Project's risks. The Project Team are currently evaluating the impact of the public health emergency on the Project's risks, and anticipates that changes may be made to several of the risks as the situation evolves. Those risks that the Project Team have identified as potentially impacted, and that are currently under review, are identified in Table 8.

Table 8- Project Active Risks Summary

Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level	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).	L	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.	L	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 ongoing over the reporting period (see section 2.4 for further details).	L	No change
Lack of integration between Project Components.	Planning challenges and system integration between the McLoughlin point 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 has used a single Owner's engineer (Stantec) to develop the indicative design for all critical project components with significant interfaces. Commissioning and control plans are under development	L	No change
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 has been assigned and is being monitored.	L	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 and coverage of communications in contractor orientations.	L	No change.

Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level	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; and/or consider including anticipated modifications in contracts.	H	No change: this risk has been impacted by the COVID-19 public health emergency
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.	L	No change
Disagreement on contractual obligations of the construction contractors.	There is a disagreement between the Project Team and a contractor regarding the performance of their contractual obligations.	The Project Team takes a proactive management approach to the resolution of any changes, claims and disputes that arise, working expeditiously to achieve resolution with the goal of minimizing any impacts to budget and schedule while ensuring adherence to the terms of the construction contracts.	M	No change but this risk may be impacted by the COVID-19 public health emergency (assessment is currently underway)

Risk Level Key - Assessed risk level (based on likelihood and potential impact)			
Low	Medium	High	Closed
L	M	H	C

## 2.9 Status (Engineering, Procurement and Construction)

### 2.9.1 Wastewater Treatment Plant (McLoughlin Point WWTP)

The McLoughlin Point WWTP Project Component continued with Harbour Resource Partners (“HRP” as the Design-Build contractor for the McLoughlin Point WWTP) progressing construction and commissioning activities.

Key activities in progress or completed by HRP in November were commencing the acceptance test and progressing site landscaping.

Photographs of construction progress over the month of November at McLoughlin Point WWTP are shown in Figures 2-4.



*Figure 2 – McLoughlin Point Wastewater Treatment Plant – Aluminium countertops and electrical outlets installed in instrumentation workshop*





Figure 3 – McLoughlin Point Wastewater Treatment Plant- Gravel installation along the generator area.

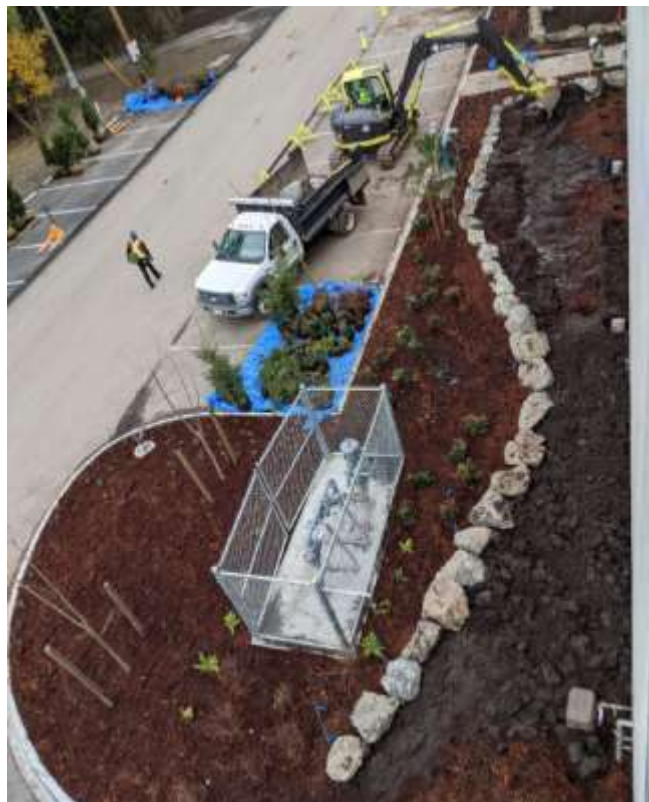


Figure 4 – McLoughlin Point Wastewater Treatment Plant- Rock installation at landscape area west of process building.

### 2.9.2 Residuals Treatment Facility

The RTF Project Component continued with Hartland Resource Management Group (“HRMG” as the Design-Build-Finance-Operate-Maintain contractor for the RTF) progressing construction and commissioning activities.

Key activities in progress or completed by HRMG in November were as follows:

- draining water from Digester 1 and the Digested Solids Storage Tank;
- ongoing commissioning of various systems;
- completed fencing and main gate; and
- completed landscaping.

A photograph of construction progress over the month of November at the Residuals Treatment Facility is shown in Figure 5.



*Figure 5 – Residuals Treatment Facility- Landscaping installation.*

## 2.9.3 Conveyance System

### 2.9.3.1 Clover Point Pump Station

The Clover Point Pump Station continued with Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressing construction and commissioning activities.

Key construction activities in progress or completed by Kenaidan in November included:

- completed exterior stone veneer;
- grading for walkways outside of pump station;
- continue demobilizing site compound; and
- landscaping and exterior works in plaza.

Photographs of construction progress over the month of November at Clover Point Pump Station are shown in Figures 6 and 7.



*Figure 6 – Clover Point Pump Station - Conduit area preparation.*



*Figure 7 – Clover Point Pump Station - Rock face on new pump station.*

### 2.9.3.2 Macaulay Point Pump Station and Forcemain

The Macaulay Point Pump Station and Forcemain continued with Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressing construction and commissioning activities.

Key construction activities in progress or completed by Kenaidan in November were as follows:

- completed demolition of the old pump station;
- installed screen covers;
- completed air balancing test;
- completed grit sampling test;
- backfill around the existing drop structure and new diversion chamber; and
- completed tree planting.

A photograph of construction progress over the month of November at the Macaulay Point Pump Station is shown in Figure 8.



*Figure 8 – Macaulay Point Pump Station - Demolition of old Pump Station completed*

### 2.9.3.3 Residual Solids Conveyance Line

The RSCL is being delivered through two construction contracts:

- Residual Solids Pipes; and
- Residual Solids Pump Stations

Residual Solids Pipes: Don Mann Excavating Ltd. (“Don Mann” as the Construction Contractor for the Residual Solids Pipes) continued construction activities over the reporting period for the Saanich infrastructure improvement being undertaken at Peers Creek, and began construction of a BC Hydro access road in the Township of Esquimalt.

Key construction activities in progress or completed by Don Mann in November were as follows:

- Peers Creek culvert replacement:
  - pumps were set up to lower the water level on the west side of the culvert;
  - inverts of both culverts were cut out to lower the effective invert elevation;
  - installed guardrails at both headwalls; and
  - completed line painting including replacement of crosswalk lines, fog lines, and centreline.
- BC Hydro access road:
  - installed lawn basin at Bewdley Ave and tied into the existing drain main;
  - commenced tree removal;
  - commenced roadwork at Bewdley Ave; and
  - drilled new anchor hole for a conflicting guywire anchor.

A photograph of construction progress over the month of November on the construction of the BC Hydro access road is shown in Figure 9.



*Figure 9 – Residual Solids Pipes – Building BC Hydro Access Road.*

Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor for the Residual Solids Pump Stations) continued construction and commissioning activities over the reporting period.

Key construction activities in progress or completed by Knappett in November included:

- installed RTF leachate chamber castings, and final restoration on Willis Point Road;
- commenced irrigation work at pump stations 1 and 2;
- installed odour control unit (OCU) heat trace and insulation at pump stations 1, 2 and 3;
- Installed surge tank heat trace and insulation at pump stations 1, 2 and 3;
- landscape restoration, trail screening and OCU damper installation at Marigold Pump Station; and
- pipe tested and chlorinated at Hartland Pump Station.

Photographs of construction progress over the month of November on the Residual Solids Pump Stations are shown in Figures 10 and 11.



*Figure 10 – Residual Solids Pump Stations–Pump Station 2 – Installation of irrigation and sprinkler heads.*



*Figure 11 –Residual Solids Pump Stations – Restoration of Willis Point Road Laydown area.*

### 2.9.3.4 Arbutus Attenuation Tank

NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) continued construction activities over the reporting period.

Key construction activities in progress or completed by NAC Constructors Ltd. in November included:

- installed Attenuation Tank interior room divider walls lower floor reinforcing steel;
- caisson wall system cleaning;
- installed column reinforcing steel;
- ongoing concrete pours for the majority of columns;
- installed wall formwork; and
- perimeter wall and interior room divider walls concrete pours.

Photographs of construction progress during the month of November at the Arbutus Attenuation Tank are shown in Figures 12 and 13.



*Figure 12 – Arbutus Attenuation Tank- Column reinforcing installation process.*



*Figure 13 – Arbutus Attenuation Tank- Attenuation Tank Overview.*



### 2.9.3.5 Trent Forcemain

Jacob Bros. Construction Inc. (as the Construction Contractor for the Trent Forcemain) progressed construction activities over the reporting period.

Key construction activities in progress or completed by Jacob Bros. in November included:

- completed gravity main low-pressure air test;
- installation of approximately 60m of sheet piles along Ross Bay seawall;
- excavate pipe trench;
- pre-fused high density polyethylene pipe at laydown area;
- installed electrical conduit and light post bases on Memorial Crescent;
- completed Lower Memorial Green sidewalk;
- restoration on St. Charles Street of curb, gutter, sidewalk, pavement and topsoil;
- restoration on Dallas Road at Eberts Street of curb, gutter, and pavement; and
- restoration on Memorial crescent of pavement and topsoil.

A photograph of construction progress during the month of November at the Trent Forcemain is shown in Figure 14.



*Figure 14 – Trent Forcemain - Fusion of High Density Polyethylene Pipe.*

## **Appendix A– McLoughlin Point: BC Hydro Access Road (November 6, 2020)**



November 6, 2020

## McLoughlin Point: BC Hydro Access Road

As part of construction for the McLoughlin Point Wastewater Treatment Plant, BC Hydro and the Capital Regional District will be installing new power lines and an access road. The power lines will run along Munro Street, Anson Street, and Thomas Street and a new gravel access road will be built between Thomas Street and Bewdley Avenue (please see map on reverse).

Work is expected to begin on the access road in the week of November 9 and is expected to be complete in approximately 10 weeks. Once the access road is in place BC Hydro will begin working to install the power lines.

### What to Expect for the Construction of the Access Road

- The access road route will be cleared and the area prepared for construction.
- Rock will be removed by blasting and mechanical means.
- Pre- and post-blast surveys will be conducted when blasting is required. Notification will be provided to residents directly.
- The road will be graded and the gravel surface will be installed.
- Noise associated with this work includes blasting, excavation machinery, and truck back-up beepers.
- Equipment will be temporarily stored in the area.

### Blasting Procedure

- Each blast will last less than 60 seconds
- All blasts will be covered with blast mats. Blasting signs will be posted, and warning signals will be used as follows:
  - 12 short whistles at one second intervals followed by a two minute pause
  - Blast will be detonated
  - One long whistle signals all is clear
  - Blasting Hours: Monday to Friday, 8:00 a.m. to 4:30 p.m.

### Work Hours

- Monday to Friday 7:00 a.m. to 7:00 p.m.

### Traffic Impacts

- There are no traffic impacts anticipated for work on the BC Hydro access road.

### 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 by the end of 2020.

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Any questions about the work, please contact the Project Team.



24/7 Phone Line  
1.844.815.6132

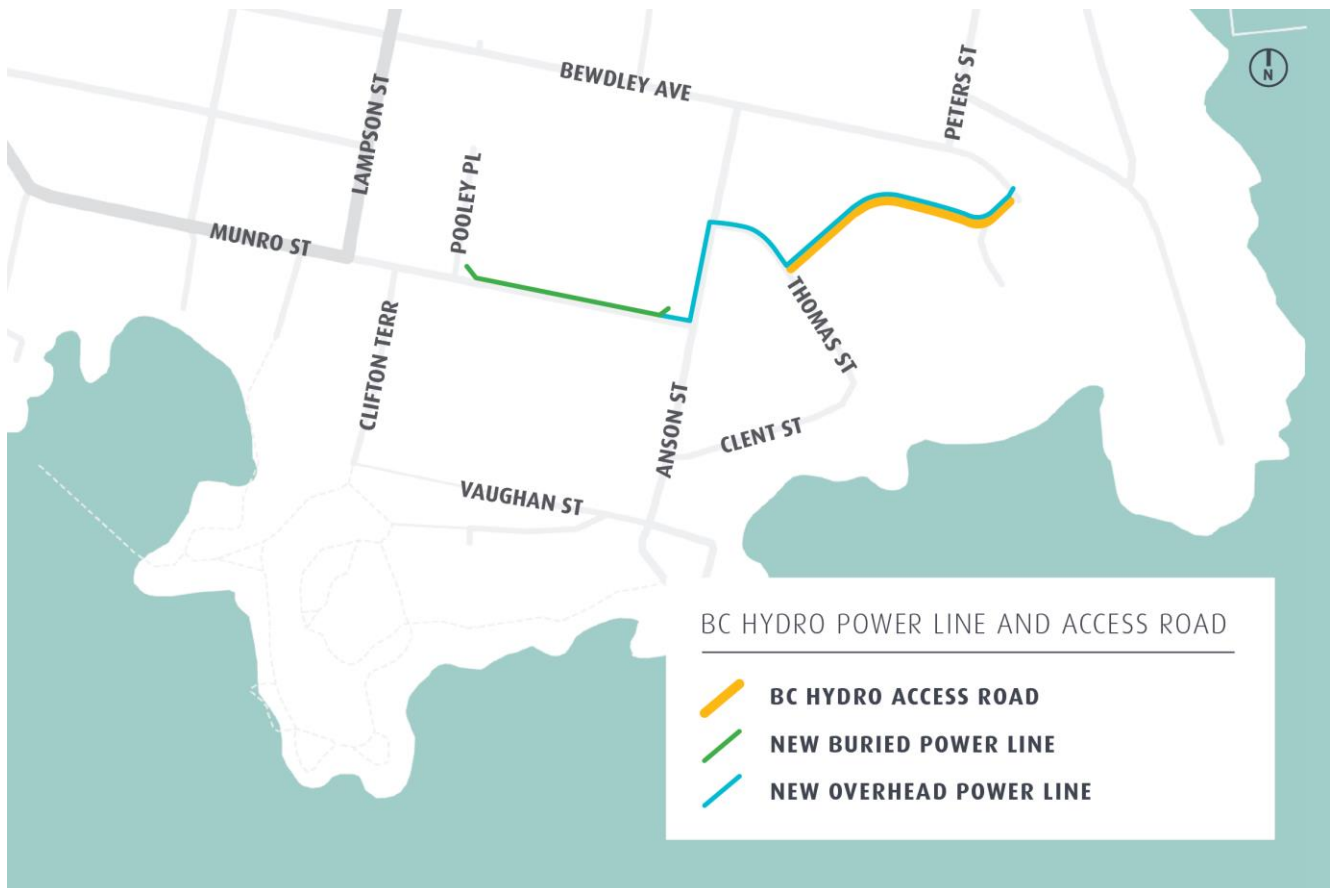


Email  
wastewater@crd.bc.ca



Website  
wastewaterproject.ca

BC Hydro Power Line and Access Road Route



Any questions about the work, please contact the Project Team.



24/7 Phone Line  
1.844.815.6132



Email  
wastewater@crd.bc.ca



Website  
wastewaterproject.ca

## **Appendix B– Trent Forcemain: Dallas Road Update Letter (November 23, 2020)**



## Wastewater Treatment Project

November 23, 2020

Dear Resident,

We would like to provide an update about the construction on the Dallas Road Seawall and acknowledge concerns we have heard regarding impacts on the neighbourhood.

Unfortunately, the construction along the seawall causes some unavoidable noise and vibration due to the nature of the work and location of infrastructure.

While vibrations have and will occur, the contractor is required to ensure that no damage is caused by construction activities. The vibrations are being monitored to ensure that they remain below the threshold for damage.

The work along the seawall is taking place in segments. It takes approximately two weeks for the contractor to install the sheet piles in one segment. For the following two weeks, after the sheet piles are installed, the work changes and a trench is excavated, pipe is installed and the trench is backfilled within that segment. The work then moves onto the next segment and the sheet piling begins once again. This approach means that the vibrations experienced due to the sheet piling activities will pause for approximately two weeks at a time.

Another concern we have been hearing is that the contractor is stockpiling materials in a parking area along Dallas Road. This location was approved by the City of Victoria and was selected for a number of reasons including safety. While the location for this stockpile won't change the contractor is looking into ways to reduce the noise and vibrations caused by working in this area.

Construction on the Trent Forcemain is nearly 80% complete and we expect the work along Dallas Road should be finished by early next year.

We appreciate your patience as this work is being completed. Please feel free to contact us at our 24/7 phone line 1-844-815-6132 or email [wastewater@crd.bc.ca](mailto:wastewater@crd.bc.ca) if you have any questions.

Thank you,

Wastewater Treatment Project Team

## **Appendix C– Macaulay Point Pump Station Sign**

## Macaulay Point Pump Station Update

The Wastewater Treatment Project Team wants to thank you for your patience during the construction of the Macaulay Point Pump Station. We are close to the end of the Project and are now in the final restoration stage.

Construction on the new Macaulay Point Pump Station is coming to an end and it is undergoing the commissioning (or testing) phase. This means that the new pump station is now pumping wastewater to the McLoughlin Point Wastewater Treatment Plant for treatment rather than releasing untreated sewage into the ocean. During this phase some short-term increases in odour may occur. Thanks to the state-of-the-art odour control system, there should be no discernible odour in the community once testing is complete.

### Landscaping

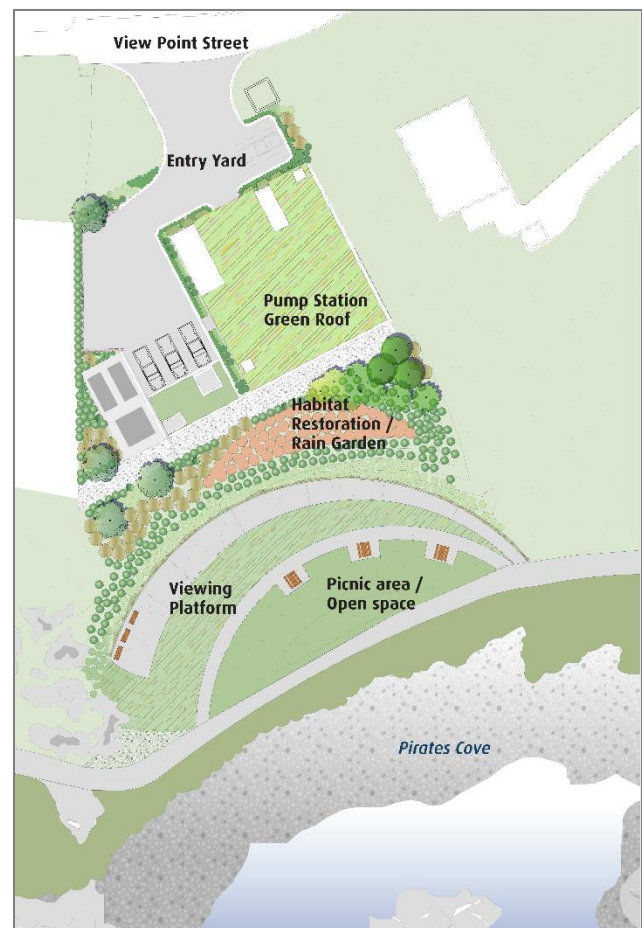
The next steps include landscaping and restoration. The landscaping will create an attractive and welcoming waterfront space to be enjoyed.

### Thank you

We recognize construction has been disruptive and want to thank you for your patience. We hope you will enjoy the new park-like setting once it is complete.

### 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 by the end of 2020.



**Any questions about the work, please contact the Project Team.**



**24/7 Phone Line**  
1.844.815.6132



**Email**  
wastewater@crd.bc.ca



**Website**  
wastewaterproject.ca



## Appendix D- Monthly Cost Report (November)

**MONTHLY COST REPORT  
as at November 30, 2020**

Description	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to October 31, 2020	Expended over reporting period (November 2020)	Expended to November 30, 2020	Expended to November 30, 2020 as a % of Allocated Budget	Remaining (Unexpended) Allocated Budget at November 30, 2020	Total Commitment at November 30, 2020	Unexpended Commitment at November 30, 2020	Uncommitted Allocated Budget at November 30, 2020	Forecast to Complete	Forecast at Completion	Variance at Completion \$	Variance at Completion as a % of Allocated Budget
<b>McLoughlin Point Wastewater Treatment Plant</b>	<b>331.4</b>	<b>329.7</b>	<b>313.3</b>	<b>(0.1)</b>	<b>313.2</b>	<b>95%</b>	<b>16.5</b>	<b>322.3</b>	<b>9.1</b>	<b>7.4</b>	<b>16.5</b>	<b>329.7</b>	-	0%
Construction	306.7	321.7	312.9	0.0	312.9	97%	8.8	321.7	8.7	0.1	8.8	321.7	-	0%
Contingency	14.9	1.1	-	-	-	0%	1.1	-	-	1.1	1.1	1.1	-	0%
Financing	9.8	6.9	0.4	(0.1)	0.3	4%	6.6	0.7	0.4	6.2	6.6	6.9	-	0%
<b>Residuals Treatment Facility</b>	<b>159.4</b>	<b>140.7</b>	<b>11.8</b>	<b>0.3</b>	<b>12.1</b>	<b>9%</b>	<b>128.6</b>	<b>139.3</b>	<b>127.2</b>	<b>1.4</b>	<b>128.6</b>	<b>140.7</b>	-	0%
Construction	145.4	139.3	11.8	0.3	12.1	9%	127.2	139.3	127.2	0.0	127.2	139.3	-	0%
Contingency	12.3	1.0	-	-	-	0%	1.0	-	-	1.0	1.0	1.0	-	0%
Financing	1.7	0.4	-	-	-	0%	0.4	0.0	0.0	0.4	0.4	0.4	-	0%
<b>Conveyance System</b>	<b>158.0</b>	<b>213.4</b>	<b>184.2</b>	<b>3.6</b>	<b>187.7</b>	<b>88%</b>	<b>25.6</b>	<b>198.8</b>	<b>11.1</b>	<b>14.6</b>	<b>25.6</b>	<b>213.4</b>	-	0%
Macaulay Point Pump Station	25.4	31.1	29.6	0.4	30.0	96%	1.2	31.1	1.2	0.0	1.2	31.1	-	0%
Macaulay Forcemain	5.6	7.4	7.4	-	7.4	100%	-	7.4	-	-	-	7.4	-	0%
Craigflower Pump Station	12.5	12.4	12.4	-	12.4	100%	-	12.4	-	-	-	12.4	-	0%
Clover Point Pump Station	23.7	27.3	24.7	1.0	25.8	95%	1.5	27.3	1.5	0.0	1.5	27.3	-	0%
Currie Pump Station^	2.8	0.1	0.1	-	0.1	100%	-	0.1	-	-	-	0.1	-	0%
Arbutus Attenuation Tank	14.2	24.6	18.8	0.8	19.6	80%	4.9	23.8	4.2	0.8	4.9	24.6	-	0%
Clover Forcemain	14.6	31.9	31.6	0.1	31.7	99%	0.2	31.9	0.2	0.0	0.2	31.9	-	0%
Currie Forcemain^	3.3	0.2	0.2	-	0.2	100%	-	0.2	-	-	-	0.2	-	0%
Trent Forcemain	9.5	11.7	6.0	0.9	6.9	59%	4.8	9.4	2.5	2.3	4.8	11.7	-	0%
Residual Solids Conveyance Line	19.1	36.8	36.5	-	36.5	99%	0.3	36.8	0.3	0.0	0.3	36.8	-	0%
Residual Solids Pump Stations & Bridge Crossings	4.6	17.8	16.3	0.3	16.6	93%	1.2	17.7	1.1	0.1	1.2	17.8	-	0%
Residual Solids Conveyance Line – Highway Crossing	-	0.3	0.3	-	0.3	100%	-	0.3	-	-	-	0.3	-	0%
Contingency	16.8	7.6	-	-	-	0%	7.6	-	-	7.6	7.6	7.6	-	0%
Financing	5.8	4.1	0.1	-	0.1	3%	3.9	0.3	0.2	3.7	3.9	4.1	-	0%
<b>Project Management Office ("PMO")</b>	<b>75.8</b>	<b>77.9</b>	<b>61.2</b>	<b>1.0</b>	<b>62.2</b>	<b>80%</b>	<b>15.7</b>	<b>71.3</b>	<b>9.1</b>	<b>6.5</b>	<b>15.7</b>	<b>77.9</b>	-	0%
Project costs Aug 2016-Dec 2016	2.2	2.2	2.2	-	2.2	100%	-	2.2	-	-	-	2.2	-	0%
Owner's Engineering	17.2	17.9	16.0	0.3	16.3	91%	1.6	17.9	1.5	0.0	1.6	17.9	-	0%
Conveyance Design	5.0	9.3	8.3	0.0	8.4	90%	0.9	9.1	0.7	0.2	0.9	9.3	-	0%
Advisors & Professional Support	7.0	14.8	10.7	0.1	10.7	73%	4.0	11.7	0.9	3.1	4.0	14.8	-	0%
Project Board	2.0	1.3	1.0	0.0	1.0	79%	0.3	1.0	-	0.3	0.3	1.3	-	0%
Project Board Expenses	0.3	0.1	0.1	-	0.1	64%	0.0	0.1	-	0.0	0.0	0.1	-	0%
Project Team	29.1	23.2	17.6	0.4	18.0	78%	5.2	23.2	5.2	-	5.2	23.2	-	0%
Project Leadership Team Expenses	0.7	0.4	0.2	-	0.2	65%	0.1	0.2	-	0.1	0.1	0.4	-	0%
Project Support Team Expenses	0.5	0.2	0.1	-	0.1	73%	0.0	0.1	-	0.0	0.0	0.2	-	0%
CRD Financial Services	1.5	1.4	1.0	0.0	1.0	75%	0.4	1.4	0.4	-	0.4	1.4	-	0%
CRD Human Resources	0.3	0.3	0.3	0.0	0.3	100%	0.0	0.3	0.0	-	0.0	0.3	-	0%
CRD Corporate Communications	0.2	0.2	0.2	-	0.2	95%	-	0.2	-	-	-	0.2	-	0%
CRD Real Estate	0.3	0.3	0.3	-	0.3	96%	-	0.3	-	-	-	0.3	-	0%
CRD Information Technology	0.4	0.4	0.3	0.0	0.3	79%	0.1	0.4	0.1	-	0.1	0.4	-	0%
CRD Insurance	0.1	0.0	0.0	-	0.0	100%	-	0.0	-	-	-	0.0	-	0%
CRD Operations	0.6	0.6	0.5	0.0	0.5	93%	0.0	0.6	0.0	-	0.0	0.6	-	0%
CRD Legislative Services	0.1	0.1	0.1	-	0.1	100%	-	0.1	-	-	-	0.1	-	0%
CRD Corporate Safety	0.2	0.2	0.2	-	0.2	100%	-	0.2	-	-	-	0.2	-	0%
CRD Executive Services	-	0.1	0.1	-	0.1	86%	-	0.1	-	-	-	0.1	-	0%
Office Lease	1.9	1.3	1.0	0.0	1.0	76%	0.3	1.2	0.2	0.1	0.3	1.3	-	0%
Office Supplies	0.1	0.2	0.2	-	0.2	92%	0.0	0.2	-	0.0	0.0	0.2	-	0%
Vehicles	0.2	0.2	0.2	-	0.2	95%	-	0.2	-	-	-	0.2	-	0%
Connections Call Center	-	0.0	0.0	-	0.0	100%	-	0.0	-	-	-	0.0	-	0%
Communication support materials	0.5	0.2	0.1	-	0.1	61%	0.1	0.1	-	0.1	0.1	0.2	-	0%
Computer Hardware, Software & Training	1.0	1.0	0.7	0.0	0.7	69%	0.3	0.7	-	0.3	0.3	1.0	-	0%
Contingency	4.8	2.3	-	-	-	0%	2.3	-	-	2.3	2.3	2.3	-	0%
<b>BC Hydro</b>	<b>12.9</b>	<b>4.3</b>	<b>2.1</b>	<b>(0.0)</b>	<b>2.1</b>	<b>48%</b>	<b>2.2</b>	<b>2.1</b>	<b>0.0</b>	<b>2.2</b>	<b>2.2</b>	<b>4.3</b>	-	0%
<b>Third Party Commitments</b>	<b>8.1</b>	<b>8.1</b>	<b>4.3</b>	<b>0.1</b>	<b>4.3</b>	<b>53%</b>	<b>3.8</b>	<b>6.9</b>	<b>2.5</b>	<b>1.3</b>	<b>3.8</b>	<b>8.1</b>	-	0%
<b>Program Reserves</b>	<b>19.2</b>	<b>0.9</b>	-	-	-	<b>0%</b>	<b>0.9</b>	-	-	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	-	0%
<b>Core Area Wastewater Treatment Project</b>	<b>765.0</b>	<b>775.0</b>	<b>576.8</b>	<b>4.8</b>	<b>581.6</b>	<b>75%</b>	<b>193.4</b>	<b>740.7</b>	<b>159.1</b>	<b>34.3</b>	<b>193.4</b>	<b>775.0</b>	-	0%

\* Values presented in \$millions, results in minor rounding differences

\*\* Cost report presents approved expenditures

^ Component no longer required, and would not provide any value therefore removed from Project Scope; Costs include Seaterra initiation, planning and design