



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

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**CRD Wastewater Treatment Project**  
**Monthly Report**

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Reporting Period: April 2020

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# 1 Executive Summary

## 1.1 Introduction

This Monthly Report covers the reporting period of April 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. Construction is ongoing at all of the Project’s sites in accordance with guidelines established by the Provincial Health Officer.

While construction is ongoing, the public health emergency is impacting construction progress and may delay some interim project milestones, such as the transition to commissioning. 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) progressing: installation of Densadegs 1, 2 and 3; installing north pump room equipment and completing fine screen building roofing, cladding and drywall in the Primary treatment area; completing heat recovery room drywall, moving bed bio reactor (MBBR) 1 and 2 process equipment reinstallation, and progressing electrical work in the blower building in the secondary treatment area; continued upper disk filter walls, including outfall shaft roof slab, and pumps in the tertiary treatment area; completion of heating ventilation and air conditioning (HVAC) plumbing and fire suppression on level 1, completion of lower level interior stud build out and dry wall and elevator installation in the Operations and Maintenance (O&M) Building.

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: external pipe connections to Digester 1; pipe installation and concrete supports in Digester 3; mechanical and electrical installation in the Digester Building; installation of windows, and louvers; fiberglass reinforced plastic (FRP) grating installation in progress in the Residuals Handling Building; ongoing mechanical and insulation installation in the Residuals Drying facility; completion of hydro test in the effluent tank in the Residuals Storage and Odour control area; and drywall, ceiling tile, and flooring completed in the Operations Building.

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

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 activities over the reporting period including: completed relocation of existing screens to new inlet storm channel; completed existing pump room demolition; resumed work on the gender neutral public washroom; and forcemain successfully tested and backfilled.
- Macaulay Point Pump Station: Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction activities over the reporting period including: completion of wet well concrete pour; commenced wood siding panel installation; installed recycle water system; and installation of unit heaters and cable pulling and termination for the pumps is complete.

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

- Clover Forcemain: Windley Contracting Ltd. (“Windley” as the Construction Contractor) continued construction activities including: commencing construction on the seawall balustrade replacement; cycle track and road restoration; and top lift paving from Douglas Street to Lewis Street.
- 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, including: completion of pipe installation, installation of valve chambers; final road restoration and line painting; and final trail reinstatements near Pump Station 3.
  - Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor) continued construction activities including: pipe spools and electrical works at all three pump stations; lamp standards were installed at pump stations two and three; and the Marigold crossing was completed.
- Arbutus Attenuation Tank (“AAT”): NAC Constructors Ltd. (as the Construction Contractor) continued construction activities including: completion of 232 secant piles and commenced installation of form work and concrete pour for three out of four sections of the ring beam.
- Trent Forcemain: Jacob Bros. Construction Inc. (as the Construction Contractor) progressed construction activities including: completion of Fairfield road storm and sanitary main relocation work; completion of seawall investigation works; and completion of Fairfield Road watermain relocation.

## 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 three recordable safety incidents occurred and the total incident frequency increased from 1.2 at the end of the first quarter of 2020 to 1.5. 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 construction progress and may delay some interim project milestones, such as the transition to commissioning. 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 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.

Based on the value of the contracts awarded to-date and the refreshed cost estimate for the scope remaining to be procured, 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 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 if construction continues at the current pace the Project Team remain confident that 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*.					<p>Three recordable incidents occurred over the period. Site inspections are ongoing.</p> <p>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.</p>
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.					No environmental incidents this month.
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 is impacting construction progress and may delay some interim project milestones, such as the transition to commissioning. The Wastewater Treatment Project has made significant progress and currently 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>Based on the value of the contracts awarded to-date and a refreshed cost estimate for the scope remaining to be procured, the Project Team has forecast the cost to complete the Project at \$775M, or \$10M over the Project's Control Budget. This is 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 CRD Board have approved an increase in the Project's budget by \$10M, to \$775M.</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 if construction continues at the current pace the Project Team remain confident that the Project cost will be within the Project's \$775M budget, as a result of offsetting savings in financing costs.</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, Clover Forcemain, Residual Solids Pipes, Residual Solids Pump Stations; Arbutus Attenuation Tank and Trent Forcemain.

Over the reporting period (April 2020) eighteen safety incidents occurred; comprising: three medical aid recordable, seven first-aid, and eight 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
April 3, 2020	Residual Solids Pump Stations	First Aid	A worker stepped backwards and fell into an excavation. Worker stopped their fall causing them to injure their wrist.	Employee was assessed and treated on scene and put on Modified Duty. No further medical attention was required.	Tool-box talk reminding workers to be aware of their surroundings and their proximity to the work area was held.
April 6, 2020	McLoughlin Pt WWTP	First Aid	Worker was removing wire wheel from grinder when a wire poked through palm of their welding glove.	Worker notified Supervisor and reported to First Aid. No further medical treatment was required.	Tool-box talk held to remind workers to check their grinder for any possible hazards and that puncture resistant gloves must be worn when using a grinder.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
April 7, 2020	Residual Solids Pump Stations	First Aid	A worker while chipping concrete had concrete dust enter their eye. Worker was wearing eye protection at the time.	Workers eye was flushed and they returned to work.	Toolbox talk reviewing the appropriate eye and face protection to be used for tasks that generate a significant amount of dust was held.
April 7, 2020	McLoughlin Pt WWTP	First Aid	Worker's wrench slipped pinching their hand between two surfaces.	Worker reported to First Aid to have the injury attended to. No further medical aid was needed.	Tool-box talk with workers was held to discuss the proper use of wrenches while loosening or tightening and keeping hands safe from being pinched in the event of slippage.
April 7, 2020	McLoughlin Pt WWTP	First Aid	Worker sustained a foot injury while stacking plywood. Worker was wearing appropriate footwear.	Worker was assessed by First Aid with no treatment provided and returned to work	Worker reminded to use proper lifting techniques and obtain assistance with awkward tasks.
April 11, 2020	Residual Solids Pipes	Report Only	Inspector observed an excavator operator hoisting a worker out of an excavation greater than 3 meters.	Meeting between Senior members of the Project Team and the contractor was held to review the incident and enforce that unsafe practices will not be tolerated.	Tool-box talk with the crew to reinforce safe work practices was held. Seriousness of the issue was clearly presented to the crew by the Contractors senior management.
April 13, 2020	Residual Solids Pump Stations	Report Only	The contractor discovered that some of their equipment at the Willis Point road lay down had been vandalized.	Incident reported to Police	Contractor reviewed their security at the laydown area and removed some of their equipment from the site.
April 15, 2020	McLoughlin Pt WWTP	Report Only	Workers while lifting felt some discomfort in their back. Worker continued to work but later reported it to their Supervisor	Worker was taken to First Aid and reported the incident and returned to work.	Tool-box talk on proper lifting techniques was held.
April 16, 2020	Clover Point Pump Station	Medical Aid Recordable	Worker was assisting with lowering a section of pipe and sustained a hand injury.	Worker was sent for a Medical Assessment. Worker fractured a knuckle and was put on modified duty.	Tool-Box talk on awareness of your surroundings and fully understanding the task at hand and properly assessing the risks prior to undertaking the task was held.
April 17, 2020	McLoughlin Pt WWTP	Medical Aid Recordable	Worker adjusting forks on the telehandler sustained a serious hand injury.	Worker was sent to Medical Aid and received 16 stitches and placed on Modified duty	Tool-Box talk on awareness of your surroundings and fully understanding the task at hand and properly assessing the risks prior to undertaking the task was held.
April 20, 2020	RTF	Report Only	A pressure test of digester 2 caused some of the bolts holding the roof sheets to pull through the panels.	Test was immediately stopped and tank depressurized. No workers were in the area during the pressure test.	Control zone was appropriate for the test. Issue with Digester 2 is under review.
April 22, 2020	McLoughlin Pt WWTP	Report Only	Worker's hand slipped while installing mechanical flange resulting in them over extending their elbow.	Worker reported incident to First Aid and returned to work.	Tool-box talk with crew on proper body positioning and securing the grip on a wrench to prevent slippage.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
April 22, 2020	McLoughlin Pt WWTP	Report Only	Worker while lifting strained their back.	Worker reported incident to First Aid and returned to work.	Tool-box talk reviewing proper lifting methods and the use of mechanical lifting devices when moving heavy or awkward equipment was held.
April 23, 2020	Residual Solids Pump Stations	Report Only	An altercation between a TCP and a driver occurred at the intersection of Violet and Interurban.	Police were called to investigate the incident. No injuries were reported.	TCP asked to record license numbers of problematic drivers and to report them to their supervisor for follow up.
April 24, 2020	Residual Solids Pipes	Medical Aid Recordable	A worker sustained a hand injury from a hand grinder. The worker was wearing gloves at the time of the incident.	Worker was sent for a Medical Assessment and received 3 stitches	A tool-box talk reviewing the Safe Work Practice for the use of small hand tools was held. Also included in the talk was a review of the use of the correct gloves for the task.
April 28, 2020	Arbutus Attenuation Tank	Report Only	A worker while stepping down from a platform flexed their knee.	Worker reported to First Aid Attendant for assessment and returned to work.	Workers reminded in Tool-Box talk to be aware of their surroundings and to have platforms or other type of set-ups in place to aid in getting on and off platforms.
April 29, 2020	McLoughlin Pt WWTP	First Aid	Worker slipped engaging his safety harness causing them to strike their back on the edge of a plate settlers.	Worker reported to First Aid Attendant for assessment and returned to work.	Tool-box talk to ensure workers are aware of proper placement of their safety equipment and to always be aware of their surroundings.
April 30, 2020	McLoughlin Pt WWTP	First Aid	While guiding a pipe into position a worker overextended their wrist.	Workers wrist was assessed by First Aid and worker put on Modified Duties for the rest of the day	Tool-Box talk on proper assessments of work areas and proper lifting techniques was held.

Key safety activities conducted during April included:

- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett, Jacob Bros and NAC;
- weekly project update meetings with prime contractor: HRMG;
- monthly incident investigation reviews;
- hosted prime contractor safety coordination meeting with Project Contractors' safety representatives;
- reviewed site specific safety plans and high risk tasks;
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites with a focus on reviewing compliance with the BC Government's guidelines for construction sites to minimise the risks of COVID-19 transmission or illness;
- developed COVID-19 Project Sites Special Requirements Checklist for CRD staff, Compliance Inspectors and Guests;
- developed COVID 19 Prime Contractor Safety Challenge; and
- sent out safety notices: hand injuries in the workplace and wind warning.

Table 3: WTP Safety Information

	Reporting Period (April 2020)	Project Totals
<b>Person Hours</b>		
PMO	3 559	141 587
Project Contractor	101 862	1 774 618
Total Person Hours	105 421	1 916 205
<b>PMO</b>	30	
Project Contractors (& Project Consultants) working on Project Sites	587	
Total Number of Employees	617	
<b>Near Miss Reports</b>	0	45
High Potential Near Miss Reports	0	6
Report Only	8	150
First Aid	7	53
Medical Aid	3	8
Medical Aid (Modified Duty)	0	2
Lost Time	0	4
Total Recordable Incidents	3	14
		<b>Project Frequency (from January 1, 2017)</b>
First Aid Frequency		5.5
Medical Aid Frequency		1.0
Lost time Frequency		0.4
Total Recordable Incident Frequency		1.5

## 2.2 Environment and Regulatory Management

Environmental and regulatory activities continued over the reporting period relating to both the planning and permitting of upcoming work and 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 April included:

- Kenaidan completed work at Clover Point pump station that required screened wastewater to be discharged out of the short outfall. As discharges from the short outfall may pose a health risk to people entering the waters along the affected shorelines (being those between Radcliffe Lane and Dock St including Gonzales Bay, Ross Bay, Clover Point, Holland Point and Ogden Point in Victoria and Harling Point, McNeill Bay and McMicking Point in Oak Bay), the CRD implemented its Overflow Response Procedure during the work. This involved posting public health advisory signs and closing nearby beaches to swimming and then completing water quality sampling prior to opening them up again. The work was completed successfully and beaches were

reopened following two rounds of sampling that showed water quality to be below the recreational limit.

## 2.2.2 Regulatory Management

During the reporting period, 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 April included:

- On April 15<sup>th</sup>, the CRD placed an Environmental Protection Notice in two newspapers (the Times Colonist and Saanich News) providing a notice of intent regarding the issuance of an Operational Certificate for the Residuals Treatment Facility. In accordance with the Public Notification Regulation, the Environmental Protection Notice stated where on the CRD's website a copy of the draft Operational Certificate was posted, and how comments on the draft could be provided;
- The CRD and HRMG met with the BC Ministry of Environment and Climate Change Strategy (ENV) to review the draft Operational Certificate for the Residuals Treatment Facility;
- The CRD and HRP provided additional material to ENV in support of the MWR Registration;
- Kenaidan (as the Design-Build Contractor for the Macaulay Point Pump Station) applied to ENV for a Bypass Authorization to allow discharge from the short outfall at Macaulay Point Pump Station for a limited period during tie-in activities; HRP and their sub-consultants submitted an application for a Certificate of Compliance for the McLoughlin Point WWTP site. The Certificate of Compliance is a Provincial legal instrument that demonstrates that a contaminated site has been remediated to regulated standards; and
- Stantec (as the Trent Forcemain archaeological consultant) submitted an application to the Provincial Archaeology Branch to alter two recently discovered archaeological sites along Dallas Road and the adjacent seawall. The archaeological sites were discovered during pre-construction investigations.

The status of 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.

*Table 4- Key Permits Status*

<i>Permit/Licence</i>	<i>Anticipated Date</i>	<i>Status</i>	<i>Party Responsible for Obtaining Permitting</i>
<i>McLoughlin Point WWTP</i>			
Municipal Wastewater Regulation ("MWR") Registration	Q2 2020	Submitted September 2019	CRD
<i>McLoughlin Point Harbour Crossing</i>			
Transport Canada Lease	Following completion of construction	On track	HRP
<i>McLoughlin Point Outfall</i>			
Transport Canada Lease	Following completion of construction	On track	HRP
<i>Residuals Treatment Facility</i>			
Operational Certificate	Prior to start of RTF operations	Submitted May 2019	HRMG

## 2.3 First Nations

First Nations communication and engagement was ongoing over the reporting period. Meetings with the Esquimalt and Songhees' liaisons continued, and meetings with the WSANEC Leadership Council's (WLC) liaison began. 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.

Key Activities in April included:

- the CRD shared information with the Songhees, Esquimalt and WLC liaisons about the Macaulay Point Pump Station Bypass Authorization and Trent Forcemain Site Alteration Permit applications (see Section 2.2) that will be referred by the Province to their respective Nations.

## 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**

Four construction notices were issued to stakeholders in the reporting period:

- Overnight Work: Fairfield Watermain Shut-off (April 3, 2020) (Appendix A);
- Trent Forcemain: Bushby and Eberts Streets (April 14, 2020) (Appendix B);
- Clover Point Pump Station Overnight Work (April 15, 2020) (Appendix C); and
- Temporary Overnight Work: Marigold Road (April 17, 2020) (Appendix D).

Construction notices were hand delivered in the community: the Overnight Work notice in Fairfield (distributed to 56 residences); Trent Forcemain notice (117 residences in the Fairfield area); Clover Point notice (57 residences near the Pump Station); and the Marigold Road construction notice (44 residences). In addition, as part of ongoing construction communications, residents affected by localized, temporary disruptions, such as driveway or water impacts, were notified by hand-delivery of notices. The Residual Solids Conveyance Line: Gorge Bridge construction notice (Appendix E) was reposted with updated construction dates.

Three public service announcements were distributed to local media and posted online as an alert.

- Core Area Wastewater Discharge Notice (April 14, 2020) (Appendix F);
- Update: Core Area Wastewater Discharge Notice (April 17, 2020) (Appendix G); and
- Beaches Reopen Following Core Area Wastewater Discharge (April 24, 2020) (Appendix H).

## **Project Website**

Over the reporting period, the Project website, wastewaterproject.ca, was updated with information about the Project. Four construction notices were posted and the photo gallery section was updated with additional photos. A map showing the progress of construction along the Residual Solids Conveyance Line (Appendix I) was updated.

The CRD's Twitter account was used to provide Project information to the public, including notifications about the temporary pedestrian lane on the Gorge Bridge, closures on Interurban Road on the long weekend, and screened wastewater being discharged out of the short outfall at the Clover Point Pump Station.

Two alerts were added, and resolved once complete, to indicate the Interurban Road closure and the wastewater discharge at Clover Point.

## **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;
- City of Victoria Technical Working Group; and
- Township of Esquimalt Liaison Committee.

## **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- April 2020*

Inquiry Source	Contacts for April
Information phone line inquiries	27
Email inquiries responded to	14

Key themes of the public inquiries were as follows:

- Questions regarding overnight work for the Trent Forcemain;
- Interest in finding out when the Project and restoration will be complete; and
- Questions regarding the wastewater discharge at the Clover Point Pump Station.

## **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.

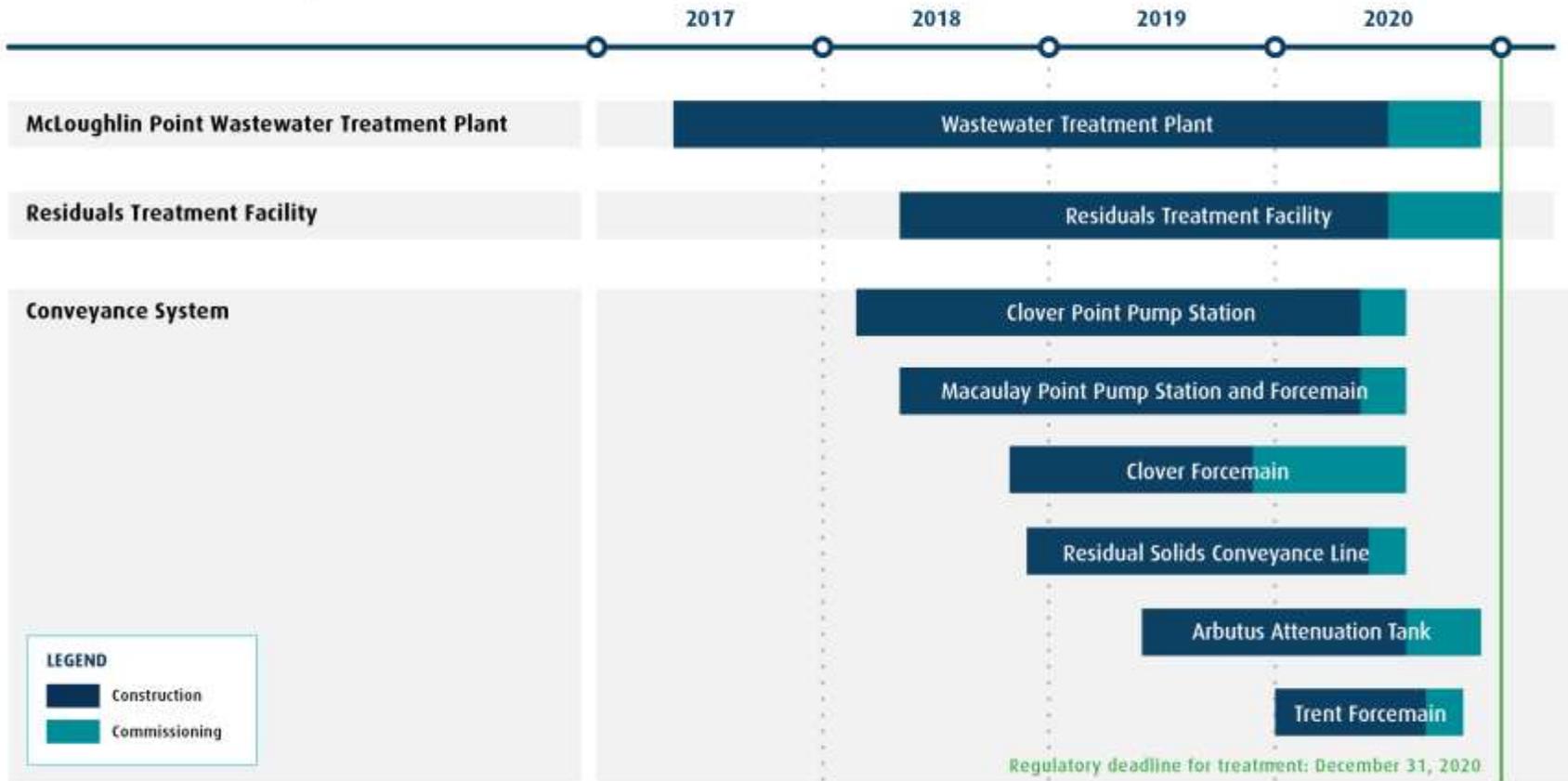
Figure 1 shows the high-level Project schedule. This schedule has not changed from that shown in the Project's Q1 2020 quarterly report, and remains subject to optimization as the Project progresses.

Over the reporting period the COVID-19 public health emergency continued to have impacts on the Project. Specifically, the COVID-19 public health emergency is impacting construction progress and may delay some interim project milestones, such as the transition to commissioning. 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 (May) are outlined below by function.

### Safety

- CRD corporate occupational health and safety coordination committee meeting;
- participate in weekly and bi-weekly prime contractor progress meetings;
- host Prime Contractor Safety Coordination Meeting with Project safety representatives;
- review of any site specific safety plans or high risk tasks;
- send out any new Safety Notices or Incident Notifications to Prime Contractor;
- WTP Safety Manager and/or Construction Manager will conduct regular site inspections at all active Project work sites;
- incident reporting review with prime contractors at active work locations;
- Safety Manager to attend "Dangerous Daze: Handling Negative Emotions" on-line seminar for dealing with COVID 19;
- issue Safety Notices for trending observations or similar incident occurring on project sites; and
- close out Quality Safety Assurance Audit on Arbutus Attenuation Tank Prime Contractor.

### Environment and Regulatory Management

- CRD anticipates receiving the MWR Registration for the McLoughlin Point WWTP, and the Operational Certificate for the Residuals Treatment Facility.

### First Nations

- CRD to continue meeting with the First Nation Liaisons.

### Stakeholder Engagement

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

### Cost Management and Forecast

- prepare cost reports;
- monitor schedule; and
- submit funding claims to Infrastructure Canada (under the Building Canada Fund and Green Infrastructure Fund).

### Construction

#### McLoughlin Point

- install perimeter water line, hydrants and storm drains;
- continue construction of planter wall and complete tsunami wall;
- continue all areas building envelope, glazing, doors, roofing, metal cladding etc.;
- continue process electrical, instrumentation, and mechanical in all areas;
- continue installation of Biolite in Biological Aerated Filter (BAF) tanks;
- complete elevator installation in Operations & Maintenance(O&M) building;
- install communication and security system in O&M building;
- install cabinetry and millwork in O&M building; and
- commence commissioning walk downs and punch lists.

### Clover Point Pump Station

- complete installation of masonry walls;
- continue installation of split stone to exterior;
- start up and test generator; and
- commence operational testing of equipment.

### Macaulay Point Pump Station

- install 900mm pipe to pigging chamber;
- install incoming watermain;
- install chain link fence around transformer containment area;
- tie-in to diversion chamber, implement bypass pumping;
- install door frames, doors, glazing and door hardware;
- install plumbing fixtures; and
- install fire hydrant.

### Residuals Treatment Facility

- commencing functional start-up, wet testing and initial system verification;
- continue investigation and development of rectification plan for digesters 1, 2 and 3, as a result of digester 1 and 2 not passing the pneumatic test;
- continue mechanical and electrical installations at the Digester Building;
- complete finishes at Operations Building;
- continue electrical and piping work at Other Municipal Solids Receiving Facility;
- continue electrical cabling, process piping, odour control ductwork, and building systems at the Residuals Handling Building;
- continue electrical installation and process piping at the Dryer Building;
- continue installation of Biogas Conditioning System;
- continue mechanical and electrical work at Equalization Building;
- continue process mechanical and electrical at the Water Pump House; and
- continue electrical and ductwork installation at Odour Control Area.

### Clover Forcemain

- continue road/cycle path construction, Dock Street to Pilot Street;
- removal of seawall balustrade;
- install new wall; and
- build new railings.

### Residual Solids Pipes

- final paving and restoration;
- complete MOTI watermain highway crossing; and
- complete pipe installation on Portage Road.

### Residual Solids Pump Stations

- Pump Station 1, install fencing, and final grading, paving and landscaping; and
- Pump Station 2, install fencing, and final grading, paving and landscaping.

### Arbutus Attenuation Tank (AAT)

- complete ring beam construction including formwork, rebar, and concrete works for the 4<sup>th</sup> and last section;
- complete installation of nelson studs;
- commence excavation within tank footprint to base slab elevation;

- commence excavation for valve chamber;
- commence excavation for primary utility connections (hydro and water); and
- preparation for rock anchor installation.

#### Trent Forcemain

- completion of concrete flow through drain structure;
- Bushby Street storm relocation works ongoing;
- complete Memorial Crescent water main final tie-in works;
- complete Fairfield Road water main final tie-in works; and
- commencement of sewage forcemain on Stannard Avenue.

#### 2.6.2 60 day look ahead

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

#### Safety

- CRD corporate occupational health and safety coordination committee meeting;
- host Prime Contractor Safety Coordination Meeting with Project safety representatives;
- weekly and bi-weekly 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 and/or Construction 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

- The CRD and Stantec anticipate receiving a Site Alteration Permit to allow work to proceed in recently discovered archaeological sites along Dallas Road and the adjacent seawall.

#### First Nations

- CRD to continue meeting with the First Nation Liaisons.

#### Stakeholder Engagement

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

#### Cost Management and Forecast

- prepare cost reports;
- 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**

- demobilize south tower crane;
- backfill planter walls;
- construct road structure including line painting;
- install stairway in primary odour control;
- install monorail in dirty backwash tanks;
- install roofing and cladding west entry stairwell;
- complete electrical terminations and finishes;
- install plumbing fixtures, flooring, cabinetry, and millwork in O&M;
- install fire sprinkler system;
- install exterior finishes; and
- conduct walkdowns and commence functional testing.

### **Clover Point Pump Station**

- install sound dampening in generator room;
- form and pour North retaining wall and buttresses; and
- reinstall existing slide gates.

### **Macaulay Point Pump Station**

- install outdoor site furnishings;
- complete backfill of new pump station;
- install foul air ducting to diversion chamber;
- install slide gate;
- install fire stop throughout;
- install architectural louvres;
- install HVAC control equipment;
- install green roof system;
- install supply and exhaust air ducting at mezzanine level;
- interior painting throughout;
- install platform and grating over grit separator;
- install exterior spilt stone finish; and
- install interior finishes in public washroom.

### **Residuals Treatment Facility**

- continue functional start-up, wet testing and initial system verification;
- complete instrumentation at the Digester Building;
- complete works at Digested Solids Storage Tank;
- substantial completion of Operations Building;
- complete electrical and piping work at Other Municipal Solids Receiving Facility;
- complete electrical cabling, process piping, odour control ductwork, and building systems at the Residuals Handling Building;
- complete electrical installation and process piping at the Dryer Building;
- complete Biogas Conditioning System;
- complete electrical work at Equalization Building;
- complete process mechanical and electrical at the Water Pump House; and
- complete electrical and ductwork installation at Odour Control Area.

### Clover Forcemain

- road and cycle track construction Montreal to Dock Street;
- demolish existing seawall; and
- install new seawall and build new railings.

### Residual Solids Pipes

- final paving and restoration as required.

### Residual Solids Pump Stations

- Pump Station 1, 2 & 3, commence start-up testing and commissioning;
- complete final civil works at RTF chamber;
- backfill and road pull out at leachate chamber;
- complete pipe installation at Admirals bridge; and
- system testing throughout.

### Arbutus Attenuation Tank (AAT)

- complete excavation within tank footprint;
- subgrade preparation within tank footprint;
- commence installation of rock anchors within tank footprint; and
- commence installation of mud mat within tank footprint.

### Trent Forcemain

- install forcemain at Fairfield Road from Thurlow Road to Stannard Ave;
- Complete surface restoration;
- Saw cut and remove pavement, sidewalk and curbs on Memorial Cres; and
- Install sanitary sewer on Memorial Cres from Dallas Road to Thurlow Ave.

## 2.7 Cost Management and Forecast

The monthly cost report for April is shown in Appendix J. The cost report summarizes 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.

Based on the value of the contracts awarded to-date and the refreshed cost estimate for the scope remaining to be procured, 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 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 if construction continues at the current pace the Project Team remain confident that 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 \$1.0 million. The significant commitments made in the reporting period comprised the approval of provisional items in construction contracts and contract change orders, and a new commitment for asset management services to be provided by the owner's engineer for the Project (Stantec).

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

### 2.7.3 Contingency and Program Reserves

Contingency draws totalling \$369,954 were made over the reporting period, as summarised in Table 6. The draws to-date, remaining contingency and program reserve balances are summarized in Table 6.

Table 6- Contingency and Program Reserve Draw-Down Table

WTP Contingency and Program Reserve Draws and Reallocations	Draw Date	\$ Amount
Contingency and Program Reserve (in Control Budget)		\$ 69,318,051
Net Contingency and Program Reserve draws to March 31, 2020		\$ (53,307,121)
Contingency and Program Reserve balance as at March 31, 2020		\$ 16,010,930
Phone System for McLoughlin Point WWTP	Apr-20	\$ (92,000)
Radio Telemetry for McLoughlin Point WWTP	Apr-20	\$ (277,954)
WWTP Total Draw		\$ (369,954)
RTF Total Draw		\$ -
Conveyance Total Increase		\$ -
PMO Total Draw		\$ -
BC Hydro Total Draw		\$ -
WTP Program Reserve Draw		\$ -
Contingency and Program Reserve draws in the reporting period		\$ (369,954)
Contingency and Program Reserve balance as at April 30, 2020		\$ 15,640,976

### 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, funding from the P3 Canada Fund and the remainder of the funding from the Government of British Columbia 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	-	\$100.8M
Government of Canada (Green Infrastructure Fund)	\$50M	\$2.5M	\$43.3 M
Government of Canada (P3 Canada Fund)	\$41M	-	-
Government of British Columbia	\$248M	-	\$186.0M
Federation of Canadian Municipalities	\$0.3M	-	-
<b>TOTAL</b>	<b>\$459.3M</b>	<b>\$2.5M</b>	<b>\$330.1M</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.

The Project Team made the following change to the active risks summary from that presented in the Project's Q1 2020 Quarterly Report: the risk of encountering unexpected contaminated soil conditions during excavation at the McLoughlin Point WWTP was closed because the excavation is complete and the application for a Certificate of Compliance has been submitted to the Province.

In addition, 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).	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.	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

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
Downstream works delays.	Delay to the commissioning of the conveyance projects delays commissioning of the WWTP and the RTF.	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 but this risk may be impacted by the COVID-19 public health emergency (assessment is currently underway)
Upstream works delays.	Delay to the commissioning of either the WWTP or the RTF impacts the commissioning of the other plant.	Contracts with HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) and HRMG (as the Design-Build-Finance-Operate Maintain contractor for the RTF) include terms that require the contractor to recover schedule delays and/or allow for CRD acceleration. Liquidated damages for late delivery are included in both HRP and HRMG contracts.	L	No change but this risk may be impacted by the COVID-19 public health emergency (assessment is currently underway)
Municipal Wastewater Regulation (MWR) Registration is not achieved or is delayed.	A delay to achieving MWR Registration of the wastewater treatment system would mean that the CRD could not discharge treated effluent, and therefore would not be able to commission the WWTP or RTF.	The Project Team (with HRP and Stantec representatives) have been meeting regularly with Ministry of Environment representatives since September 2017 to review the MWR Registration application requirements and the Project's schedule, in order to mitigate the risk of an incomplete application and/or schedule delays in the registration. The MWR Registration application was submitted to the Ministry of Environment in September 2019. The Project Team, MOE and relevant contractors have continued to meet regularly to track progress and discuss issues.	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 and coverage of communications in contractor orientations.	M	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.	M	No change but this risk may be impacted by the COVID-19 public health emergency (assessment is currently underway)
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 but this risk may be impacted by the COVID-19 public health emergency (assessment is currently underway)
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)
<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.	C	This risk has been closed because the excavation is complete and an application for a Certificate of Compliance has been submitted to the Province.

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

## 2.9 Status (Engineering, Procurement and Construction)

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

The McLoughlin Point WWTP Project Component is continuing with Harbour Resource Partners (“HRP” as the Design-Build contractor for the McLoughlin Point WWTP) progressing: installation of Densadegs 1, 2 and 3; installing north pump room equipment and completing fine screen building roofing, cladding and drywall in the Primary treatment area; completing heat recovery room drywall, moving bed bio reactor (MBBR) 1 and 2 process equipment reinstallation, and progressing electrical work in the blower building in the secondary treatment area; continued upper disk filter walls, including outfall shaft roof slab, and pumps in the tertiary treatment area; completion of heating ventilation and air conditioning (HVAC) plumbing and fire suppression on level 1, completion of lower level interior stud build out and dry wall and elevator installation in the Operations and Maintenance (O&M) Building.

Key construction activities in progress or completed by HRP in April were as follows:

- Primary treatment area:
  - progressed Densadeg 1, 2 and 3 installation;
  - continued installation of primary odour control fiberglass reinforced plastic (FRP) pipe and equipment;
  - installation of plate settler 1 tank covers complete, and continued plate settler 2 installation;
  - installed north pump room equipment with progression of electrical work;
  - completed fine screen building roofing, cladding and drywall, protecting panelling is ongoing;
  - completed fine screen building stairwell steel; and
  - secondary odour control FRP piping installation is progressing.
- Secondary treatment area:
  - Moving Bed Bio Reactor (MBBR) #2 and #1 process equipment re-installation complete;
  - Biological Aerated Filter (BAF) nozzles and laterals are installed in all cells except 12 & 9;
  - BAF gravel and biolite is installed in all cells except 12 & 9;
  - main exterior electrical gear installation complete;
  - glanding and terminations well underway in the main electrical room;
  - progressing electrical work in the blower building;
  - completed heat recovery room drywall;
  - penthouse building envelopes nearing completion;
  - installed translucent panels in 2 buildings; and
  - BAF cell 12 scouring air header installation is in progress.
- Tertiary treatment area:
  - continued upper disk filter walls, including outfall shaft roof slab;
  - lower level 1 pumps and mechanical piping install nearing completion; and
  - cinder block masonry nearing complete.
- O&M building:
  - completed lower level interior stud build-out and drywall;
  - level 1 heating ventilation and air conditioning (HVAC), plumbing and fire suppression trades are complete;

- electrical trade is beginning to close out rooms to allow for drywall installation on level 1;
  - level 2 HVAC, plumbing and fire suppression are nearing completion;
  - steel stud install on level 2 nearing completion, drywall mudding & taping well underway;
  - level 1 and 2 roof complete with the exception of the North canopy;
  - continued construction of north end tsunami and planter wall;
  - glazing installation complete on level 1 and level 2;
  - steel stairwells installed; and
  - elevator installed.
- Site Works:
    - Pig receiving station foundations constructed; and
    - Demobilized north tower crane.

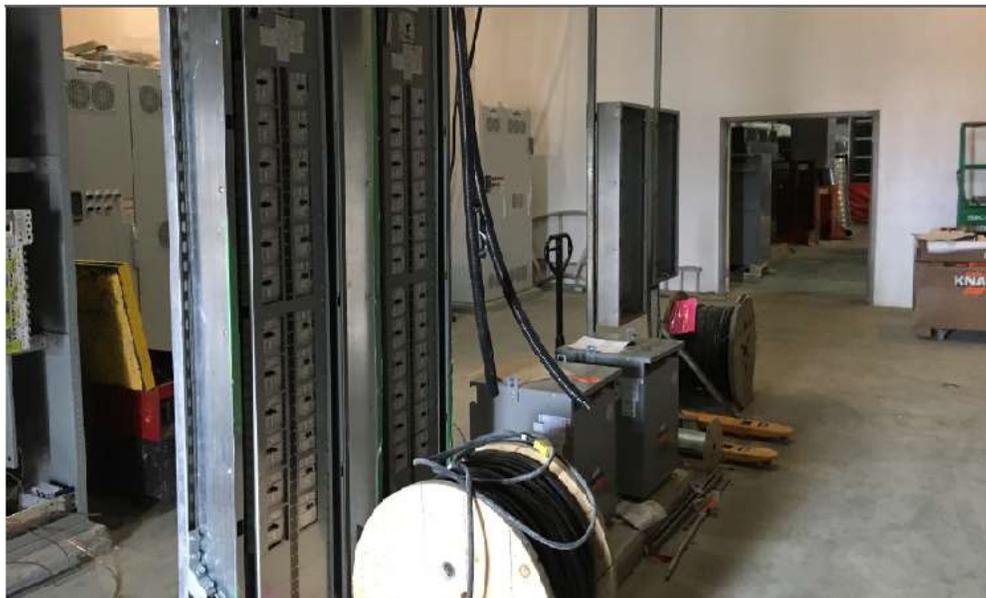
Photographs of construction progress over the month of April at McLoughlin Point WWTP are shown in Figures 2-6.



*Figure 2– McLoughlin Point Wastewater Treatment Plant - Installing elevator cab.*



*Figure 3– McLoughlin Point Wastewater Treatment Plant- Installing concrete architectural panel on operations and maintenance building.*



*Figure 4– McLoughlin Point Wastewater Treatment Plant- Installing distribution and lighting panel boards in blower electrical room.*



*Figure 5- McLoughlin Point Wastewater Treatment Plant- Installing process air piping to Biological Aerated Filter cells 2, 4, 6, 8, 10, and 11.*



*Figure 6- McLoughlin Point Wastewater Treatment Plant- Installing aluminium cladding on east face of Heat Recovery Room.*

## 2.9.2 Residuals Treatment Facility

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: external pipe connections to Digester 1; pipe installation and concrete supports in Digester 3; mechanical and electrical installation in the Digester Building; installation of windows, and louvers; fiberglass reinforced plastic (FRP) grating installation in progress in the Residuals Handling Building; ongoing mechanical and insulation installation in the Residuals Drying facility; completion of hydro test in the effluent tank in the Residuals Storage and Odour control area; and drywall, ceiling tile, and flooring completed in the Operations Building.

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

- **Digester Area:**
  - Digester 1 external pipe connections;
  - Investigation and rectification plan under development as a result of digester 1 and 2 not passing the pneumatic test;
  - Digester 3 Pipe install and concrete supports;
  - Digested Solids Storage Tank instrumentation install; and
  - Digester Building mechanical and electrical is in progress.
- **Other Municipal Solids Receiving Facility:**
  - electrical cable install and terminations is in progress.
- **Residuals Handling Building:**
  - electrical work continued in all areas;
  - FRP grating install is in progress;
  - FRP ducting commenced install;
  - windows installed; and
  - louvres installed.
- **Residuals Drying Facility:**
  - mechanical installation is in progress;
  - electrical terminations continued;
  - insulation install is in progress; and
  - generator room louvres completed.
- **Residuals Storage & Odour Control:**
  - mechanical and electrical work is in progress;
  - hydro test completed in effluent tank; and
  - chemical piping install commenced.
- **Operations Building:**
  - drywall completed;
  - ceiling tile and flooring completed;
  - painting in progress;
  - millwork in progress;
  - windows completed; and
  - door install in progress.

Photographs of construction progress over the month of April at the Residuals Treatment Facility are shown in Figures 7-10.



*Figure 7– Residuals Treatment Facility- Wiring of Residuals Handling Building Motor Control Centre/electrical room nearing completion.*



*Figure 8– Residuals Treatment Facility- Main power distribution –Construction walk down and punch list preparation being undertaken.*



*Figure 9– Residuals Treatment Facility- Installation of fibreglass ducting for odour control system ongoing in Residuals Handling Building.*



*Figure 10– Residuals Treatment Facility – Interior finishing of Operations Building ongoing.*

## 2.9.3 Conveyance System

### 2.9.3.1 Clover Point Pump Station

Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction activities over the reporting period including: completed relocation of existing screens to new inlet storm channel; completed existing pump room demolition; resumed work on the gender neutral public washroom; and forcemain successfully tested and backfilled.

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

- completed relocation of existing screens to new inlet storm channel;
- installation of new sanitary screens in the existing inlet sanitary channel;
- new exhaust plenum poured and stripped;
- completed existing pump room demolition;
- demolition of HVAC and electrical equipment on existing mezzanine floor ongoing;
- resumed work on gender neutral public washroom;
- 1500mm stub out completed;
- installed caisson for north retaining wall;
- completed commissioning of Storm Overflow components of the new facility;
- new pump station in operation under interim operating phase;
- forcemain successfully tested and backfilled; and
- moved bypass pumps back to complete diversion chamber tie in.

Photographs of construction progress over the month of April at Clover Point are shown in Figures 11-13.



*Figure 11–Clover Point Pump Station- Electrical equipment demolition in the old electrical room.*



*Figure 12-Clover Point Pump Station- Backfilling of the forcemain ongoing.*



*Figure 13- Clover Point Pump Station – Demolition of room.*

### 2.9.3.2 Macaulay Point Pump Station and Forcemain

Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction activities over the reporting period including: completion of wet well concrete pour; commenced wood siding panel installation; installed recycle water system; and installation of unit heaters and cable pulling and termination for the pumps is complete.

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

- installed unit heaters;
- HVAC fans installation is nearing completion;
- completed wet well concrete pour;
- commenced wood siding panel installation;
- install recycle water system;
- genset fuel tanks have been installed;
- stainless steel pipe to the pigging chamber has been delivered; and
- cable pulling and termination for the pumps is complete.

Photographs of construction progress over the month of April at Macaulay Point Pump Station are shown in Figures 14-15.



*Figure 14–Macaulay Point Pump Station- Base course of asphalt on Anson Street.*



*Figure 15–Macaulay Point Pump Station- Fuel tank positioned in containment area.*

### 2.9.3.3 Clover Forcemain (CFM)

Windley Contracting Ltd. (“Windley” as the Construction Contractor) continued construction activities including: commencement of construction on the seawall balustrade replacement; cycle track and road restoration, and top lift paving from Douglas Street to Lewis Street.

Key construction activities in progress or completed by Windley in April included:

- commence seawall balustrade replacement construction;
- cycle track/road restoration between Government Street and Lewis Street;
- landscape restoration; and
- top lift paving Douglas Street to Lewis Street.

Photographs of construction progress over the month of April on the Clover Forcemain are shown in Figures 16-17.



*Figure 16–Clover Forcemain- Cycle track/road restoration from Government Street to Lewis Street.*



*Figure 17–Clover Forcemain- Seawall balustrade construction set up.*

### 2.9.3.4 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, including: completion of pipe installation, installation of valve chambers; final road restoration and line painting; and final trail reinstatements near Pump Station 3.

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

- Segment #1
  - installation of the 250 mm main completed including:
  - valve Chamber installations;
  - final Paving in all areas of Segment 1;
  - line painting at various locations; and
  - successfully pressure tested pipe from south side of Tillicum bridge to Peters Street.
- Segment #2:
  - installation of the Air Valve chamber at Grange Road;
  - final asphalt reinstatement Grange Road at the Galloping Goose to Wilkinson Road and Interurban Road; and
  - commence Line Valve installation at the Galloping Goose Trail.
- Segment #3:
  - installation of the line valve and low point drain valve commenced at Interurban Rd north of Quayle Road;
  - curb/sidewalk replacement and final paving was completed at several locations, including boulevard restoration;
  - final surface restoration was completed on the remaining sections of the Interurban Trail within the Segment; and
  - final trail reinstatement.
- Segment #4
  - line painting was completed at the various road crossings within the segment;
  - extruded asphalt curbs were replaced within the Prospect Lake Rd/West Saanich Rd intersection;
  - final trail reinstatement was completed on the remaining section north of Pump Station 3; and
  - final Interurban Trail reinstatement from Goward Road north to Pump Station 3.

Photographs of construction progress over the month of April on the Residual Solids Pipes are shown in Figures 18-21.



Figure 18- Residual Solids Pipes- Backfill and compaction around line valve at Admirals Bridge.



Figure 19- Residual Solids Pipes- Setting of grade rings at low point drain on Interurban Road.



*Figure 20—Residual Solids Pipes – Aligning pipe for line valve on Colquitz Road.*



*Figure 21—Residual Solids Pipes - Installing culvert across Interurban Trail.*

Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor for the Residual Solids Pump Stations) continued construction activities including: pipe spools and electrical works at all three pump stations; lamp standards were installed at pump stations two and three; and the Marigold crossing was completed.

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

- Pump Station 1
  - pipe spools and electrical installations were both advanced;
  - genset was landed on the concrete pad and the lamp standard was installed; and
  - most of the chamber cores were grouted in.
- Pump Station 2
  - pigging chamber, flow meter and line valve were installed and backfilled;
  - pipe spool pieces were installed throughout all the chambers and are ongoing;
  - electrical work was advanced on the kiosk and the valve chamber; and
  - lamp standard was installed.
- Pump Station 3
  - Odour Control Unit underground piping was completed;
  - pipe spool piece installation was completed;
  - electrical works in the valve chamber was also completed; and
  - lamp standard was erected.
- Marigold Crossing:
  - Marigold Road crossing was completed and pipe was installed to the line valve on Violet Street.
- Tillicum Bridge:
  - pipe spool installation began after all the hangers were installed and epoxied in place with levelling shims.

Photographs of construction progress over the month of April on the Residual Solids Pump Stations are shown in Figures 22-23.



*Figure 22–Residual Solids Pump Stations– Pump Station 1 – Grouting and sealing of pipe penetrations in valve chamber.*



*Figure 23 –Residual Solids Pump Stations – Pump Station 3 Installing formwork and rebar for odour control unit slab.*

### 2.9.3.5 Arbutus Attenuation Tank

NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) continued construction activities including: completion of 232 secant piles and commenced installation of form work and concrete pour for three out of four sections of the ring beam.

Key construction activities in progress or completed by NAC Constructors Ltd. in April include:

- completed installation of 232 secant piles;
- completed installation of diagonal and lateral struts atop the secant piles; and
- commenced formwork installation, rebar installation, and concrete pour for 3 of 4 sections for the ring beam.

A photograph of construction progress during the month of April at the Arbutus Attenuation Tank is shown in Figure 24.



*Figure 24–Arbutus Attenuation Tank–Installed diagonal and lateral struts atop the secant piles, formwork and rebar installed for section 1 of ring beam.*

### 2.9.3.6 Trent Forcemain

Jacob Bros. Construction Inc. (as the Construction Contractor for the Trent Forcemain) commenced construction activities including: completion of Fairfield road storm and sanitary main relocation work; completion of seawall investigation works, and completion of Fairfield Road watermain relocation.

Key construction activities in progress or completed by Jacob Bros. in April include:

- completed Fairfield Road Storm Main relocation work;
- completed Fairfield Road Sanitary Main relocation work;
- new line valve installed at Fairfield Road and Stannard Ave;
- completed seawall investigation works;
- completed Memorial Crescent watermain relocation works; and
- completed Fairfield Road watermain relocation works.

A photograph of construction progress during the month of April at the Trent Forcemain is shown in Figure 25.



*Figure 25- Trent Forcemain – Bushby Street – excavate and demolish existing brick drain.*

## **Appendix A– Overnight Work: Fairfield Watermain Shut-off (April 3, 2020) (Appendix A)**



**April 3, 2020**

## **Overnight Work: Fairfield Watermain Shut-off**

On Monday, April 6, as part of construction for the Trent Forcemain there will be a temporary water service interruption on Fairfield Road between Memorial Crescent and Lillian Road. This includes water service disruption to your property.

The temporary water service interruption will be conducted at night to minimize the impact to residents. This work is necessary to facilitate construction of City of Victoria watermain and sanitary sewer on Memorial Crescent.

If you require the use of water during these hours, we ask that you prepare prior to the shut-off time of 9:00 p.m. on Monday, April 6. Service will be reinstated at 5:00 a.m. on Tuesday, April 7.

### **What to Expect**

- Water supply will be shut-off from approximately 9:00 p.m. to 5:00 a.m.
- A trench will be excavated, a new pipe will be installed underneath the existing watermain, the trench will be backfilled, and the surface will be temporarily restored.
- Construction lights will be used to illuminate the work zone for safety and traffic control.
- Noise associated with this work includes excavation machinery and truck back-up beepers.
- Pipes and equipment will be temporarily stored in the area while this work is completed.

### **Traffic Impacts**

- There will be single lane alternating traffic.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.

Thank you for your patience as this work is completed.

### **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.

Construction is ongoing at all of the Wastewater Treatment Project's sites in accordance with the guidelines established by the Provincial Health Officer.

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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

## **Appendix B– Trent Forcemain: Bushby and Eberts Streets (April 14, 2020) (Appendix B)**



April 14, 2020

## Trent Forcemain: Bushby and Eberts Streets

As part of the Wastewater Treatment Project, a concrete chamber will be constructed which requires a lane closure within the intersection of Bushby and Eberts Streets. This work is anticipated to begin by the end of this week and take approximately four weeks to complete.

### What to Expect

- Barriers and fencing will be installed around the site.
- The area will be excavated, the concrete chamber installed, and the site restored.
- Rock encountered during excavation will be removed by blasting or mechanical means.
- Noise associated with this work includes excavation machinery and truck back-up beepers.
- Pipes and equipment will be temporarily stored in the area while this work is completed.
- Garbage and recycling services will be picked up as usual.

### Traffic Impacts

- One lane within the intersection of Bushby and Eberts streets will be closed
- Traffic control areas will be delineated by cones and signs.
- Parking will be temporarily impacted around the intersection of Eberts and Bushby streets to facilitate traffic flow around the closure.
- BC Transit routes will be modified to accommodate the closure.

### Access

- Local traffic access will be maintained on Eberts and Bushby streets.
- Vehicle access to residences will not be impacted.

### Work Hours

- Monday to Friday from 7:00 a.m. to 7:00 p.m.
- Occasional Saturday work may be required from 10:00 a.m. to 7:00 p.m.

Thank you for your patience while this work is completed.

### 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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## **Appendix C– Clover Point Pump Station Overnight Work (April 15, 2020) (Appendix C)**



April 15, 2020

## Clover Point Pump Station: Overnight Work

Construction of the upgrades to the Clover Point Pump Station requires bypass pumping to the short outfall for approximately four days. This work will begin today and includes diesel-powered pumps running overnight. This work is required to allow the upgraded Clover Point Pump Station to pump wastewater to the new treatment plant at McLoughlin Point.

### What to Expect

- The majority of work will take place inside the pump station.
- Noise and lights associated with construction equipment.
- Diesel-powered pumping units will be in operation and are equipped with acoustic enclosures to reduce noise.
- Wastewater will be screened and discharged out of the short outfall during this work and residents are advised to avoid entering the water along the shoreline on Dallas Road between St Charles Street and Dock Street, including at Ross Bay, Clover Point, Holland Point and Ogden Point.
- Public health advisory signs will be posted until sample results are below the health guidelines.

### Work Hours

- The diesel-powered pumping units will be running continuously until this work is complete with crews onsite for the duration of this work.

### Traffic Impacts

- There will be no traffic impacts.
- The Dallas Road Waterfront Trail between the Clover Point Pump Station and the crosswalk at Memorial Crescent remains closed.

Construction at Clover Point is anticipated to be complete by summer 2020.

Thank you for your patience as this work is completed.

### 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.**



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## **Appendix D– Temporary Overnight Work: Marigold Road (April 17, 2020) (Appendix D)**



April 17, 2020

## Temporary Overnight Work: Marigold Road

As part of the Wastewater Treatment Project, construction of the Residual Solids Conveyance Line will be crossing Marigold Road at Violet Avenue during the week of April 20<sup>th</sup>. Part of this work will require the closure of Marigold Road between Interurban Road and Daisy Avenue. This closure will be done at night from 7:00 p.m. to 7:00 a.m. to limit traffic impacts. The overnight work is expected to take place Wednesday night and be completed within one night, but it is weather dependent so the timing may change.

### What to Expect

- A trench will be excavated, the new pipe will be installed, the trench will be backfilled, and the surface will be temporarily restored.
- Final restoration will take place after the section has been tested and completed.
- Noise associated with this work includes excavation machinery and truck back-up beepers.
- Pipes and equipment will be temporarily stored in the area while this work is completed.
- During night work, construction lights will be used to illuminate the work zone for safety and traffic control.

### Traffic Impacts

- Marigold Road will be open to single lane alternating traffic from 7:00 a.m. to 7:00 p.m.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.
- Marigold Road will be closed from 7:00 p.m. Wednesday to 7:00 a.m. Thursday.

### Work Hours

- Monday to Friday from 7:00 a.m. to 7:00 p.m.
- Overnight work on Wednesday from 7:00 p.m. to 7:00 a.m. Thursday

Thank you for your patience as this work is completed

### 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.**



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## **Appendix E– Residual Solids Conveyance Line: Gorge Bridge Construction Update**



**UPDATE**

April 23, 2020

## Residual Solids Conveyance Line: Gorge Bridge Construction

As part of the Wastewater Treatment Project, a pipe is being installed under the Gorge Bridge on Tillicum Road. This work is anticipated to be complete mid-May.

### What to Expect

- Scaffolding has been erected on the side of the bridge and a pipe will be installed under the bridge.
- Noise associated with this work includes construction machinery and truck back-up beepers.

### Traffic Impacts

- Southbound traffic has been reduced to one lane to provide a pedestrian walkway that supports social distancing.
- Northbound traffic will retain two lanes.
- Pedestrian access will be maintained on the east side of Gorge Bridge.

### Work Hours

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

### 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.**



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## **Appendix F– Core Area Wastewater Discharge Notice (April 14, 2020)**



Making a difference...together

## Public Service Announcement

For Immediate Release

April 14, 2020

### Core Area Wastewater Discharge Notice

**Victoria, BC-** Construction for the Wastewater Treatment Project at the Clover Point Pump Station requires screened wastewater to be discharged out of the short outfall at Clover Point beginning the evening of April 14, 2020 for approximately four days. The shorelines that will be affected are:

- Dallas Road between St Charles St and Dock St including Ross Bay, Clover Point, Holland Point and Ogden Point in Victoria.

As a result of the discharge, residents are advised to avoid entering the waters along the affected shorelines, as the wastewater may pose a health risk to people entering the water.

As a precaution and in consultation with Island Health and the local municipalities, beaches within the affected areas will be posted with public health advisory signs until sample results indicate enterococci levels are below the 70CFU/100mL recreational limit.

For updates, please visit [www.crd.bc.ca](http://www.crd.bc.ca) and follow us on Twitter [@crd\\_bc](https://twitter.com/crd_bc)

*The CRD delivers regional, sub-regional and local services to 13 municipalities and three electoral areas on southern Vancouver Island and the Gulf Islands. Governed by a 24-member Board of Directors, the CRD works collaboratively with First Nations and all levels of government to enable sustainable growth, foster community well-being, and develop cost-effective infrastructure while continuing to provide core services to residents throughout the region. Visit us online at [www.crd.bc.ca](http://www.crd.bc.ca).*

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#### For media inquiries, please contact:

Andy Orr, Senior Manager

CRD Corporate Communications

Tel: 250.360.3229

Cell: 250.216.5492

## **Appendix G– Update: Core Area Wastewater Discharge Notice (April 17, 2020)**



Making a difference...together

## Public Service Announcement

For Immediate Release

April 17, 2020

### UPDATE: Core Area Wastewater Discharge Notice

**Victoria, BC-** Construction for the Wastewater Treatment Project at the Clover Point Pump Station requires screened wastewater to be discharged out of the short outfall at Clover Point. The shorelines affected are:

- Between Radcliffe Lane and Dock St including Gonzales Bay **\*NEW\***, Ross Bay, Clover Point, Holland Point and Ogden Point in Victoria
- Harling Point, McNeill Bay and McMicking Point in Oak Bay **\*NEW\***

As a result of the discharge, residents are advised to avoid entering the waters along the affected shorelines, as the wastewater may pose a health risk to people entering the water.

As a precaution and in consultation with Island Health and the local municipalities, beaches within the affected areas will be posted with public health advisory signs until sample results indicate enterococci levels are below the 70CFU/100mL recreational limit.

For updates, please visit [www.crd.bc.ca](http://www.crd.bc.ca) and follow us on Twitter [@crd\\_bc](https://twitter.com/crd_bc)

For questions or more information on this advisory, please call 1.844.815.6132.

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## **Appendix H– Beaches Reopen Following Core Area Wastewater Discharge (April 24, 2020)**



Making a difference...together

## Public Service Announcement

For Immediate Release

April 24, 2020

### Beaches Reopen Following Core Area Wastewater Discharge

**Victoria, BC-** Following the successful completion of construction activities at Clover Point Pump Station that required screened wastewater to be discharged out of the short outfall, all of the affected beaches have been reopened. Testing of samples was completed this week and results indicate enterococci levels are below the 70CFU/100mL recreational level.

In consultation with Island Health, public health advisory signs have been removed from all of the affected shorelines:

- Between Radcliffe Lane and Dock St including Gonzales Bay, Ross Bay, Clover Point, Holland Point and Ogden Point in Victoria and Harling Point, McNeill Bay and McMicking Point in Oak Bay

Thank you for your patience while this work was completed.

For updates, please visit [www.crd.bc.ca](http://www.crd.bc.ca) and follow us on Twitter [@crd\\_bc](https://twitter.com/crd_bc)

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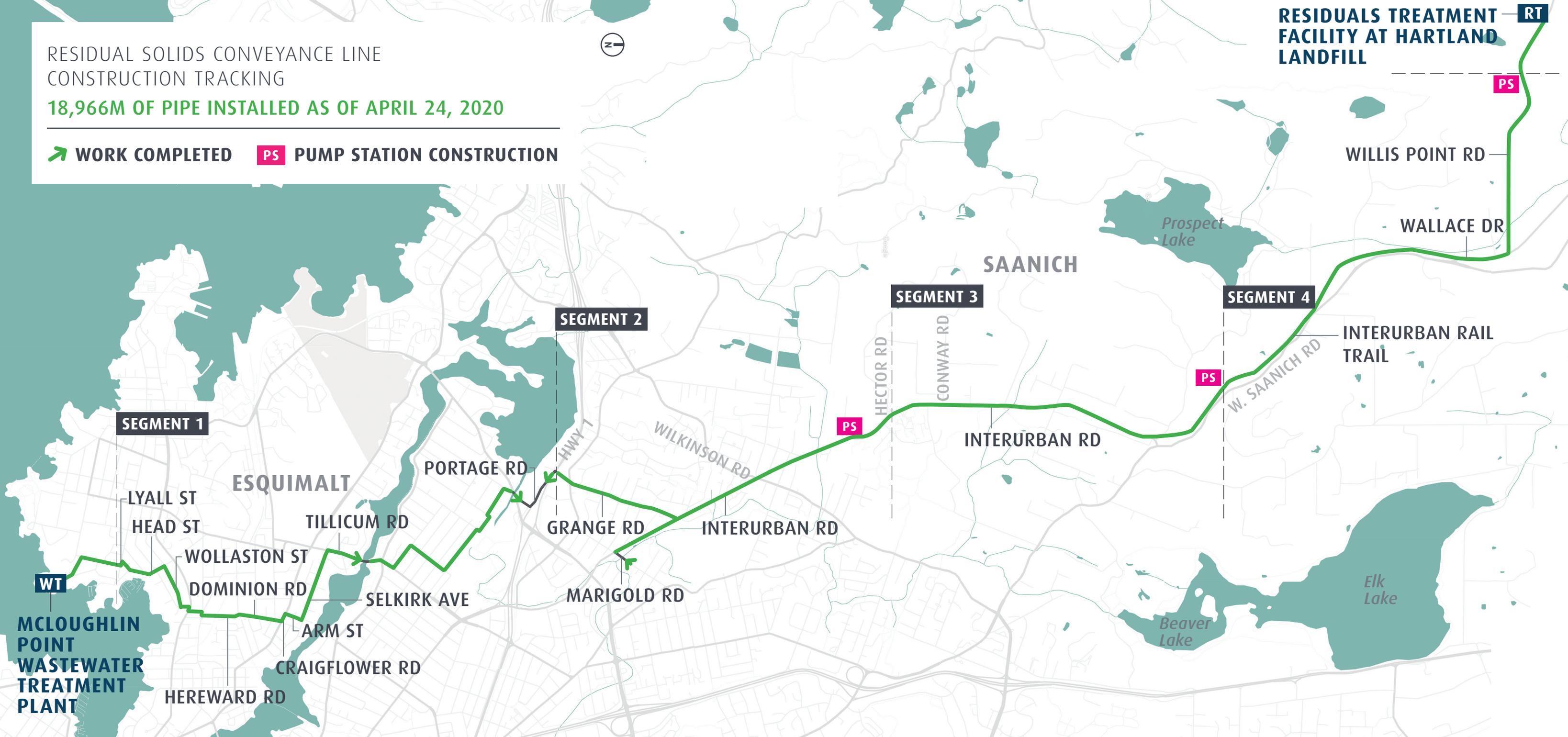
Cell: 250.216.5492

## **Appendix I– Residual Solids Conveyance Line Map (April 24, 2020)**

RESIDUAL SOLIDS CONVEYANCE LINE  
CONSTRUCTION TRACKING

18,966M OF PIPE INSTALLED AS OF APRIL 24, 2020

 WORK COMPLETED  PUMP STATION CONSTRUCTION



## Appendix J– Monthly Cost Report (April)

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

Description	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to March 31, 2020	Expended over reporting period (April 2020)	Expended to April 30, 2020	Expended to April 30, 2020 as a % of Allocated Budget	Remaining (Unexpended) Allocated Budget at April 30, 2020	Total Commitment at April 30, 2020	Unexpended Commitment at April 30, 2020	Uncommitted Allocated Budget at April 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>328.1</b>	<b>282.5</b>	<b>5.6</b>	<b>288.1</b>	<b>88%</b>	<b>40.0</b>	<b>320.8</b>	<b>32.8</b>	<b>7.3</b>	<b>40.0</b>	<b>328.1</b>	-	<b>0%</b>
Construction	306.7	320.7	281.8	5.7	287.5	90%	33.2	320.2	32.7	0.5	33.2	320.7	-	0%
Contingency	14.9	0.5	-	-	-	0%	0.5	-	-	0.5	0.5	0.5	-	0%
Financing	9.8	6.9	0.7	(0.1)	0.6	9%	6.3	0.7	0.1	6.2	6.3	6.9	-	0%
<b>Residuals Treatment Facility</b>	<b>159.4</b>	<b>139.8</b>	<b>10.6</b>	<b>(0.0)</b>	<b>10.6</b>	<b>8%</b>	<b>129.1</b>	<b>138.8</b>	<b>128.1</b>	<b>1.0</b>	<b>129.1</b>	<b>139.8</b>	-	<b>0%</b>
Construction	145.4	138.7	10.6	0.0	10.6	8%	128.1	138.7	128.1	0.0	128.1	138.7	-	0%
Contingency	12.3	0.2	-	-	-	0%	0.2	-	-	0.2	0.2	0.2	-	0%
Financing	1.7	0.8	0.0	(0.0)	0.0	3%	0.8	0.0	0.0	0.8	0.8	0.8	-	0%
<b>Conveyance System</b>	<b>158.1</b>	<b>215.9</b>	<b>152.3</b>	<b>2.6</b>	<b>155.0</b>	<b>72%</b>	<b>61.0</b>	<b>194.6</b>	<b>39.6</b>	<b>21.3</b>	<b>61.0</b>	<b>215.9</b>	-	<b>0%</b>
Macaulay Point Pump Station	25.4	30.8	25.3	0.9	26.2	85%	4.6	30.8	4.6	0.0	4.6	30.8	-	0%
Macaulay Forcemain	5.6	7.4	6.6	0.1	6.6	89%	0.8	7.4	0.8	-	0.8	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	24.6	-	24.6	90%	2.7	27.2	2.6	0.1	2.7	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	11.5	0.3	11.8	48%	12.7	23.1	11.3	1.4	12.7	24.6	-	0%
Clover Forcemain	14.6	32.5	28.0	0.9	29.0	89%	3.5	31.9	2.9	0.6	3.5	32.5	-	0%
Currie Forcemain^	3.3	0.2	0.2	-	0.2	100%	-	0.2	-	-	-	0.2	-	0%
Trent Forcemain	9.5	11.3	0.7	0.5	1.2	11%	10.1	8.0	6.8	3.3	10.1	11.3	-	0%
Residual Solids Conveyance Line	19.1	36.1	31.7	-	31.7	88%	4.3	35.8	4.1	0.3	4.3	36.1	-	0%
Residual Solids Pump Stations & Bridge Crossings	4.6	18.3	10.5	-	10.5	57%	7.8	16.9	6.3	1.5	7.8	18.3	-	0%
Residual Solids Conveyance Line – Highway Crossing	-	0.4	0.3	-	0.3	74%	0.1	0.4	0.1	0.1	0.1	0.4	-	0%
Contingency	16.8	10.4	-	-	-	0%	10.4	-	10.4	10.4	10.4	10.4	-	0%
Financing	5.8	4.1	0.3	(0.1)	0.3	7%	3.8	0.3	0.1	3.7	3.8	4.1	-	0%
<b>Project Management Office ("PMO")</b>	<b>75.9</b>	<b>77.9</b>	<b>53.8</b>	<b>1.0</b>	<b>54.8</b>	<b>70%</b>	<b>23.1</b>	<b>68.9</b>	<b>14.1</b>	<b>8.9</b>	<b>23.1</b>	<b>77.9</b>	-	<b>0%</b>
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	17.5	13.4	0.4	13.7	78%	3.8	17.5	3.8	0.0	3.8	17.5	-	0%
Conveyance Design	5.0	9.5	7.4	0.0	7.4	78%	2.1	8.2	0.8	1.2	2.1	9.5	-	0%
Advisors & Professional Support	7.0	15.0	10.0	0.1	10.1	68%	4.8	11.2	1.0	3.8	4.8	15.0	-	0%
Project Team & Project Board	31.3	24.5	16.3	0.3	16.6	68%	7.9	23.7	7.2	0.8	7.9	24.5	-	0%
CRD Allocations	3.4	3.4	2.4	0.1	2.5	73%	0.9	3.4	0.9	-	0.9	3.4	-	0%
Office, Supplies & Expenses	3.9	2.5	1.6	0.0	1.6	67%	0.8	2.1	0.4	0.4	0.8	2.5	-	0%
Computer Hardware, Software & Training	1.0	1.1	0.6	0.1	0.6	60%	0.4	0.6	-	0.4	0.4	1.1	-	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>2.0</b>	<b>0.0</b>	<b>2.0</b>	<b>48%</b>	<b>2.3</b>	<b>2.1</b>	<b>0.0</b>	<b>2.2</b>	<b>2.3</b>	<b>4.3</b>	-	<b>0%</b>
<b>Third Party Commitments</b>	<b>8.1</b>	<b>8.1</b>	<b>3.7</b>	<b>0.1</b>	<b>3.8</b>	<b>47%</b>	<b>4.3</b>	<b>6.8</b>	<b>3.0</b>	<b>1.3</b>	<b>4.3</b>	<b>8.1</b>	-	<b>0%</b>
<b>Program Reserves</b>	<b>19.2</b>	<b>0.9</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0%</b>	<b>0.9</b>	<b>-</b>	<b>-</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	-	<b>0%</b>
<b>Core Area Wastewater Treatment Project</b>	<b>765.0</b>	<b>775.0</b>	<b>505.0</b>	<b>9.3</b>	<b>514.3</b>	<b>66%</b>	<b>260.6</b>	<b>732.0</b>	<b>217.7</b>	<b>42.9</b>	<b>260.6</b>	<b>775.0</b>	-	<b>0%</b>

\* 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