Capital Regional District

625 Fisgard St.,
Victoria, BC V8W 1R7

Notice of Meeting and Meeting Agenda
Core Area Liquid Waste Management Committee

Wednesday, July 22, 2020 **1:30 PM** **6th Floor Boardroom**
625 Fisgard Street
Victoria, BC V8W 1R7

B. Desjardins (Chair), L. Helps (Vice-Chair), D. Blackwell, S. Brice, F. Haynes, B. Isitt, J. Loveday, R. Martin, R. Mersereau, K. Murdoch, D. Screech, L. Seaton, N. Taylor, G. Young, C. Plant (Board Chair, ex-officio)

1. Territorial Acknowledgement

2. Approval of Agenda

3. Adoption of Minutes

3.1. 20-439 Minutes of the January 22, 2020 Capital Regional District Board Meeting

Recommendation: That the minutes of the Core Area Liquid Waste Management Committee meeting of January 22, 2020 be adopted as circulated.

Attachments: Minutes - January 22, 2020

4. Chair's Remarks

5. Presentations/Delegations

6. Committee Business

6.1. 20-305 Wastewater Treatment Project Q1 2020 Quarterly Report

Recommendation: The Core Area Liquid Waste Management Committee recommend to the Capital Regional District Board:
That this report be received for information.

Attachments: Staff Report: WTP Q1 2020 Quarterly Report

6.2. 20-339 Wastewater Treatment Project April 2020 Monthly Report

Recommendation: The Core Area Liquid Waste Management Committee recommend to the Capital Regional District Board:
That this report be received for information.

Attachments: Staff Report: WTP April 2020 Monthly Report

6.3. 20-418 Wastewater Treatment Project May 2020 Monthly Report

Recommendation: The Core Area Liquid Waste Management Committee recommend to the Capital Regional District Board:
That this report be received for information.

Attachments: Staff Report: WTP May 2020 Monthly Report

7. Notice(s) of Motion

8. New Business

9. Adjournment

Next Meeting: October 28, 2020

To ensure quorum, please advise Sherri Closson (sclosson@crd.bc.ca) if you or your alternate cannot attend.

Capital Regional District

625 Fisgard St.,
Victoria, BC V8W 1R7

Meeting Minutes

Core Area Liquid Waste Management Committee

Wednesday, January 22, 2020 **1:30 PM** **6th Floor Boardroom**
625 Fisgard Street
Victoria, BC V8W 1R7

PRESENT:
B. Desjardins (Chair), L. Helps (Vice-Chair), D. Blackwell, S. Brice, F. Haynes, J. Loveday, R. Martin, R. Mersereau, K. Murdoch, D. Screech, L. Seaton, N. Taylor, G. Young, C. Plant (Board Chair, ex-officio)

Staff: R. Lapham, Chief Administrative Officer; L. Hutcheson, General Manager, Parks and Environmental Services; K. Morley, General Manager, Corporate Services; T. Robbins, General Manager, Integrated Water Services; D. Fairbairn, Vice Chair, Core Area Wastewater Treatment Project Board; D. Clancy, Project Director, Core Area Wastewater Treatment Project Board; D. Elliott, Manager, Aboriginal Initiatives; E. Gorman, Deputy Corporate Officer; S. Closson, Committee Clerk (Recorder)

Regrets: Director Isitt

The meeting was called to order at 1:30 pm.

1. Territorial Acknowledgement

Chair Desjardins provided a Territorial Acknowledgment.

2. Approval of Agenda

MOVED by Director Blackwell, SECONDED by Director Mersereau,
That the agenda for the January 22, 2020 Core Area Liquid Waste Management Committee meeting be approved.
CARRIED

3. Adoption of Minutes

3.1. 20-069 Minutes of the October 16, 2019 Core Area Liquid Waste Management Committee

MOVED by Director Loveday, SECONDED by Director Helps,
That the minutes of the Core Area Liquid Waste Management Committee meeting of October 16, 2019 be adopted as circulated.
CARRIED

4. Chair's Remarks

The Chair remarked that there is much to celebrate in 2020. The last tender has been awarded and we are optimistic to arrive within our budget. This year

the project will be substantially completed and sewage will be treated in 2020.

5. Presentations/Delegations

There were no presentations or delegations.

6. Committee Business

6.1. 20-064 Core Area Liquid Waste Management Committee - Terms of Reference

Discussion ensued on the following:
- Project Board transition for documents at project close
- Committee future composition

MOVED by Director Plant, SECONDED by Director Helps,
The Core Area Liquid Waste Management Committee receive the attached 2020 Terms of Reference for information.
CARRIED

6.2. 20-021 Wastewater Treatment Project Q3 2019 Quarterly Report

D. Fairbairn spoke to the Q3 Quarterly Report, the October and November reports and the transition of the Project Board at close out.

D. Clancy spoke to the progress of the construction.

Discussion ensued on the following:
- Clover Point progress and expected opening
- Clover Point bicycle lanes re-opening date
- reporting of construction site incidents
- office management costs
- Interurban trail completion time, availability of bike routes
- asphalt options on Interurban Road path intersection

MOVED by Director Helps, SECONDED by Director Brice,
That the Core Area Liquid Waste Management Committee recommend to the Capital Regional District Board:
That this report be received for information.
CARRIED

6.3. 20-022 Wastewater Treatment Project October 2019 Monthly Report

MOVED by Director Brice, SECONDED by Director Helps,
The Core Area Liquid Waste Management Committee recommend to the Capital Regional District Board:
That this report be recieved for information.
CARRIED

6.4. 20-054 Wastewater Treatment Project November 2019 Monthly Report

MOVED by Director Brice, SECONDED by Director Helps,
The Core Area Liquid Waste Management Committee recommend to the Capital Regional District Board:
That this report be recieved for information.

CARRIED

7. Notice(s) of Motion

There were no Notice(s) of Motion.

8. New Business

There was no new business.

9. Motion to Close the Meeting

9.1. 20-073 Motion to Close the Meeting

MOVED by Director Haynes, SECONDED by Director Mersereau,
That the meeting be closed under Section 21 of FOIPPA in accordance with Section 90(1)(j) of the Community Charter.
CARRIED

The meeting was closed at 2:13 pm and rose at 2:53 pm without report.

10. Adjournment

MOVED by Director Screech, SECONDED by Director Seaton,
That the January 22, 2020 Core Area Liquid Waste Management Committee meeting be adjourned at 2:53 pm.
CARRIED

_____
Chair

_____
Recorder

Item 7.1

REPORT TO CORE AREA WASTEWATER TREATMENT PROJECT BOARD
MEETING OF THURSDAY, APRIL 30, 2020

SUBJECT **Wastewater Treatment Project Q1 2020 Quarterly Report**

ISSUE

To provide the Core Area Wastewater Treatment Project Board with the Wastewater Treatment Project Q1 2020 Quarterly Report

BACKGROUND

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

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

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

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

DISCUSSION

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

The Quarterly report for the period of January to March 2020 is attached as Appendix A.

RECOMMENDATION

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

RESOLVED that:

The Staff Report, 'Wastewater Treatment Project Q1 2020 Quarterly Report, be received for information and forwarded to the Core Area Liquid Waste Management Committee and CRD Board for information.

Elizabeth Scott, Deputy Project Director
Wastewater Treatment Project

Dave Clancy, Project Director
Wastewater Treatment Project
Concurrence

Attachments: 1

Appendix A: Wastewater Treatment Project Q1 2020 Quarterly Report

ES:er

CRD Wastewater Treatment Project

Quarterly Report

Reporting Period: January to March 2020

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1 Executive Summary

1.1 Introduction

This Quarterly report covers the reporting period of January to March 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 began 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 construction in the Primary Treatment area including: installation of tube settlers in Densadeg 1 (DD1); completion of tank piping and equipment installation; Densadeg rake mechanism installation underway in all Densadegs; primary odour control tanks set in place; completion of pipe rack installation; fine screen building roofing is complete, cladding in progress, and drywall nearing completion. In the Secondary Treatment area progressing construction including: completed Moving Bed Bio Reactor (MBBR) #2 concrete; progression of penthouse building envelopes; completion of south Biological Aerated Filter (BAF)/ Tertiary tie-in slab; MBBR #2 and #1 process equipment nearing completion; and BAF gravel and biolite is installed in cells 11, 10, 8, 6, 4 and 2. In the Tertiary treatment area construction progress includes: progression of BAF tie-in walls and channels; initial Heating Ventilation and Air Conditioning(HVAC) and electrical work; ongoing installation of lower level 1 pumps and mechanical piping; outfall shaft concrete work nearing completion; progressing level 2 process piping; and cinder block masonry nearing completion. In the Operations and Maintenance (O&M Building) and off site utilities construction progress included: continued progress of HVAC and plumbing throughout the building; ongoing glazing installation on the first and second levels; completed raw influent line from Peters Street to the wye, including testing; installed water line to the main plant site from Peters Street; HVAC, plumbing and fire suppression trades are nearing completion on level 1; level 2 roof parapets were installed and preparing for roofing package installation; lower level stud build out and drywall nearing completion; and progression of north end tsunami and planter wall construction.

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: completing installation and finishing of drywall in Residuals Handling Building and Dryer Building; structural steel frame completed for the Water Pump House; installed motor control centre/electrical controls in Dryer Building electrical room; commenced erection of Digester #3 bolted steel tank; Digester 2 closed up in preparation for hydro testing; progressed mechanical and electrical in Digester Building; installed boilers and polymer pumps, epoxy flooring installed in chemical room, and installed valves and piping, in Residuals Handling Building; progressed mechanical installation, progressed metal stud and drywall installation and completed load out structure in Residuals Drying Facility; completed metal stud and drywall, completed valve installation around equalisation area, and progressing mechanical and electrical work in the Residuals Storage and Odour Control areas; metal stud walls completed with drywall commencing, and commenced window and door installation in the Operations and Maintenance 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: installation of process pipe knife gate and check valves; continued existing inlet channel and bypass pumping work testing and backfilling of the forcemain; progressing piping of domestic water service, and fire suppression service; installation of exterior retaining walls; pigging chamber waterline fused and bolted; relocation of existing screen and compactor; and installation of new screen and compactor.

- Macaulay Point Pump Station: Kenaidan Contracting Limited ("Kenaidan" as the Design-Build Contractor) progressed construction activities over the reporting period including: installation of bridge crane in the bin room; installation of screen room and Vortex grating; installation of HVAC and drain pipe in the screen room; completion and passing of the pressure test for the forcemain; ongoing backfill around the exterior wall; cross laminated timber roof and parapet have been installed; installation of the HVAC and drain pipes in the screen room; bridge cranes have been commissioned in the bin and pump rooms; ongoing unit heaters installation; poured wet well ogee block and duct bank for primary power cable; and insulation on the exterior walls and roof is nearing completion.

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: progressing electrical lighting installation from Montreal Street to Lewis Street; ongoing installation of Clover Point storm catch basin; ongoing cycle track/road restoration between Government and Lewis Streets; ongoing cycle track paving; road restoration; electrical lighting installation; additional cycle path let downs; planted remaining trees at Douglas Street; and top lift paving from Niagara Street to Dock 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 for the Residual Solids Pipes) continued construction activities over the reporting period, including: installation of valve chambers; final road restoration and line painting; and installation of approximately 2.2km of pipes.

    - Residual Solids Pump Stations: Knappett Projects Inc. ("Knappett" as the Construction Contractor for the Residual Solids Pump Stations) continued construction activities including: wet well walls and valve chamber slab were formed and poured, and the kiosk was landed at Pump Station 1; the valve chamber, flow meter and line valve manholes were installed at Pump Station 2; installation of underground conduits, genset and electrical kiosk and generator placed on pad at Pump Station 3; completion of pipe installation along Interurban Road; completion of the RTF Chamber at Willis Point Road; Hartland reservoir slab was poured, formed and the reservoir was fully erected; work progressed under Tillicum Bridge with the installation of all anchor bolts, and the Interurban base lift asphalt was paved.

- Arbutus Attenuation Tank ("AAT"): NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) continued construction activities including: continued drilling operation and installation of plain and reinforced secant piles; mobilization of second drill rig to site to assist in secant pile production rate; maintaining the dewatering system; on-site steel welding for lateral strut reinforcement; preparatory works for ring beam construction; removal of construction ramp into tank footprint to facilitate installation of remaining secant piles and installation of diagonal and lateral struts atop the secant piles.

- Trent Forcemain Jacob Bros. Construction Inc. (as the Construction Contractor for the Trent Forcemain) progressed planning and commenced construction activities including: submitting construction management plans for the Project Team's Review; undertaking utility pre-locate works; and Memorial Crescent storm main and sanitary realignment work.

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. Although the COVID-19 public health emergency did begin to have impacts on the Project over the reporting period, construction is ongoing at all of the Project's sites in accordance with guidelines established by the Provincial Health Officer.

The safety KPI for the Project and the conveyance system remains yellow. Over the reporting period no recordable safety incidents occurred and the total incident frequency decreased from 1.5 at the end of the fourth quarter of 2019 to 1.2. 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 has forecast the cost to complete to 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.

Many contractors have advised that they are beginning to see 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*.	🟡	🟢	🟢	🟡	No recordable incidents occurred over the period. Site inspections are ongoing. The Project Team is actively monitoring the status of the COVID-19 public health emergency and is taking additional precautions to protect our staff, contractors, and the public. All Project contractors have implemented additional precautions to ensure the health and safety of their workers. The Project Team will continue to monitor and follow the direction of the government during this evolving situation.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.	🟢	🟢	🟢	🟢	Two minor environmental incidents occurred over the period: both were small (<1 litre) releases of hydraulic fluid from mobile equipment. One was from a drill rig at the Arbutus Attenuation Tank site, and the second was from an excavator working on the RSCL. Both leaks were contained within the excavation and were cleaned up immediately. No adverse environmental effects resulted from either leak.
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).	🔴	🟢	🟢	🔴 🔴	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. Many contractors have advised that they are beginning to see 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.

* 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 (January to March) 48 safety incidents occurred in total: seventeen in January, thirteen in February, and eighteen in March; comprising: twelve first-aid, twenty-six report only, one high potential near-miss and nine near miss incidents; as summarized in Table 2.

Table 2: Safety Incidents over the Reporting Period

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
January 6, 2020	Residual Solids Pipes	Report Only	Excavator struck an overhead utility line while working during the night on Interurban Road.	Shaw was called and reinstalled the service.	Tool-box talk discussion to have a spotter when working in close proximity to overhead utilities.
January 15, 2020	RTF	Report Only	Malfunction of a Diesel Heater created a loud noise while a worker was in the immediate vicinity.	The Heater immediately shut down, and unit was removed from service.	Unit was removed from the site to be inspected Worker sent to medical aid for an assessment as an extra precaution.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
January 16, 2020	McLoughlin Pt WWTP	First Aid	Worker struck hand while walking past rebar. Protective gloves were being worn.	Worker reported to First Aid. Minor injury addressed and returned to work.	Worker reminded to be more aware of surroundings that have potential hazards.
January 17, 2020	McLoughlin Pt WWTP	First Aid	Worker slipped on a patch of ice, rolling ankle.	Worker reported to First Aid to report incident and have ankle assessed.	Workers ankle was iced and wrapped and worker was placed on modified duty. Workers reminded that weather conditions are poor and to use extreme caution when walking on slippery surfaces.
January 17, 2020	Residual Solids Pipes	Near Miss	A driver ignored signal persons direction and drove in between delineators that were set up as a control zone around the worksite.	The vehicle stopped in close proximity to the construction trench. Signal person directed the vehicle back to the travel portion of the road.	Extra delineators and barriers were placed around the open trench. Additional lighting was installed to better illuminate the work area.
January 17, 2020	McLoughlin Pt WWTP	Report Only	Worker injured hand while moving construction material.	Workers thumb was assessed at First Aid with no treatment provided and returned to work.	Tool-box talk on the use of proper techniques for lifting or passing of materials.
January 19, 2020	RTF	Report Only	A Telehandler operator struck a light standard while trying to back up.	Operator did not have a valid ticket to operate mobile equipment.	Employee was restricted from using mobile equipment. Tool-box talk with crew to review the site policy on equipment use and certifications required to operate equipment.
January 21, 2020	McLoughlin Pt WWTP	Near Miss	Workers were attempting to lower a pump base into place. Before lowering a test lift was performed and then the procedure began. Approximately 4 feet from the floor the base split and fell.	A reviewed of the lifting procedures and rigging indicated all was in order.	Tool-box talk to remind crews the importance of staying out of lifting areas.
January 22, 2020	Residual Solids Pipes	Report Only	Road plate shifted causing the pin securing it to pop up.	Road plate pins caused damage to vehicle tires.	Contractor immediately dispatched a crew to fix the road plate and re-secure the Contractor covered the cost of the drivers tires.
January 22, 2020	Residual Solids Pipes	Report Only	A vehicle ignored a TCP's stop sign almost hitting an oncoming vehicle.	Heavy rain and possible visual impairment from a light tower may have contributed to the incident.	Light tower was repositioned and a Safety meeting was held with TCP personnel to review procedures for traffic control.
January 23, 2020	Residual Solids Pipes	Near Miss	While pressure testing a length of pipe a cap dislodged.	There was nobody in the vicinity and no injuries. A restraining collar which held the cap had to be repaired.	The restraining collar was correctly used so a secondary brace will be added for any further testing in the event there is another failure.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
January 23, 2020	Residual Solids Pipes	Near Miss	A dump truck pulled forward while box was raised almost striking a utility line.	The driver stopped in time and backed the truck up and lowered the dump box.	Tool-box talk held to discuss the use of spotters when working near any overhead utility lines. Dump box on truck to be fully lowered before moving vehicle.
January 23, 2020	McLoughlin Pt WWTP	Report Only	Worker tripped on an uneven surface and landed on their left knee.	Worker reported to First Aid but no follow up required. Worker returned to their duties.	Tool-box talk held to discuss awareness of hazards in the area.
January 24, 2020	McLoughlin Pt WWTP	Report Only	A worker received an electrical shock when they grabbed the connection between two power cords.	Worker reported to First Aid but no follow up required. Worker returned to their duties.	Tool-box discussion on electrical hazards when working in wet conditions.
January 27, 2020	McLoughlin Pt WWTP	First Aid	A worker pinched their finger while moving a beam.	Worker taken to the clinic for an assessment and returned to work.	Tool-box talk about being aware of hands in the “bite” when moving materials.
January 27, 2020	Residual Solids Pipes	Near Miss	Steel plates used across a trench did not have sufficient overhang required to secure the plates.	Due to the heavy rain and traffic movement the soil beneath the plate sluffed into the excavation.	A crew working next to the site was dispatched to the location in order to remove the road plates and backfilling the excavation.
January 27, 2020	McLoughlin Pt WWTP	First Aid	A worker sustained a hand injury while trying to force close a cam lock fitting.	The worker reported to first aid. Injury was addressed and the worker returned to their duties.	Safety discussion with worker to review the actions that lead to the injury and reemphasized using the correct tool for the job.
February 4, 2020	Macaulay Point Pump Station	Near Miss	A water leak at a valve during a pressure test sprayed a worker in the trench.	Leak was isolated and no one was injured in the incident.	The valve assembly was repaired.
February 4, 2020	McLoughlin Pt WWTP	First Aid	A worker sustained a hand injury when they lost their balance while using an impact gun.	Worker sustained a small ½” cut on left index finger and reported to First Aid to have the wound treated and bandaged.	Tool-box talk reviewing the proper use of small hand was held.
February 5, 2020	Residual Solids Pipes	First Aid	A worker sustained a hand injury while cutting a hose.	First Aid referred worker to medical aid to have the cut assessed but no further treatment was required other than a bandage.	Tool-Box talk in regards to the safe use of pocket knives and the wearing of appropriate gloves when cutting.
February 5, 2020	RTF	Report Only	A propane heater malfunctioned damaging the exhaust stack on the unit.	No one was injured.	Unit was removed from service and sent in to the rental provider for an inspection and repair
February 10, 2020	Residual Solids Pump Stations	First Aid	A worker while mixing concrete had the product splash up under their protective glasses.	Worker used an emergency eye wash on site and was taken to Victoria General Hospital for further assessment. No further treatment was required and the individual returned to work.	The need for additional PPE was reviewed and Goggles will now be worn whenever mixing concrete to prevent a reoccurrence.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
February 12, 2020	McLoughlin Pt WWTP	Report Only	While backing up a truck (without a spotter) the driver struck the corner of a grout mixer.	Minor damage to the mixer was reported but no injuries to the driver.	Tool-box talk was held to reinforce the requirement of having a spotter whenever a vehicle is backing up or moving in a congested area.
February 13, 2020	McLoughlin Pt WWTP	Report Only	When lowering a piece of equipment a workers arm became wedged between the equipment and a steel beam.	Worker sustained small bruise to right foreman. Worker was wearing long sleeves, rain jacket and gloves at the time of the incident.	Tool-box talk to remind workers of good communication when moving equipment and to be aware of your surroundings and potentials for injuries to limbs.
February 14, 2020	RTF	Report Only	While moving an aerial platform the operator struck a HVAC duct.	Minor damage to the duct was reported but no injuries to the operator or the aerial platform.	Tool-Box talk with Sub-Contractors in regards to having a spotter while moving equipment inside any building due to congestion.
February 20, 2020	McLoughlin Pt WWTP	Near Miss	A Traffic Control Person (TCP) was struck by a vehicle;s mirror after the driver ignored a stop direction.	Proper signage, personnel, and closures were in place at time of occurrence. No injuries reported.	The company that owned the vehicle was notified of the Safety Incident with the TCP. Tool-Box talk with TCP to review proper positioning to limit potential for contact from vehicles that ignore signage or direction.
February 24, 2020	McLoughlin Pt WWTP	Report Only	A worker while carrying construction materials lost their footing and felt pain in back.	Worker reported the incident to First Aid and returned to work.	Tool-box talk and daily safety newsletter issued to remind workers about appropriate lifting and carrying techniques and to be aware of their surroundings on site with uneven areas or slippery conditions while carrying any material.
February 24, 2020	Residual Solids Pump Stations	Report Only	While lifting a road plate a worker was in close proximity to the activity.	When the road plate was lowered it skimmed the workers boot. Worker was not injured in the incident.	Tool-Box talk to remind workers to stay back a safe distance when road plates are being moved.
February 27, 2020	McLoughlin Pt WWTP	First Aid	A worker injured their hand while releasing the leg of a trailer.	Worker received a small laceration and reported to First Aid to have it cleaned and bandaged.	Worker reminded to complete a Field Level Risk Assessment prior to starting any task to identify any hazards that may be present.
February 28, 2020	McLoughlin Pt WWTP	Near Miss	While cutting drywall a worker dropped their knife and it landed next to another worker below.	The knife was self-retracting, however the slider was sticky so the blade was out when the knife fell.	Knife was removed from service and the job site Tool-box talk was held to remind crews to inspect their tools prior to use and remove any defective equipment. Control the area with barricade tape to keep other workers out of area if tools or other equipment cannot be 100% controlled.
March 2, 2020	McLoughlin Pt WWTP	Report Only	Worker rolled their ankle on uneven surface.	Worker was not injured and reported incident to first aid.	Tool-box talk reminding workers to be aware of their surroundings.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
March 2, 2020	Mcloughlin Pt WWTP	Report Only	While driving home a worker experienced discomfort in left leg. Felt it was related to work activity.	They reported incident to first aid when they returned to work on Monday. No follow up was required.	Tool-box talk in regards to Micro-stretching and moving around if in a fixed position for a long period of time and need for timely reporting of injuries.
March 3, 2020	Residual Solids Pump Stations	Report Only	Prime Contractor Supervisor was contacted regarding drug paraphernalia that was found in a portable toilet on site at Tillicum Bridge.	After picking up a sharps container and personal protective equipment the Supervisor and company Safety representative attended the site and found multiple needles both used and unused as well as other drug paraphernalia.	Drug items were disposed of and Coast Environmental was called to switch the portable toilet out with another unit. Portable toilet is now locked.
March 4, 2020	Arbutus Attenuation Tank	High Potential Near Miss	A mobile crane's boom collapsed while lifting a tailings bin from the excavation.	Scene was frozen and WorkSafeBC was notified as per the Serious Incident Reporting requirements. No workers were in the area when the incident occurred.	An engineer was requested to inspect the crane by WorkSafeBC. Boom line samples were taken to send to a 3rd party for analysis WorkSafeBC investigation in progress to determine Root Cause High Potential Near Miss incident review performed.
March 5, 2020	McLoughlin Pt WWTP	First Aid	A job built handrail came free causing a worker to fall backwards between the tank wall and ladder, sliding approximately 10 feet to the ground below.	Worker reported to first aid and was treated for minor abrasion to left hip and right shoulder. Worker was assessed by First Aid and put on modified duties for 2 days.	Handrail was removed and replaced as it had not been correctly installed. All work areas with job built handrails were re-inspected to ensure they were installed correctly.
March 5, 2020	McLoughlin Pt WWTP	Report Only	While lifting a worker felt pain in their back.	They reported to First Aid and were assessed with no further follow up.	Tool-box talk was held in regards to proper lifting techniques or the use of a mechanical lifting device.
March 5, 2020	Residual Solids Pipes	Report Only	Utility strike while excavating on Tillicum Road.	Utility company was contacted to repair conduit.	Contractor called for locates unfortunately the conduit was not identified.
March 7, 2020	McLoughlin Pt WWTP	Report Only	A worker felt minor pains in their chest and ribs but did not report it to their supervisor or first aid. Monday morning worker was still feeling discomfort and reported to First Aid.	Worker was put on Modified Duty for the day and returned to regular duty the following day.	Tool-Box talk to remind workers to report ALL incidents regardless of severity.
March 9, 2020	McLoughlin Pt WWTP	Report Only	A worker rolled ankle while walking on uneven surface.	Worker was assessed by First Aid with no treatment provided.	Worker was placed on Modified Duty until their ankle felt better.
March 10, 2020	Residual Solids Pump Stations	Report Only	An excavator snagged a road plate pulling it into a fence panel on the side of the road.	Minor damage to a fence panel. No injury sustained to workers.	Tool-box talk with equipment operators was held with regards to proper control of the excavator.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
March 16, 2020	McLoughlin Pt WWTP	Report Only	A worker sustained minor facial injury while installing a cable tray.	Worker reported to first aid but no treatment required.	Tool-Box talk to remind workers to pay attention to body positioning when moving materials and equipment into place.
March 16, 2020	McLoughlin Pt WWTP	Report Only	A worker fell on uneven surface.	Worker reported incident to First Aid but no treatment was provided.	Tool-box talk to remind workers to continually assess their routes for tripping hazards or loose grave.
March 16, 2020	Clover Point Pump Station	Near Miss	Electricians isolated an existing screen and inadvertently cut a live cable.	Job was immediately stopped and a review of the lockout was performed. The cable that was cut had been mislabeled during routing through a common wall penetration. A zero energy check had been performed for the first screen that was removed but was not performed on the second screen. No one was injured.	A root cause analysis of the incident was undertaken. A full review of the lockout procedures and process to ensure cable isolation was conducted with all of the electricians on site. Requirement for two step confirmation of cable isolation is now in place.
March 18, 2020	McLoughlin Pt WWTP	Report Only	Worker sustained a trip injury while stepping off the back of a low trailer.	Worker reported to First Aid to report incident but no further treatment was provided.	Tool-box talk to remind workers to be aware of surrounding conditions and footing prior to getting off of trailers or out of the back of trucks.
March 19, 2020	McLoughlin Pt WWTP	First Aid	Worker while drilling fiberglass above, wearing safety glasses and half mask had dust enter their eyes.	Worker was sent to medical aid for assessment and assistance. The eye was rinsed and the individual returned to work.	Worker reminded to wear goggles or full-face shield when completing the task.
March 20, 2020	McLoughlin Pt WWTP	First Aid	Worker removed gloves to complete a task and sustained a laceration on their hand.	Worker reported to first aid where the wound was cleaned and bandaged.	Tool-box talk to remind workers to wear their gloves while performing task.
March 24, 2020	McLoughlin Pt WWTP	First Aid	Worker while picking up a grinding wheel injured their hand.	Worker reported to first aid where the wound cleaned and bandaged.	Tool-box talk to remind workers how to handle sharp items.
March 31, 2020	Clover Point Pump Station	Report Only	While lowering, a pipe assembly slipped from its rigging which caused a flange connection to be damaged.	Flange was repaired on site.	Good control zone in place prevented anyone from being injured.

Key safety activities conducted during January included:

- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett and NAC;
- weekly project update meetings with prime contractor: HRMG;
- updated Office and First Aid Hazard Assessment for 2020;
- attended chartering session for Trent Forcemain;
- sent out safety notices for cold stress conditions;
- conduct quality safety assurance audit on Residuals Solids Pump Stations Prime Contractor;
- conducted New Worker Office Orientations for WTP staff;
- monthly incident Investigation reviews;

- reviewed site specific safety plans and high risk tasks such as Confined Space and Silica work;
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites;
- host Prime Contractor Safety Coordination Meeting focusing on resuming work in 2020 and expectations and goals for Primes; and
- review Prime Contractor document submissions for Trent Forcemain.

Key safety activities conducted during February included:

- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett and NAC;
- weekly project update meetings with prime contractor: HRMG;
- conduct Quality Safety Assurance Audit on Arbutus Attenuation Tank Prime Contractor;
- attended site Safety Meeting at the CRD Hartland site with the CRD and Prime Contractors;
- monthly incident investigation reviews;
- reviewed site specific safety plans and high risk tasks;
- issued a safety notice regarding lifting equipment;
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites; and
- reviewing Prime Contractor document submissions for Trent Forcemain.

Key safety activities conducted during March included:

- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett and NAC;
- weekly project update meetings with prime contractor: HRMG;
- monthly incident investigation reviews;
- hosted high potential for harm cane incident debrief with CRD, Prime Contractor and Sub-Contractor;
- hosted Prime Contractor Safety Coordination Meeting with Project 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;
- development of COVID-19 Prime Contractor Site Compliance Checklist;
- COVID-19 Safe Work procedure review for project sites; and
- updated PMO Safety Bulletin Board with COVID-19 Information.

Table 3: WTP Safety Information

	Reporting Period (January- March 2020)	Project Totals
Person Hours		
PMO	10 540	138 028
Project Contractor	317 285	1 672 756
Total Person Hours	327 825	1 810 784
PMO	31	
Project Contractors (& Project Consultants) working on Project Sites	573	
Total Number of Employees	604	
Near Miss Reports	9	45
High Potential Near Miss Reports	1	6
Report Only	26	142
First Aid	12	46
Medical Aid	0	5
Medical Aid (Modified Duty)	0	2
Lost Time	0	4
Total Recordable Incidents	0	11
		Project Frequency (from January 1, 2017)
First Aid Frequency		5.0
Medical Aid Frequency		0.7
Lost time Frequency		0.4
Total Recordable Incident Frequency		1.2

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, and responding to BC Ministry of Environment and Climate Change Strategy (ENV) questions related to the MWR Registration application and the Operational Certificate application.

Key environmental management activities completed in January included:

- In response to heavy rain events, McElhanney Consulting Services (as the qualified environmental professional for Knappett, Don Mann and NAC Constructors Ltd. – being the Construction Contractor for the Residual Solids Pump Stations, the Residual Solids Pipes, and the Arbutus Attenuation Tank, respectively) completed environmental monitoring and inspections at numerous sites over the course of the reporting period. Generally improvements to environmental controls that were implemented in response to heavy December rains were effective, however McElhanney's inspections confirmed the importance of checking those controls often

Key environmental management activities completed in February included:

- Stantec (as the Owner's Engineer for the Project) and the CRD prepared a technical memo addressing a request from ENV for additional information on the EIS that evaluated how the Project would reduce overflows within the core area wastewater system.
- HRP (as the Design-Build Contractor for the McLoughlin Point WWTP), Stantec and the CRD prepared a technical memo addressing a request from ENV for additional information on the EIS that evaluated how discharges from the McLoughlin Point WWTP would affect the marine environment.

Key environmental management activities completed in March included:

- HRMG (as the Design-Build-Finance-Operate Maintain contractor for the RTF) prepared a technical memo addressing a request from ENV for additional technical information on odour control equipment and estimated emissions from standby equipment.

Over the reporting period there were two environmental incidents:

- On January 28th, a minor environmental incident occurred when a hydraulic line on an excavator working on the Residual Solids Pipes broke, leaking approximately one litre of hydraulic fluid into the trench that was being excavated. Don Mann (the Construction Contractor for the Residual Solids Pipes) staff deployed sorbent pads into the trench to absorb fluid that had spilled into the trench. The sorbent pads were disposed of at an appropriately licenced facility. No adverse environmental effects resulted from the leak.

- On February 13th there was a release of approximately 1 litre from one of the drill rigs at the Arbutus Attenuation Tank site. The leak was contained in a ditch within the tank excavation and absorbent pads were deployed to soak up the hydraulic fluid. The absorbent pads were disposed of at an appropriately licenced facility. No adverse environmental effects resulted from the leak.

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 January included:

- Stantec (as the archaeological consultant for the Trent Forcemain) added the Trent Forcemain scope to their *Heritage Conservation Act* Site Inspection Permit.
- The CRD submitted the technical memo prepared by Lorax Environmental Services (Lorax, the CRD's dispersion modelling consultant) that addressed a request for additional information from the BC Ministry of Environment and Climate Change Strategy (ENV).

Key permitting activities for February included:

- The CRD, HRP and Stantec met with ENV to discuss the results of their review of the two EISs that were prepared as part of the MWR Registration application.

Key permitting activities for March included:

- The CRD submitted two memos to ENV in support of the MWR Registration application.

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. There was one change made from the table presented in the Project's Q4 2019 Quarterly Report: the anticipated date for receipt of the MWR Registration was changed from Q1 2020 to Q2 2020, to reflect the current status of ENV's review of the application.

Table 4- Key Permits Status

Permit/Licence	*Anticipated Date*	*Status*	*Party Responsible for Obtaining Perming*
McLoughlin Point WWTP			
Municipal Wastewater Regulation ("MWR") Registration	Q2 2020	Submitted September 2019	CRD
McLoughlin Point Harbour Crossing			
Transport Canada Lease	Following completion of construction	On track	HRP
McLoughlin Point Outfall			
Transport Canada Lease	Following completion of construction	On track	HRP
Residuals Treatment Facility			
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, with a focus on the development of interpretive signage for installation at several locations and the procurement of Indigenous art for installation at Clover Point and Macaulay Point.

Key Activities in January included:

- First Nations communication and engagement was ongoing over the reporting period. Meetings with the Esquimalt and Songhees' liaisons continued, with a focus on the development of interpretive signage for installation at several locations and the procurement of Indigenous art for installation at Clover Point and Macaulay Point.
- Millennia Research (as the Project's archaeological advisor) continued archaeological monitoring of excavations along the RSCL and Clover Forcemain routes with members of local First Nations

Key Activities in February included:

- Millennia Research (as the Project's archaeological advisor) continued archaeological monitoring of excavations along the RSCL and Clover Forcemain routes with members of local First Nations. Stantec, as the archaeological adviser for the Trent Forcemain portion of the Project, began preparing for pre-construction archaeological digs in areas of high archaeological potential.
- On February 5th, the Chair of the Project Board, along with members of the Project Team and the CRD's First Nations Relations department were hosted by W̱SÁNEĆ Nations at a Burning ceremony at SṈIDȻEŁ (Tod Inlet). The Burning ceremony was in the custom of the W̱SÁNEĆ Peoples and was held in relation to ground disturbing work undertaken and ongoing in the construction of Project components.

Key activities in March included:

- Stantec (as the archaeological consultant for the Trent Forcemain) completed pre-construction archaeological investigations along the Dallas Road seawall.
- The CRD met with the W̱SÁNEĆ Leadership Council's recently-appointed Project Liaison. The focus of the meeting was making introductions and sharing Project information.

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.

January Overview

One information bulletin was issued to stakeholders in January:

- Final Contract Awarded for the Wastewater Treatment Project (January 9, 2020) (Appendix A)

Over the month of January, the Project website, wastewaterproject.ca, was updated with information about the Project. One information bulletin was posted and the photo gallery section was updated with additional photos. Two alerts were added, and resolved once complete, to indicate overnight work along the intersections at Tillicum/Gorge and Interurban/Wilkinson roads. These alerts were also posted on the CRD's Twitter account. A map showing the progress of construction along the Residual Solids Conveyance Line (Appendix B) was updated.

The CRD's Twitter account was used to provide Project information to the public, including notifications about overnight construction along the RSCL route.

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;
- District of Saanich Technical Working Group; and
- Township of Esquimalt Liaison Committee.

February overview

Three construction notices were issued to stakeholders in February:

- Trent Forcemain Construction (February 5, 2020) (Appendix C);
- Residual Solids Conveyance Line: Esson and Portage Roads (February 14, 2020) (Appendix D); and
- Macaulay Point Pump Station: Bypass Pumping (February 21, 2020) (Appendix E)

The Project Team hand delivered the three construction notices in the community: the Trent Forcemain construction notice was hand-delivered to 196 residences in the Fairfield area; the Residual Solids Conveyance Line construction notice was hand-delivered to 58 residences in the nearby neighbourhood; and the Macaulay Point Pump Station construction notice was hand-delivered to 15 residences near the construction site. The Trent Forcemain construction notice was also circulated to 399 stakeholders via email. As well, a letter regarding construction updates for paving Peters Street was delivered to 16 residences in Esquimalt (Appendix F).

Over the month of February, the Project website, wastewaterproject.ca, was updated with information about the Project: three construction notices were posted; one information sheet was updated ('About the Wastewater Treatment Process', see Appendix G); the photo gallery section was updated with additional photos; and a map showing the progress of construction along the Residual Solids Conveyance Line (Appendix H) was updated.

The CRD's Twitter account was used to provide Project information to the public, including notifications about overnight construction along the RSCL route, pipe installation and upcoming construction of the Trent Forcemain.

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;
- District of Saanich Technical Working Group; and
- Township of Esquimalt Liaison Committee.

March Overview

One construction notice was issued to stakeholders in March:

- Clover Point Pump Station: Extended Work Hours (March 2020) (Appendix I)

The Project Team hand delivered the construction notice to 50 residences along Dallas Road.

Three information sheets were updated.

- Biosolids (Appendix J)
- Project Schedule (Appendix K)
- Trent Forcemain (Appendix L)

Over the month of March, the Project website, wastewaterproject.ca, was updated with information about the Project. One construction notice and three information sheets 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 M) was updated. Additionally, an update was posted to the front page of the Project website regarding construction and the impact of COVID-19.

The CRD's Twitter account was used to provide Project information to the public, including notifications about paving along Dallas Road and a progress photo of the McLoughlin Point Wastewater Treatment Plant.

The Project Team held meetings with the following community groups and representatives, and municipality representatives:

- City of Victoria Technical Working Group;
- 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- January – March 2020

Inquiry Source	Contacts for Q1
Information phone line inquiries	66
Email inquiries responded to	50

Key themes of the public inquiries were as follows:

- questions regarding the timeline for final restoration along the RSCL;
- interest in becoming a supplier or employee of the Project;
- interest in timelines for work on the Trent Forcemain;
- identification of areas in need of restoration or repair;
- questions regarding construction work during the current public health emergency;
- questions regarding timelines for lawn restoration and landscaping along the RSCL and Clover Forcemain routes; and
- Identification of noise issues related to road plates and generators.

2.5 Resolutions from Other Governments

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

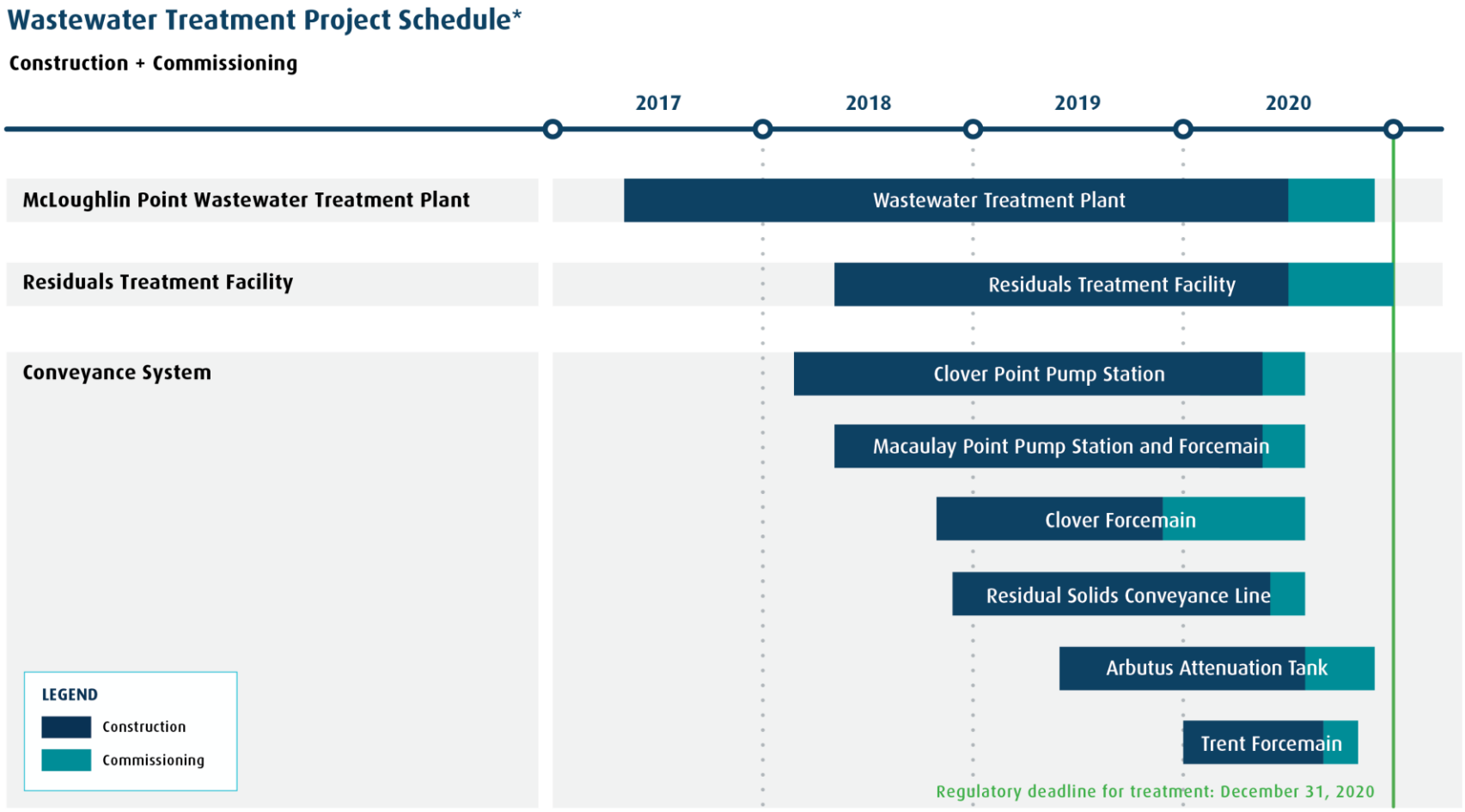
2.6 Schedule

Progress over the reporting period is summarized in Section 2.9.

Figure 1 shows the high-level Project schedule. The schedule has changed from that shown in the Project's Q4 2019 Quarterly Report as the date for transition from construction to commissioning for both the Macaulay Point Pump Station & Forcemain (previously March 2020) and the Clover Point Pump Station (previously Feb 2020), were updated to May 2020 based on construction progress. The schedule remains subject to optimization as the project and commissioning planning progresses.

Over the reporting period the COVID-19 public health emergency began 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



*Schedule subject to updates as Project planning progresses.

2.6.1 30 day look ahead

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

Safety

- close out Quality Safety Assurance Audit on Arbutus Attenuation Tank Prime Contractor;
- CRD corporate occupational health and safety coordination committee meeting conference call;
- participate in weekly and bi-weekly prime contractor progress meetings;
- host Prime Contractor Safety Coordination Meeting with Project safety representatives;
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites;
- review of any site specific safety plans or high risk tasks;
- send out any new Safety Notices or Incident Notifications to Prime Contractor;
- review COVID-19 document submissions;
- 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

- ongoing environmental monitoring at construction sites; and
- finalise the MWR Registration and Operational Certificate applications.

First Nations

- 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

- continue construction of tsunami walls;
- install stairs, roofing and glazing at odour control;
- continue with electrical, instrumentation and controls throughout;
- install Densadeg 2 and 3 tank covers;
- install polymer system piping, chlorinated water piping and, ferric chloride system piping in Densadeg 2 and 3;
- install natural gas and HVAC in heat recovery room;
- install exhaust fans and unit heaters in tertiary treatment/outfall chamber;
- install elevator in O&M building; and
- install drywall, firestop and painting throughout O&M building.

Clover Point Pump Station

- demolish existing pumps and check valves;
- install grit separators;
- install masonry block walls for fuel storage rooms;
- demolish existing Motor Control Centre (MCC) and obsolete electrical equipment;
- remove existing generator and install new generator;
- commence installation of split stone face on exterior retaining wall;
- install HVAC, plumbing fixtures and masonry block walls in public washroom; and
- install doors, frames, and hardware to new and existing pump station.

Macaulay Point Pump Station

- backfill and reinstate twin 900mm forcemain;
- grout equipment and structural steel bases;
- form, rebar and pour diversion chamber;
- install stairs and walkways in pump room;
- install wet well maintenance platform;
- install doors and frames and glazing in aluminium doors;
- install plumbing fixtures;
- continue site paving and sidewalks; and
- commence functional start-up of equipment.

Residuals Treatment Facility

- investigation and repair of damage caused to Digester 1;
- start hydro testing and pneumatic testing at Digester 2;
- complete tank erection and internal piping at Digester 3;
- continue mechanical and electrical installations at the Digester Building;
- commence hydro testing at the Digested Sludge Storage Tank;
- commence hydro testing at the Water Storage Tank;
- continue finishes at Operations Building;
- continue electrical cabling and install pumps and headers and receiving hopper at Other Municipal Solids Receiving Facility;
- continue electrical cabling, process piping, polymer equipment, and building systems at the Residuals Handling Building;
- continue building systems, equipment and electrical installation and process piping at the Dryer Building;
- continue mechanical and electrical work at Equalization Building;
- continue process mechanical and electrical at the Water Pump House; and
- continue equipment installation at Odour Control Area.

Clover Forcemain

- continue road/cycle track;
- complete road restoration Government Road to Douglas Street to Douglas Street; and complete additional surface works between Lewis Street to Government Street.

Residual Solids Pipes

- complete MOTI crossing pipe and watermain;
- complete installation of pipe on Portage Road;
- complete installation of line, valves, low point drains and air valves; and
- complete final road restoration.

Residual Solids Pump Stations

- Marigold valve chamber final surface restoration;
- install pipe under Tillicum bridge;
- install pump station 3 instrumentation and controls;
- install fencing and final grading at pump station 3;
- complete pump station 2 odour control and surge tank installation;
- install HVAC and site fencing at pump station 2;
- pump station 2 submersible sewage pump installation;
- install kiosk and generator at pump station 1; and
- complete tie-in of pipe at Pump Station 3, Willis Point, Pump Station 2, Grange Road, Pump Station 1, and Marigold.

Arbutus Attenuation Tank (AAT)

- complete installation of secant piles;
- complete installation of steel saddles for cross and diagonal strut beams;
- complete installation of cross and diagonal strut beams atop secant piles;
- commence installation of ring beam (formwork, rebar, pour concrete, testing), start on western third and progress eastward;
- Complete 3 of 4 pours for the ring beam;
- commence installation of nelson studs; and
- commence electrical ductbank and manhole install for BC Hydro connection.
-

Trent Forcemain

- install sanitary sewer and watermain at Fairfield Road;
- install storm sewer at Bushby Street;
- install sanitary sewer at St. Charles Street; and
- install sanitary sewer at Brooke Street.

2.6.2 60 day look ahead

Key activities and milestones for the next 60 days (May) 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 via conference call;
- weekly and bi-weekly prime contractor progress meetings;
- review of any site specific safety plans or high risk tasks;
- review prime contractor document submissions;
- 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

- 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 BAF tanks;
- complete elevator installation in 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;
- complete 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

- continue repair of damage caused to Digester 1;
- install relief valve at Digester 2;
- start hydro testing and pneumatic testing at Digester 3;
- continue mechanical and electrical installations at the Digester Building;
- complete hydro testing at the Digested Sludge Storage Tank;
- complete hydro testing at the Water Storage Tank;
- continue finishes at Operations Building;
- continue electrical cabling and install pumps and headers and receiving hopper at Other Municipal Solids Receiving Facility;
- continue electrical cabling, process piping, polymer equipment, and building systems at the Residuals Handling Building;

- continue building systems, equipment and 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 equipment installation at Odour Control Area.

Clover Forcemain

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

Residual Solids Pipes

- commence turnover of project record documents;
- final paving and restoration as required;
- complete MOTI watermain highway crossing; and
- complete pipe installation on Portage Road.

Residual Solids Pump Stations

- complete Admirals Bridge crossing pipe installation and testing;
- Pump Station 1, install fencing, and final grading, paving and landscaping;
- Pump Station 2, install fencing, and final grading, paving and landscaping;
- Pump Station 1, 2 & 3, commence start-up testing and commissioning;

Arbutus Attenuation Tank (AAT)

- continue installation of ring beam (formwork, rebar, pour concrete, testing) from western third and progress eastward;
- complete last of 4 pours for the ring beam;
- continue installation of nelson studs;
- commence excavation within tank footprint to base slab elevation;
- commence subgrade prep and mud-mat installation;
- prep for and initiate excavation for valve chamber; and
- preparation for rock anchor installation.

Trent Forcemain

- install sanitary sewer on Brooke Street, Stannard Avenue and Fairfield Road

2.7 Cost Management and Forecast

The monthly cost report for March and the quarterly report for the reporting period (January – March 2020) are shown in Appendices N and O respectively. 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, and these pressures steadily increased as each conveyance contract was awarded. The Project Team forecasts that the Project can be completed at a total cost of $775M, or $10M (1.3%) over the Project's control budget. In May 2019 the CRD Board approved to increase the Project's budget by $10M to $775M, and on August 14, 2019, the associated amendment to the 2019-2023 Financial Plan was approved.

Over the reporting period the COVID-19 public health emergency began to have impacts on the Project. Many contractors have advised that they are beginning to see 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 $1.95 million. The significant commitments made in the reporting period comprised the approval of provisional items in construction contracts and contract change orders, and an increased commitment to the Project's archaeological advisor (Millennia Research), required as a result of a greater level of archaeological effort being required than was originally anticipated.

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 $718,890 were made over the reporting period, as summarised in Table 6. In addition contingency credits totalling $22,545 were made over the reporting period, as a result of BC Hydro credits applied to Seaterra costs and a return of funds from Craigflower contract close out. 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 December 31, 2019		$ (52,610,777)
Contingency and Program Reserve balance as at December 31, 2019		**$ 16,707,274**
BC Hydro credits applied to Seaterra costs	Jan-20	$ 4,000
Telemetry upgrades to SCADA	Jan-20	$ (6,420)
Remediation of Contaminated Soils on DND Lands	Jan-20	$ (230,923)
Remediation of WWTP Site	Jan-20	$ (45,740)
Supervening Event: Regulated Site Condition at Outfall	Feb-20	$ (283,234)
Remediation of Contaminated Soils on DND Lands	Feb-20	$ (23,206)
Certificate of Compliance Preparation	Mar-20	$ (66,704)
Residual Solids Testing Port	Mar-20	$ (62,663)
WWTP Total Draw		$ (714,890)
BC Hydro credits applied to Seaterra costs	Jan-20	$ 1,208
RTF Total Draw		$ 1,208
BC Hydro credits applied to Seaterra costs	Jan-20	$ 1,331
Return of funds from Craigflower Pumpstation close out	Feb-20	$ 16,005
Conveyance Total Increase		$ 17,336
PMO Total Draw		$ -
BC Hydro Total Draw		$ -
WTP Program Reserve Draw		$ -
Contingency and Program Reserve credits in the reporting period		$ 22,545
Contingency and Program Reserve draws in the reporting period		$ (718,890)
Contingency and Program Reserve balance as at March 31, 2020		**$ 16,010,930**

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, which is scheduled to occur in 2020. Over the reporting period the timing for the receipt of part of the funding from the Government of British Columbia was brought forward, and $124 million of provincial funding was received on March 30, 2020.

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	$8.7M	$100.8M
Government of Canada (Green Infrastructure Fund)	$50M	$4.9M	$40.7M
Government of Canada (P3 Canada Fund)	$41M	-	-
Government of British Columbia	$248M	$124M	$186.0M
Federation of Canadian Municipalities	$0.3M	-	-
TOTAL	**$459.3M**	**$137.6M**	**$327.5M**

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.

While the Project Team did not make any changes to the active risks summary from that presented in the Project's Q4 2019 Quarterly Report, the COVID-19 public health emergency did begin 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
Project				
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)
McLoughlin Point Wastewater Treatment Plant				
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.	L	No Change

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

2.9 Status (Engineering, Procurement and Construction)

2.9.1 Wastewater Treatment Plant (McLoughlin Point WWTP)

The McLoughlin Point WWTP Project Component is continuing with Harbour Resource Partners ("HRP" as the Design-Build Contractor for the McLoughlin Point WWTP) progressing construction in the Primary Treatment area including: installation of tube settlers in Densadeg 1 (DD1); completion of tank piping and equipment installation; Densadeg rake mechanism installation underway in all Densadegs; primary odour control tanks set in place; completion of pipe rack installation; fine screen building roofing is complete, cladding in progress, and drywall nearing completion. In the Secondary treatment area progressing construction including: completed Moving Bed Bio Reactor (MBBR) #2 concrete; progression of penthouse building envelopes; completion of south Biological Aerated Filter (BAF)/ Tertiary tie-in slab; MBBR #2 and #1 process equipment nearing completion; and BAF gravel and biolite is installed in cells 11, 10, 8, 6, 4 and 2. In the Tertiary treatment area construction progress includes: progression of BAF tie-in walls and channels; initial Heating Ventilation and Air Conditioning(HVAC) and electrical work; ongoing installation of lower level 1 pumps and mechanical piping; outfall shaft concrete work nearing completion; progressing level 2 process piping; and cinder block masonry nearing completion. In the Operations and Maintenance (O&M Building) and off site utilities construction progress included: continued progress of HVAC and plumbing throughout the building; ongoing glazing installation on the first and second levels; completed raw influent line from Peters Street to the wye, including testing; installed water line to the main plant site from Peters Street; HVAC, plumbing and fire suppression trades are nearing completion on level 1; level 2 roof parapets were installed and preparing for roofing package installation; lower level stud build out and drywall nearing completion; and progression of north end tsunami and planter wall construction.

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

- Primary treatment area:
  - completion of primary area roof parapets and curbs;
  - completion of miscellaneous equipment pads;
  - ongoing masonry in chemical pump room;
  - fine screen and chemical room steel stud underway;
  - installed tube settlers in Densadeg1 (DD1);
  - commenced installation of tube settler in Densadeg2 (DD2);
  - installed reactors for DD1 and DD2;
  - commenced installation of clarifier mechanism on DD1;
  - sludge lines underway for all Densadegs and plate settlers;
  - completion of tank piping and equipment installation; and
  - completion of storage and plant drain tank piping and equipment installation.
  -
- Secondary treatment area:
  - completed MBBR #2 concrete;
  - progressed MBBR #1 concrete work;
  - progression of south biological aerated filter (BAF) / Tertiary tie-in slab complete, upper channels;
  - installation of 16 inch pipe is nearing completion;
  - completion of BAF scouring air distribution systems in all cells except 12, 9 and 7;
  - electricians continue to progress where possible in the BAF gallery;
  - all blowers set on final housekeeping pads;
  - ongoing installation of Cable tray and supports in all three penthouse structures;

- progression of penthouse building envelopes;
- progress on pipe rack 10 and 11; and
- setup for BAF nozzle and lateral air testing.

- Tertiary treatment area:
  - progression of BAF tie-in walls and channels;
  - upper disk filter walls continue;
  - installation of level one pumps and mechanical piping nearing completion;
  - continued progress of level two pump pads; and
  - initial HVAC and electrical work is in progress.

- O&M building:
  - progressed cinder block wall;
  - continued progress of HVAC and plumbing throughout the building;
  - progressing electrical work throughout the building;
  - ongoing glazing installation on the first and second levels;
  - roofing membrane installation is complete on the level one roof; and
  - steel stud well underway on level 2.

- Off-Site Utilities:
  - completed raw influent line from Peters street to the wye, including test;
  - installed water line to the main plant site from Peters street;
  - installation of pig receiving piping;
  - continued raw influent piping; and
  - commenced commissioning of external major electrical equipment.

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

- Primary treatment area:
  - sprinkler, HVAC and process piping systems in progress in north pump room;
  - commenced suction and discharge lines for all three Densadegs;
  - tube settlers set in place for all Densadegs;
  - Densadeg rake mechanism installation underway in all Densadegs;
  - Densadeg launder channel installation commenced in Densadeg 1;
  - reactors for all Densadegs set in place and installation ongoing;
  - primary odour control tanks set in place;
  - coring complete for pipe racks 4, 5, and 6;
  - installation of plate settler tank covers has commenced;
  - Fine screen building has been sheathed and membrane installed;
  - Fine screen building cinder block masonry underway; and
  - Fine screen building roofing underway.

- Secondary treatment area:
  - MBBR #2 process equipment installed;
  - MBBR #1 concrete work complete;
  - south BAF / Tertiary tie-in slab complete, upper channels nearing completion;
  - BAF nozzles and laterals are installed and tested in Cells 10, 8, 6, 4, and 2;
  - BAF gravel is installed in cells 8 and 6;
  - BAF nozzle and lateral installation in cells 1, 3 and 5 are nearing completion;
  - electrical cable tray and cable pulling has commenced between exterior electrical gear and main electrical room;

  - cable tray installation on pipe rack 10 and 11 ongoing;
  - electrical work progressed in the BAF gallery;
  - blower room drywall and paint complete;
  - heat recovery room drywall nearing completion; and
  - penthouse building envelopes continue progressing.

- Tertiary treatment area:
  - continued upper disk filter walls;
  - lower level 1 pumps and mechanical piping install nearing completion;
  - level 2 process piping continues; and
  - level 2 masonry ongoing.

- O&M building:
  - lower level interior stud build-out nearing completion;
  - lower level drywall installation has commenced;
  - HVAC, plumbing and fire suppression trades are nearing completion on level 1;
  - electrical trade is beginning to close out rooms to allow for drywall installation on level 1;
  - level 2 HVAC, plumbing and fire suppression are also progressing;
  - steel stud install on level 2 ongoing;
  - spray foam insulation completed; and
  - level 2 roof parapets were installed and preparing for roofing package installation.

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

- Primary treatment area:
  - sprinkler, HVAC and process piping systems nearing completion in north pump room and primary odour control;
  - suction and discharge lines for all three Densadegs are in progress;
  - Densadeg 1 nearing completion, Densadegs 3 and 2 are in progress;
  - commenced primary odour control fiberglass reinforced plastic (FRP) pipe installation;
  - completion of pipe rack installation;
  - installation of plate settler tank covers in progress;
  - fine screen building roofing is complete, cladding in progress, and drywall nearing completion;
  - fine screen building cinder block walls complete, stairwell steel in progress; and
  - main electrical room distribution cables pull in progress.

- Secondary treatment area:
  - MBBR #2 and #1 process equipment nearing completion;
  - South BAF / Tertiary tie-in concrete complete;
  - BAF nozzles and laterals are installed in all cells outside of 7, 12 & 9;
  - BAF gravel and biolite is installed in cells 11, 10, 8, 6, 4 and 2;
  - electrical cable bus is complete from external gear to main electrical room.
  - cable pulls are ongoing.
  - electricians continue to progress work in the BAF gallery.
  - progressing cable pulls in the Blower room;
  - heat recovery room drywall nearing completion; and
  - progression of Penthouse building envelopes.

- Tertiary treatment area:
  - upper disk filter walls are ongoing;
  - progressing installation of lower level 1 pumps and mechanical piping;
  - level 2 process pipe is in progress;
  - cinder block masonry nearing completion; and
  - outfall shaft concrete work nearing completion.

- O&M building:
  - lower level interior stud build-out nearing completion;
  - lower level drywall installation in progress;
  - HVAC, plumbing and fire suppression trades are nearing completion on level 1;
  - electrical trade is closing out rooms to allow for drywall installation on level 1;
  - Level 2 HVAC, plumbing and fire suppression are in progress;
  - steel stud installation on level 2 is in progress, and drywall has commenced;
  - Level 2 roof is complete, transitioning to Level 1; and
  - progression of North end tsunami and planter wall construction is in progress.

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

Figure 2− McLoughlin Point Wastewater Treatment Plant - Bolting up valve and fittings at pigging chamber preparing for pressure test.

Figure 3– McLoughlin Point Wastewater Treatment Plant- Cladding installation on north end of heat recovery room.

Figure 4– McLoughlin Point Wastewater Treatment Plant- Fibreglass reinforced plastic beams installed and ready for covers at DD3 final clarifier.

Figure 5– McLoughlin Point Wastewater Treatment Plant- delivery of turbine blade for Densadeg reactor.

Figure 6– McLoughlin Point Wastewater Treatment Plant- Cinder block installation at northeast stairwell of tertiary treatment structure.

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: completing installation and finishing of drywall in Residuals Handling Building and Dryer Building; structural steel frame completed for the Water Pump House; installed motor control centre/electrical controls in Dryer Building electrical room; commenced erection of Digester #3 bolted steel tank; Digester 2 closed up in preparation for hydro testing; progressed mechanical and electrical in Digester Building; installed boilers and polymer pumps, epoxy flooring installed in chemical room, and installed valves and piping, in Residuals Handling Building; progressed mechanical installation, progressed metal stud and drywall installation and completed load out structure in Residuals Drying Facility; completed metal stud and drywall, completed valve installation around equalisation area, and progressing mechanical and electrical work in the Residuals Storage and Odour Control areas; metal stud walls completed with drywall commencing, and commenced window and door installation in the Operations and Maintenance building.

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

- completed erection of Water Storage Tank;
- erected structural steel frame work of the Operations Building;
- installed interior steel stud walls and supporting members installed for installation of exterior insulated metal cladding panels;
- completed installation and finishing of drywall in Residuals Handling Building and Dryer Building;
- electrical equipment and controls installed in Residuals Handling electrical room, cables and wiring being pulled throughout building;
- structural steel frame completed for Water Pump House;
- ongoing installation of mechanical/process piping in Digester Equipment Building;
- Digester #1 sealed up and filled for hydrostatic testing;
- installation of mechanical/process piping in Dryer Building;
- exterior of Dryer Building weathertight, cladding, glazing and flashings installed;
- completed product storage silo on south side of Dryer Building;
- placed concrete for housekeeping pads in Odour Control Building and Residuals Handling Building boiler room;
- installed exterior insulated metal cladding panels, flashing and gutters on Equalization Building and Water Pump House;
- formed up and placed concrete for Propane Storage Tank foundation slab;
- installed motor control centre/ electrical controls in Dryer Building electrical room;
- installed interior process piping and mixing nozzles in DSST;
- commenced erection of Digester #3 bolted steel tank;
- installed process mechanical piping between Residuals Solids Tanks and Equalization Building;
- installed mixing pumps in Digester Equipment Building, cored walls for installation of mechanical/process piping between digesters, DSST and Digester Equipment Building; and
- slope stabilization work ongoing on south slope/upper Hartland access road.

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

- Digester Area
  - Digester 2 closed up in preparation for hydro testing;
  - continued erection of Digester 3 tank;
  - installed pipe and pipe supports for Digested Solids Storage Tank (DSST); and
  - progressed mechanical and electrical in Digester Building.

- Residuals Handling Building
  - completed drywall and painting;
  - installed boilers and polymer pumps;
  - epoxy flooring installed in chemical room; and
  - electrical work continued in the electrical room.

- Residuals Drying Facility
  - progressed mechanical installation;
  - electrical cable tray installation was completed with cabling being pulled and terminated;
  - progressed metal stud and drywall installation; and
  - load out structure is in progress.

- Residuals Storage & Odour Control and Equalization Building
  - completed metal stud and drywall.

- Water Pump house
  - pump skids installed and building closed up;
  - mechanical and electrical work is in progress; and
  - trickling tower installed on odour control pad.

- Operations Building
  - metal stud walls completed with drywall commencing; and
  - mechanical and electrical is in progress.

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

- Digester Area
  - Digester 2 filled with water for hydro test;
  - Digester 3 tank erection complete;
  - Digested Sludge Storage Tank (DSST) closed and made ready for water; and
  - Digester Building mechanical and electrical is in progress.

- Other Municipal Solids Receiving Facility
  - installed valves; and
  - commenced installation of electrical cable tray and cable.

- Residuals Handling Building
  - installed valves and piping;
  - electrical work continued in all areas; and
  - commenced installation of Fiberglass Reinforced Plastic (FRP) grating.

- Residuals Drying Facility
  - continuing mechanical installation;
  - continuing electrical terminations;
  - completed metal stud and drywall;
  - completed load out structure; and
  - commenced installation of generator room louvres.

- Residuals Storage & Odour Control
  - completed valve installation around equalisation area;
  - progressing mechanical and electrical work; and
  - completed hydro test on Residual Solids Tank 1 and 2.

- Operations Building
  - continued drywall installation;
  - commenced painting and flooring install;
  - progressed mechanical and electrical; and
  - commenced window and door installation.

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

Figure 7− Residuals Treatment Facility- FRP supports being assembled for grating around centrifuges in Residuals Handling Building.

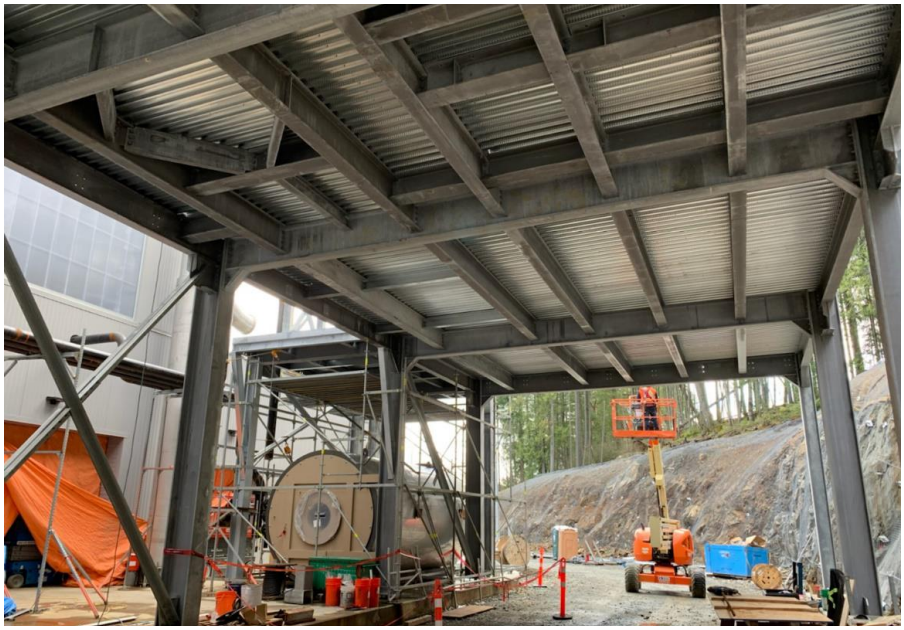


Figure 8– Residuals Treatment Facility- Installation of Q deck roofing system ongoing on product load out structure.

Figure 9– Residuals Treatment Facility- Chopper pumps wired in digester equipment building.

Figure 10− Residuals Treatment Facility – Interior painting and flooring installation ongoing in operations building

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: installation of process pipe knife gate and check valves; continued existing inlet channel and bypass pumping work testing and backfilling of the forcemain; progressing piping of domestic water service, and fire suppression service; installation of exterior retaining walls; pigging chamber waterline fused and bolted; relocation of existing screen and compactor; and installation of new screen and compactor.

Key construction activities in progress or completed by Kenaidan in January include:

- installation of process pipe knife gate and check valves;
- ongoing installation of cable tray and cable;
- ongoing cable loop checks;
- completion of transformer, switch gear, neutral grounding resistor and motor control centre (MCC) installation checks;
- ongoing south retaining wall structure work;
- ongoing high density polyethylene forcemain work;
- continued existing inlet channel and bypass pumping work;
- installation of HVAC ducting in pump and screening rooms; and
- installation of flow, level and gas detection instrumentation is being installed.

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

- forcemain bolted, tested and backfilling in progress;
- upper pump room pipe supports poured;
- pigging chamber water line fused and bolted;
- air intake structure slab poured;
- domestic water service piping in progress;
- fire suppression system piping ongoing;
- installing exterior retaining walls; and
- installing gravity inlet sewer stub out.

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

- installation of FRP piping to new odour control system in progress;
- forcemain bolted, testing and backfilling in progress;
- poured air intake structure slab;
- completed domestic water service piping;
- fire suppression system ongoing;
- installation of exterior retaining walls and backfilling;
- relocation of existing screen and compactor;
- installation of new screen and compactor; and
- cable tray installation into existing building ongoing.

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

Figure 11−Clover Point Pump Station- Existing screen installation to new inlet channel.

Figure 12−Clover Point Pump Station- Lower pump room

Figure 13- Clover Pump Station – Forcemain pressure test.

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: installation of bridge crane in the bin room; installation of screen room and Vortex grating; installation of HVAC and drain pipe in the screen room; completion and passing of the pressure test for the forcemain; ongoing backfill around the exterior wall; Cross laminated Timber roof and parapet have been installed; installation of the HVAC and drain pipes in the screen room; bridge cranes have been commissioned in the bin and pump rooms; ongoing unit heaters installation; poured wet well ogee block and duct bank for primary power cable; and insulation on the exterior walls and roof is nearing completion.

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

- installation of cable trays in the screen room and genset room;
- installation of bridge crane in the bin room;
- ongoing backfill around exterior wall;
- installation of screen room and Vortex grating;
- installation of Cross Laminated Timber roof and parapets;
- barrier wall and pump room hatch curb have been poured;
- slide gate installation has commenced in the screen room; and
- installation of HVAC and drain pipe in the screen room.

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

- pressure test on the Forcemain has completed and passed;
- bypass pumping for coupling installation has been completed;
- cable tray has been installed in the screen room and genset room;
- bridge cranes have been commissioned in the bin room and pump room;
- backfill around exterior wall is ongoing;
- screen room and vortex grating has been installed;
- Cross Laminated Timber roof and parapet have been installed;
- barrier wall and pump room hatch curb have been poured;
- slide gate installation has started in the screen room; and
- HVAC and drain pipes have been installed in the screen room.

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

- unit heaters installation;
- poured wet well concrete slide;
- backfill on the south, west and north sides;
- poured wet well ogee block and duct bank for primary power cable;
- installed genset room exhaust pipe;
- insulation on the exterior walls and roof is nearing completion; and
- poured wet well benching slab and containment area.

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

Figure 14−Macaulay Point Pump Station- Genset room progression.

Figure 15−Macaulay Point Pump Station- Stainless steel pipe installation to Forcemain.

2.9.3.3 Clover Forcemain (CFM)

Windley Contracting Ltd. ("Windley" as the Construction Contractor) continued construction activities including: progressing electrical lighting installation from Montreal Street to Lewis Street; ongoing installation of Clover Point storm catch basin; ongoing cycle track/road restoration between Government and Lewis Streets; ongoing cycle track paving; road restoration; electrical lighting installation; additional cycle path let downs; planted remaining trees at Douglas Street; and top lift paving Niagara Street to Dock Street.

Key construction activities in progress or completed by Windley in January were as follows:

- ongoing cycle track/road restoration between Government and Lewis Streets;
- progressed electrical lighting installation from Montreal Street to Lewis Street;
- progressed installation of Montreal Street bump out curbing and sidewalk;
- ongoing installation of Clover Point storm catch basin; and
- progressed Camas curb extension.

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

- cycle track/road restoration Lewis Street to Government Street;
- electrical lighting installation Montreal Street to Lewis Street;
- Clover Point storm catch basin installation;
- Camas Curb Extension; and
- landscape restoration.

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

- cycle track/road restoration Government St to Lewis St;
- cycle track/road restoration Lewis St to Dock St North side;
- installed electrical lighting from Montreal Street to Lewis Street;
- additional cycle path let downs;
- planted remaining trees at Douglas Street;
- landscape restoration; and
- top lift paving Niagara Street to Dock Street.

Photographs of construction progress over the month of March on the Clover Forcemain are shown in Figures 16-19.

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

Figure 17−Clover Forcemain- Electrical lighting installation Montreal Street to Lewis Street

Figure 18−Clover Forcemain− Trees planted at Douglas Street.

Figure 19−Clover Forcemain- Top lift of paving Niagara Street to Dock Street.

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: installation of valve chambers; final road restoration and line painting; and installation of approximately 2.2km of pipes.

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

- segment #1 Tillicum Road from Gosper Crescent to Tillicum Bridge and Vincent Ave to Tillicum Bridge; and
- segment #2 Interurban Road from Meadowview Place to Wilkinson Road and Roy Road to Wilkinson Road.

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

- segment #1 Tillicum Road from Gorge Rd to Tillicum Bridge; installation of line valves, low point drain valves and air valves on Head Street and Tillicum Road;
- segment #2 Interurban Road from Roy Road to North Road: temporary asphalt restoration on Interurban Road south of Wilkinson to North Road;
- segment #3, installation of an air valve on Interurban Trail and a low point drain valve on Interurban Road at Viaduct Ave West, temporary asphalt restoration on Interurban Road at Goward Road; and
- segment #4, final surface restoration on Interurban Trail from Prospect Lake Road to Wallace Drive and Willis Point Road.

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

- segment #1:
  - Tillicum: installation of the 250 mm main resumed;
  - final paving and line painting on Arm Street, Craigflower Road & Dominion Road; and
  - tie-in at Wollaston & Head streets.

- segment #2**:**
  - Interurban Road – south, with the arrival of the required bends, the crew completed the Peers Creek crossing;
  - final asphalt reinstatement: Interurban, Grange Road to Wilkinson Road
  - Interurban Road – north, the focus in this area was finalizing underground work in preparation for final paving. This included tying test sections together and conducting visual leak testing on couplings prior to backfilling;
  - Installed line valves and low point drains;
  - final asphalt reinstatement: Interurban Road, Charlton Road to Hector Road;
  - Portage Road: continued installing pipe on Portage to the location of the line valve, then relocated to the bottom of Esson Road and installed pipe up-station toward the section occupied by the McKenzie Interchange project. The crew then began to cross Admirals Road but ran into a conflicting unknown pipe. They once again relocated to the Colquitz side of the Admirals Bridge.

- segment #3:
  - tying-in test points, repairing grouting deficiencies, and setting castings.

- segment #4:
  - Interurban Trail**:** South of Prospect Lake Road, raked out the base gravel windrow on each side of the trail left by the grader and dressed the edges with topsoil

Photographs of construction progress over the month of March on the Residual Solids Pipes are shown in Figures 20-23.

Figure 20− Residual Solids Pipes-Sidewalk, curb and gutter preparation on Interurban Road at Charlton Road

Figure 21−Residual Solids Pipes- Installation of pipe through Tillicum Bridge abutment.

Figure 22−Residual Solids Pipes – Installing spacers on highway crossing pipe.

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Figure 23−Residual Solids Pipes - Sidewalk, curb and gutter preparation on corner of Burnside Road and Grange Road.

Residual Solids Pump Stations: Knappett Projects Inc. ("Knappett" as the Construction Contractor for the Residual Solids Pump Stations) continued construction activities including: wet well walls and valve chamber slab were formed and poured; and the kiosk was landed at Pump Station 1; excavation and installation of flow meter manhole; and commenced leak testing of the wet well; the valve chamber, flow meter and line valve manholes were installed at Pump Station 2; installation of underground conduits, genset and electrical kiosk and generator placed on pad at Pump Station 3; completion of pipe installation along Interurban Road; completion of the RTF Chamber at Willis Point Road; Hartland reservoir slab was poured, formed and the reservoir was fully erected; work progressed under Tillicum Bridge with the installation of all anchor bolts, and the interurban base lift asphalt was paved.

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

- Pump Station 1: wet well walls were formed and poured; and the formwork was removed after adequate cure time;
- Pump Station 2: excavation and installation of flow meter manhole; and commenced leak testing of the wet well;
- Pump Station 3: the underground conduits were installed. Work on the spools throughout the chambers continued;
- 118 m pipe installed on Interurban Road;
- Marigold Pump Station concrete slab was formed and poured; and
- Hartland Reservoir site was prepped for the underground spools and work started on formwork for the slab

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

- Pump Station 1 wet well was patched. The valve chamber slab was then prepped and poured once the wet well damp proofing had been backfilled;
- Pump Station 2 wet well passed the leak test and was then damp proofed and partially backfilled. The valve chamber, flow meter and line valve manholes were installed;
- Pump Station 3 genset and electrical kiosk were installed, the odour control pad was prepped and Spools were grouted in place in various chambers;
- completion of the RTF Chamber at Willis Point Road;
- completion of pipe installation along Interurban Road;
- Marigold Pump Station walls and roof slab were formed and poured; and
- Hartland Reservoir slab was formed, poured and then the reservoir was fully erected.

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

- Pump Station 1 kiosk was landed on the concrete pad. The spool installation began throughout all of the chambers and the valve chamber lid was delivered and lifted in place. Coring, coatings and install of line valve and flowmeter chambers also took place;
- Pump Station 2 kiosk pad and retaining wall was poured. Various conduit and spool installation were progressed;
- Pump Station 3, work on grouting the chamber cores took place. The Generator was placed on the pad and odour control unit pad prep occurred;
- Marigold Pump Station, the installation of the drain line from the valve chamber to sanitary manhole took place;
- work progressed under Tillicum Bridge with the installation of the anchor bolts; and
- Interurban base lift asphalt was paved.

Photographs of construction progress over the month of March on the Residual Solids Pump Stations are shown in Figures 24-25.

Figure 24−Residual Solids Pump Stations– Pump Station 3 – Emery Electric performing a 5– hour load test on the generator.

Figure 25 −Residual Solids Pump Stations – Pump Station1 Survey layout for generator and odour control unit pads.

2.9.3.5 Arbutus Attenuation Tank

NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) continued construction activities including: continued drilling operation and installation of plain and reinforced secant piles; mobilization of second drill rig to site to assist in secant pile production rate; maintaining the dewatering system; on-site steel welding for lateral strut reinforcement; preparatory works for ring beam construction; removal of construction ramp into take footprint to facilitate installation of remaining secant piles and installation of diagonal and lateral struts atop the secant piles.

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

- continued drilling operation and installation of plain and reinforced secant piles;
- mobilization of second drill rig to site to assist in secant pile production rate;
- steel splicing works for installation of deep piles (>17m depth); and
- ongoing site dewatering work.

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

- site welding / fabrication including installation of saddles on the secant piles and welding steel plate reinforcement for lateral and cross struts;
- construction of secant piles, focusing on the eastern section of site; and
- preparatory work for ring beam installation including securing formwork, reinforcement, localized excavation around secant piles for grade adjustments.

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

- removal of construction ramp into tank footprint to facilitate installation of the remainder of the secant piles; and
- installation of diagonal and lateral struts atop the secant piles.

A photograph of construction progress during the month of March at the Arbutus Attenuation Tank is shown in Figure 26.

Figure 26−Arbutus Attenuation Tank-Installed diagonal and lateral struts atop the secant piles.

2.9.3.6 Trent Forcemain

Jacob Bros. Construction Inc. (as the Construction Contractor for the Trent Forcemain) commenced construction activities including: execution of the construction contract in accordance with the Invitation to Tender; progressed planning and permitting activities including submitting construction management plans for the Project Teams Review; completed utility pre-locate works for entire route; and completed Memorial Crescent storm main and sanitary realignment work.

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

- The Project Team executed the construction contract with the tenderer selected in accordance with the Invitation to Tender: Jacob Bros. Construction Inc. The contractor started submitting construction management plans for the Project Team's review.

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

- submitting construction management plans for the Project Team's review.

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

- archaeological investigation work completed;
- soil borehole investigation work;
- utility pre-locate works completed for entire Forcemain route from Dallas Road to St Charles;
- all existing utilities surveyed;
- pre-locate work investigating conflicts between existing manholes and proposed;
- Memorial Crescent Storm Main realignment work completed; and
- Memorial Crescent Sanitary realignment work completed.

Appendix A– Final Contract Awarded for the Wastewater Treatment Project (January 9, 2020)

Wastewater Treatment Project

Information Bulletin

For Immediate Release
January 9, 2020

Final Contract Awarded for the Wastewater Treatment Project

Victoria, BC– The Capital Regional District (CRD) has awarded a $6.8-million contract to Jacob Bros Construction to construct the Trent Forcemain. This is the final major construction contract for the Wastewater Treatment Project.

Jacob Bros was selected by the CRD through a competitive selection process. Jacob Bros is a multi-discipline general contractor that focuses on heavy civil and building construction. They are based in Surrey, B.C. with a satellite office in Victoria.

Construction for the Trent Forcemain is anticipated to begin early in 2020 and take approximately 10 months to complete. This 1.9km pipe will be installed as part of the Wastewater Treatment Project's conveyance system. It will run from the intersection of Chandler Avenue and St Charles Street connecting to the Clover Point Pump Station. This addition to the eastern branch of the CRD's core area conveyance system will increase the capacity of the system and reduce wet weather overflows.

The Wastewater Treatment Project remains on schedule to treat wastewater from the core area by December 31, 2020 with a budget of $775 million.

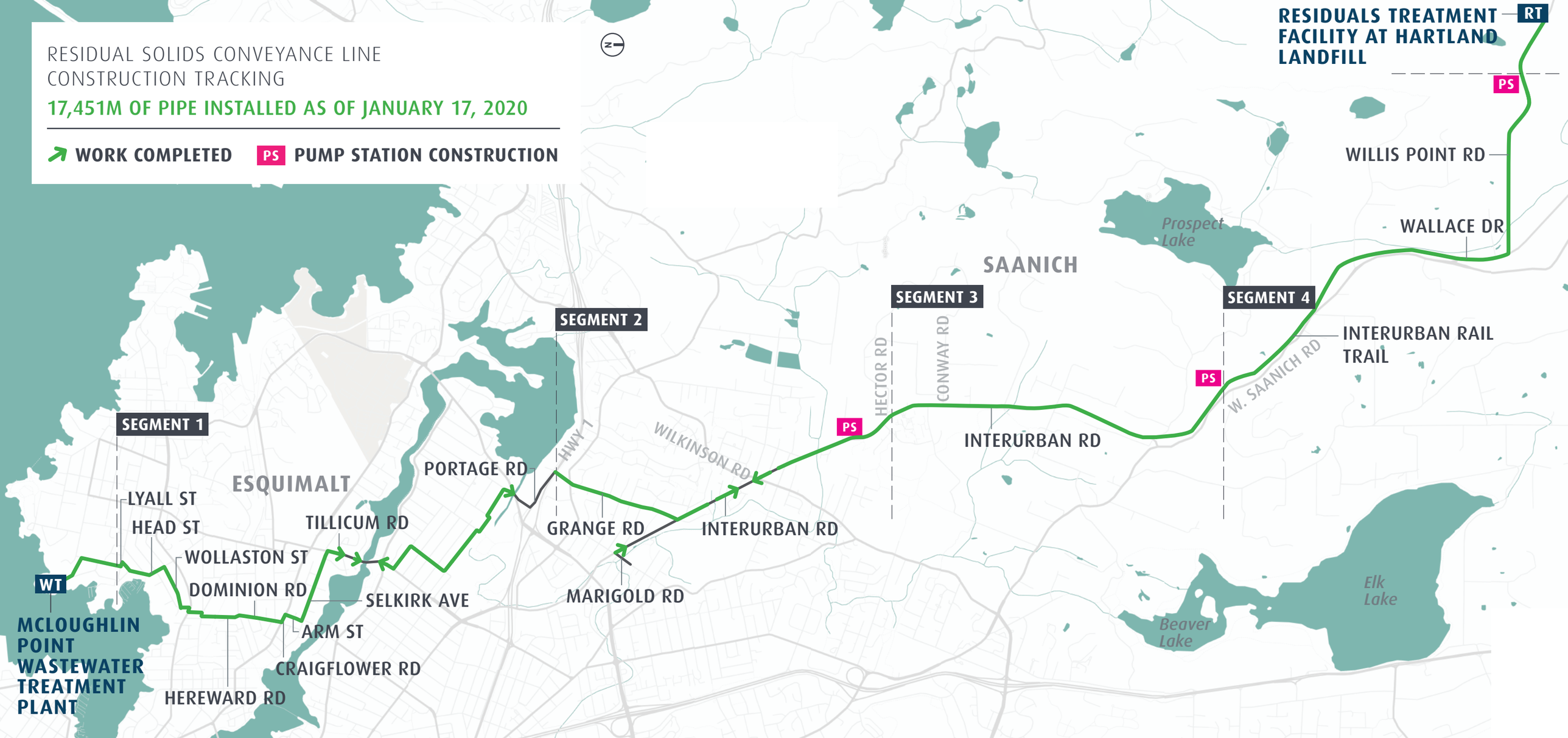
The Wastewater Treatment Project is being funded by the Government of Canada, the Government of British Columbia and the CRD.

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. The Project will be built so we comply with federal regulations by the end of 2020, and consists of the McLoughlin Point Wastewater Treatment Plant, the Residuals Treatment Facility at Hartland Landfill, and the conveyance system that will carry wastewater from across the core area to the McLoughlin Point Wastewater Treatment Plant, and residual solids to the Residuals Treatment Facility. For more information, visit www.wastewaterproject.ca.

For media inquiries, please contact:
Andy Orr, Senior Manager
CRD Corporate Communications
Tel: 250.360.3229
Cell: 250.216.5492

Appendix B– Residual Solids Conveyance Line Map (January 17, 2020)


RESIDUAL SOLIDS CONVEYANCE LINE CONSTRUCTION TRACKING
17,451M OF PIPE INSTALLED AS OF JANUARY 17, 2020
WORK COMPLETED
PS PUMP STATION CONSTRUCTION
RESIDUALS TREATMENT FACILITY AT HARTLAND LANDFILL
RT
PS
WILLIS POINT RD
WALLACE DR
Prospect Lake
SAANICH
SEGMENT 3
SEGMENT 4
SEGMENT 2
SEGMENT 1
HECTOR RD
CONWAY RD
INTERURBAN RAIL TRAIL
W. SAANICH RD
INTERURBAN RD
WILKINSON RD
HWY 1
PORTAGE RD
ESQUIMALT
LYALL ST
HEAD ST
TILLICUM RD
WOLLASTON ST
DOMINION RD
SELKIRK AVE
ARM ST
CRAIGFLOWER RD
HEREWARD RD
GRANGE RD
MARIGOLD RD
WT
MCLOUGHLIN POINT WASTEWATER TREATMENT PLANT
Elk Lake
Beaver Lake

Appendix C– Trent Forcemain Construction (February 5, 2020)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

February 5, 2020

Trent Forcemain Construction

The Wastewater Treatment Project includes construction of the Trent Forcemain, 1.9km of pipes that will be installed from the intersection of Chandler Avenue and St Charles Street to the Clover Point Pump Station (see map on reverse). This addition will increase the capacity of the wastewater system and reduce wet weather overflows.

The contractor for this component of the Project, Jacob Bros Construction Inc., will begin work the week of February 10 and construction is anticipated to take approximately 10 months to complete.

What to Expect

- A site office and laydown area will be established on Memorial Crescent.
- Existing utilities (storm, sewer, water, gas) will be relocated in preparation for forcemain installation.
- The pipe will be installed in segments.
- A trench will be excavated, the pipe will be installed, and the trench will be backfilled. The surface will be temporarily restored at the end of each work day.
- Rock encountered in the trench will be removed by blasting or mechanical means.
- Final restoration will take place once the pipe has been installed and tested.
- Pipes and equipment will be temporarily stored in the area while this work is completed.
- Noise associated with this work includes excavation machinery and truck back-up beepers.

Work Hours

- Monday to Friday from 7:00 a.m. to 7:00 p.m.
- Saturday from 10:00 a.m. to 7:00 p.m.

Traffic Impacts

- There will be single lane alternating traffic during work hours in the construction zone.
- The northbound lane on Memorial Crescent from Dallas Road to Bushby Street will be closed during construction. Traffic will be diverted to the southbound lane to accommodate two-way traffic (see map on reverse).
- Parking along Memorial Crescent between Bushby Street and Dallas Road will be unavailable for the duration of construction of the Trent Forcemain.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.
- Parking will be temporarily impacted in the construction zone.

Access

- Vehicle access to residences may be temporarily restricted. Notification will be provided in advance and access to residential driveways will be restored at the end of each work day.
- Emergency services will have access at all times.
- Garbage and recycling services will be picked up as usual.

Thank you for your patience as this work is completed.

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

24/7 Phone Line
1.844.815.6132

Email
wastewater@crd.bc.ca

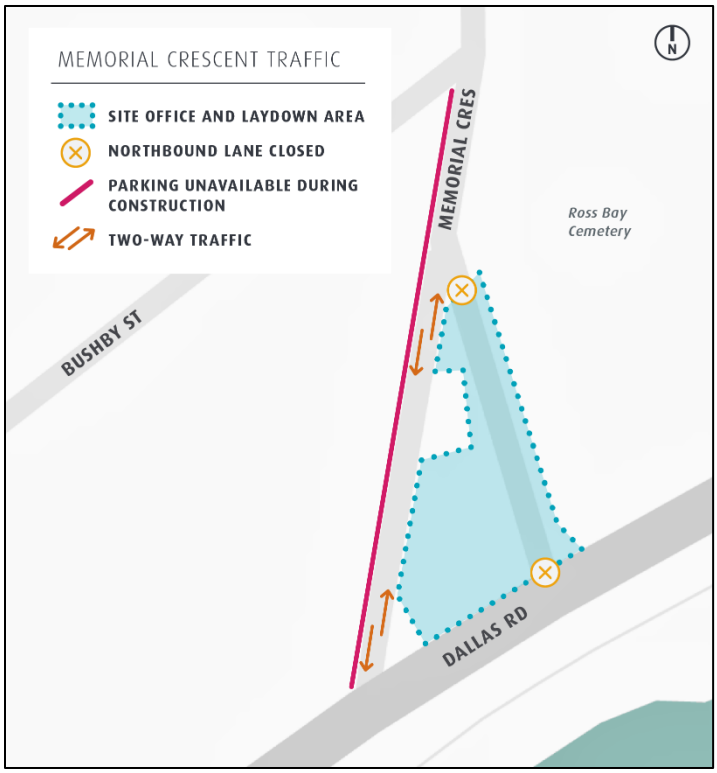
Website
wastewaterproject.ca

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

Trent Forcemain Route

Memorial Crescent



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

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

24/7 Phone Line
1.844.815.6132

Email
wastewater@crd.bc.ca

Website
wastewaterproject.ca

Appendix D− Residual Solids Conveyance Line: Esson and Portage Roads (February 14, 2020)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

February 14, 2020

Residual Solids Conveyance Line: Esson and Portage Roads

As part of the Wastewater Treatment Project, construction of the Residual Solids Conveyance Line along Esson and Portage roads is anticipated to start the week of February 18 and continue to the end of April. Two crews will be installing pipes: one crew starting at Admirals Road and a second crew starting at the intersection of Portage and Grange roads.

What to Expect

- The pipe will be installed in segments.
- A trench will be excavated, the pipe will be installed, and the trench will be backfilled. The surface will be temporarily restored at the end of each work day.
- Final restoration will take place after the section has been tested and completed.
- Rock encountered in the trench will be removed by blasting or mechanical means.
- A staging area at the intersection of Portage and Grange roads will be set up to feed pipes into the pre-installed casings under the Trans-Canada Highway.
- 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.

Work Hours

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

Traffic Impacts

- There will be single lane alternating traffic during work hours.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.
- Parking will be temporarily impacted as construction moves along the route.

Access

- Vehicle access to residences will be temporarily restricted when work is underway and will be reinstated at the end of each work day. Residents will be notified of temporary closures in advance.

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.

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 E− Macaulay Point Pump Station: Bypass Pumping (February 21, 2020)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

February 21, 2020

Macaulay Point Pump Station: Bypass Pumping

Construction of the Macaulay Point Pump Station requires temporary sewer bypass pumping on Monday, February 24, 2020 to replace a section of the existing sewer pipe to accommodate construction for the new pump station. Once started, this work must be completed and may run past regular working hours.

What to Expect

- Diesel powered generators will be running to provide sewer bypass pumping.
- A small section of the existing sewer pipe will be replaced.
- Bypass pumps will be removed once work is complete.
- Construction equipment will be in operation, including lights and truck back-up beepers.
- Noise associated with construction may occur overnight.

Work Hours

- The work will take place during the day but may take up to 24 hours, proceeding overnight past regular working hours.

Traffic Impacts

- No traffic impacts are expected.

About the Wastewater Treatment Project

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

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

24/7 Phone Line
1.844.815.6132

Email
wastewater@crd.bc.ca

Website
wastewaterproject.ca

Appendix F- Peters Street Paving update (February 13, 2020)

Wastewater Treatment Project

February 13, 2020

Dear Resident,

We are writing to notify you that final paving along Peters Street is expected to take place next week, weather permitting.

Peters Street will be closed to vehicles 24 hours/day from Tuesday, February 18 to Friday, February 21 to prepare and pave the road. All vehicles on Peters Street must be relocated by 7 a.m. Tuesday morning. Parking will be available on Gault and Lyall streets.

There will be pedestrian access to all residences and emergency services will have access at all times. Garbage will be picked up as usual.

We appreciate your patience while this work is being completed. Please feel free to contact us at our 24/7 phone line 1-844-815-6132 or email wastewater@crd.bc.ca if you have any questions or if there is anything we can do to assist.

Thank you,

Wastewater Treatment Project Team

Appendix G– About the Wastewater Treatment Process

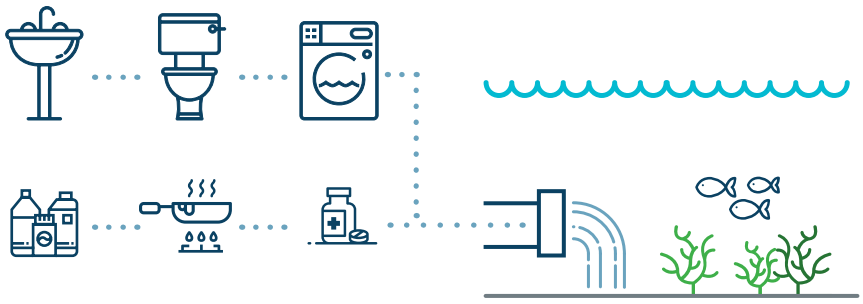
Wastewater Treatment Project
Treated for a cleaner future

Wastewater Treatment Project

Treated for a cleaner future

What is wastewater?

- Wastewater is used water from human activities such as washing dishes, doing laundry, and flushing the toilet.
- Some pollutants in wastewater include industrial and commercial waste, detergents, cooking fats, and prescription drugs.



Why we treat wastewater

- To reduce contaminants prior to releasing the effluent into the environment, helping to protect and maintain healthy waterways.
- If pollutants in wastewater are not removed, they flow directly into the ocean. This can threaten fisheries, wildlife habitat, recreation, quality of life, and public health.

About the system

- Wastewater flows from residences and businesses into a sewer pipe that connects to larger pipes under our streets, which ultimately connect to either the Clover Point Pump Station or the Macaulay Point Pump Station.
- At present, wastewater is screened at these pump stations and then discharged into the Strait of Juan de Fuca without treatment.
- The Wastewater Treatment Project will connect these two pump stations to the McLoughlin Point Wastewater Treatment Plant so that wastewater can be treated to a tertiary level prior to discharge.

Did you know?

In the Core Area:

- There are **seven municipalities** (Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford, and Colwood) and the Esquimalt and Songhees Nations.
- The population is approximately **320,000 people** covering **215km²**.
- There are over **175 pump stations** and **110km** of existing sanitary sewer pipes.
- The McLoughlin Point Wastewater Treatment Plant will treat up to **108,000,000 litres** of wastewater per day, providing capacity to accommodate future population growth.
- Every person produces an average of **185–200 litres** of wastewater per day.
- Wastewater flows are greater on rainy days.

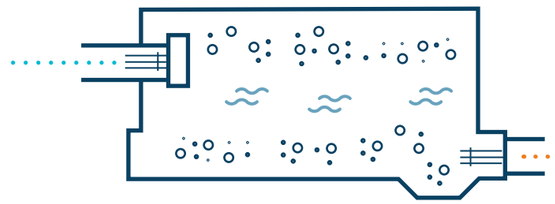
Treatment Process

1 CONVEYANCE SYSTEM

Collects wastewater from across the core area and conveys it to the Clover Point and Macaulay Point pump stations.

Screening
Wastewater is screened (6mm) to remove stones, paper, cloth, plastics and other debris.

Grit Removal
A vortex system uses centrifugal force to keep the organic material suspended while grit settles and is removed.



Pumping
Wastewater will be pumped to the new treatment plant.

The grit and screenings are compacted and trucked to an approved landfill.

Storm Outfalls
Currently, untreated wastewater is discharged out of the Clover Point and Macaulay Point outfalls. Once the Project is built, these outfalls will only be used to discharge storm flows associated with heavy-rain events. To reduce the need to discharge storm flows, a buried underground concrete tank (the Arbutus Attenuation Tank) will be built in Saanich to temporarily store flows during high volume storm events. In addition, core area municipalities have committed to an inflow and infiltration program that will reduce the volume of storm flows that need to be discharged.

2 MCLOUGHLIN POINT WASTEWATER TREATMENT PLANT

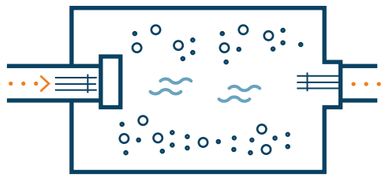
PRIMARY TREATMENT
Is the physical separation of solids from wastewater.

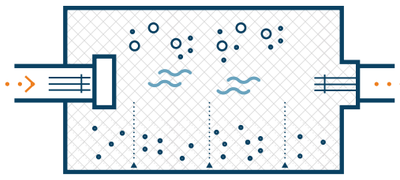
Removing Solids
Heavier solids settle to the bottom and lighter 'scum' floats to the top.

SECONDARY TREATMENT
Is a biological process that removes dissolved and suspended organic compounds in the wastewater.

Fine Screening
Primary effluent will be finely screened (2mm) to remove smaller debris.

Biological Reactors
Wastewater flows through tanks where microorganisms grow. The microorganisms consume organic compounds in the wastewater and reproduce to form cells that result in residual biological solids. Solids are removed and sent to the Residuals Treatment Facility for further treatment. Treated secondary effluent is sent to tertiary treatment.

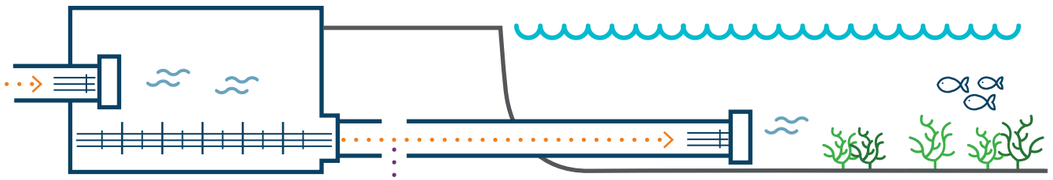




TERTIARY TREATMENT
Is one of the highest levels of treatment, reducing contaminants that remain after the secondary treatment process.

Disc Filter
Wastewater will pass through a fabric disc filter (5-micron), reducing many pharmaceuticals, hormones, microplastics and other contaminants.

OUTFALL
The tertiary-treated effluent will flow through the outfall and discharge into the ocean approximately 2km from shore and 60m deep.



As wastewater moves through the treatment process, residual solids are removed. These solids will be pumped to the Residuals Treatment Facility for further treatment.

3 RESIDUALS TREATMENT FACILITY

Digestion
The residual solids undergo anaerobic digestion in which microorganisms will break down biodegradable material in the absence of oxygen and produce biogas.

Biogas
Biogas produced during the digestion process will be collected and reused within the facility as fuel for the dryer.

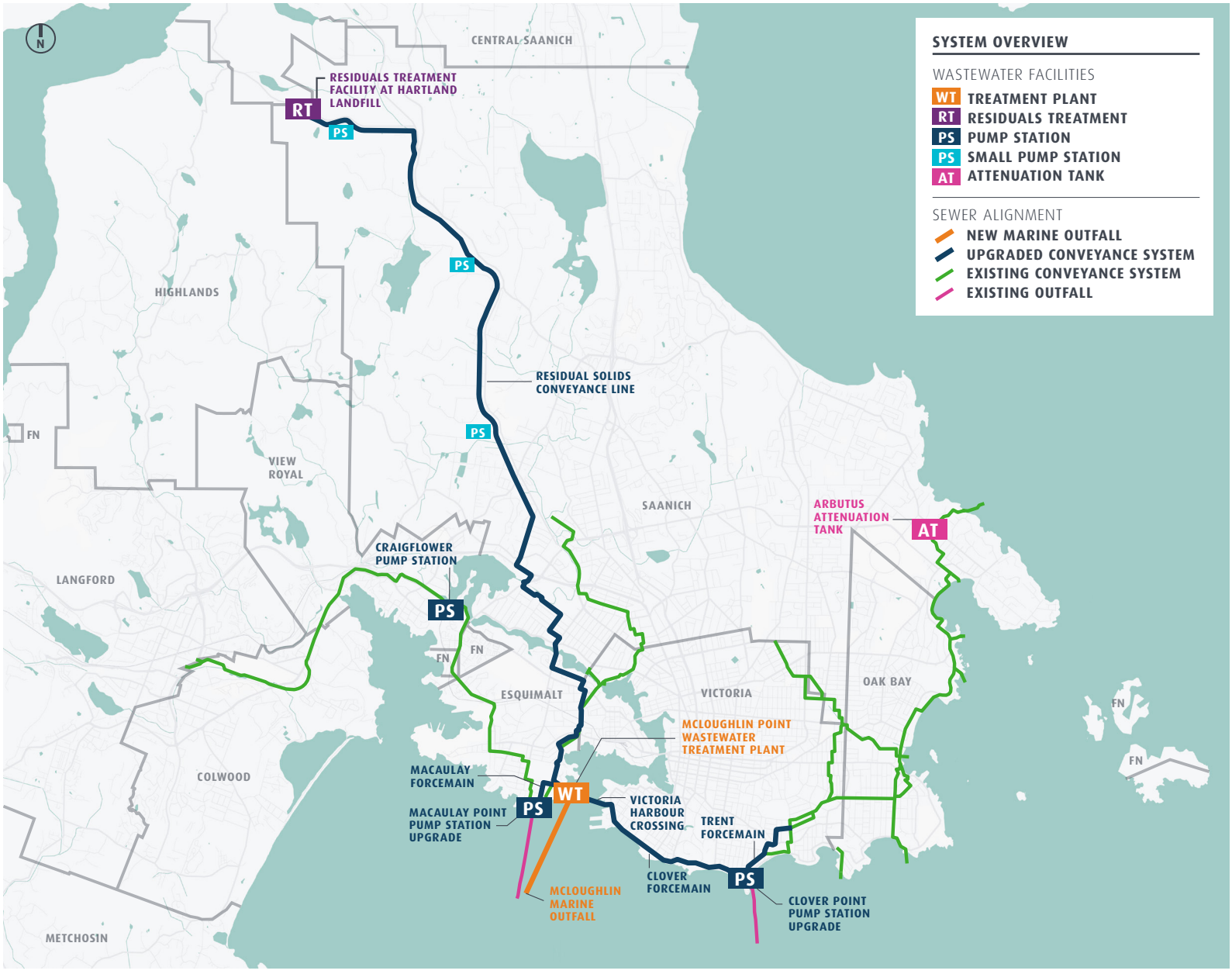
Drying
The residual solids are dewatered and then heated at a very high temperature (220°C).

Biosolids
Dried Class A biosolids will be produced that will contain almost no detectable levels of pathogens. These are the highest standard of biosolids and are suitable for beneficial use. The biosolids will be dark, dry granular pellets.

Residual Solids Conveyance Line
Will consist of two pipes and three small pump stations to transport all residual solids to the Residuals Treatment Facility. Liquid removed from the residual solids during the treatment process will be returned to the McLoughlin Point Wastewater Treatment Plant through the conveyance system.

Wastewater Treatment Project Components

The Wastewater Treatment Project is being built to meet the provincial and federal regulations for treatment by December 31, 2020.



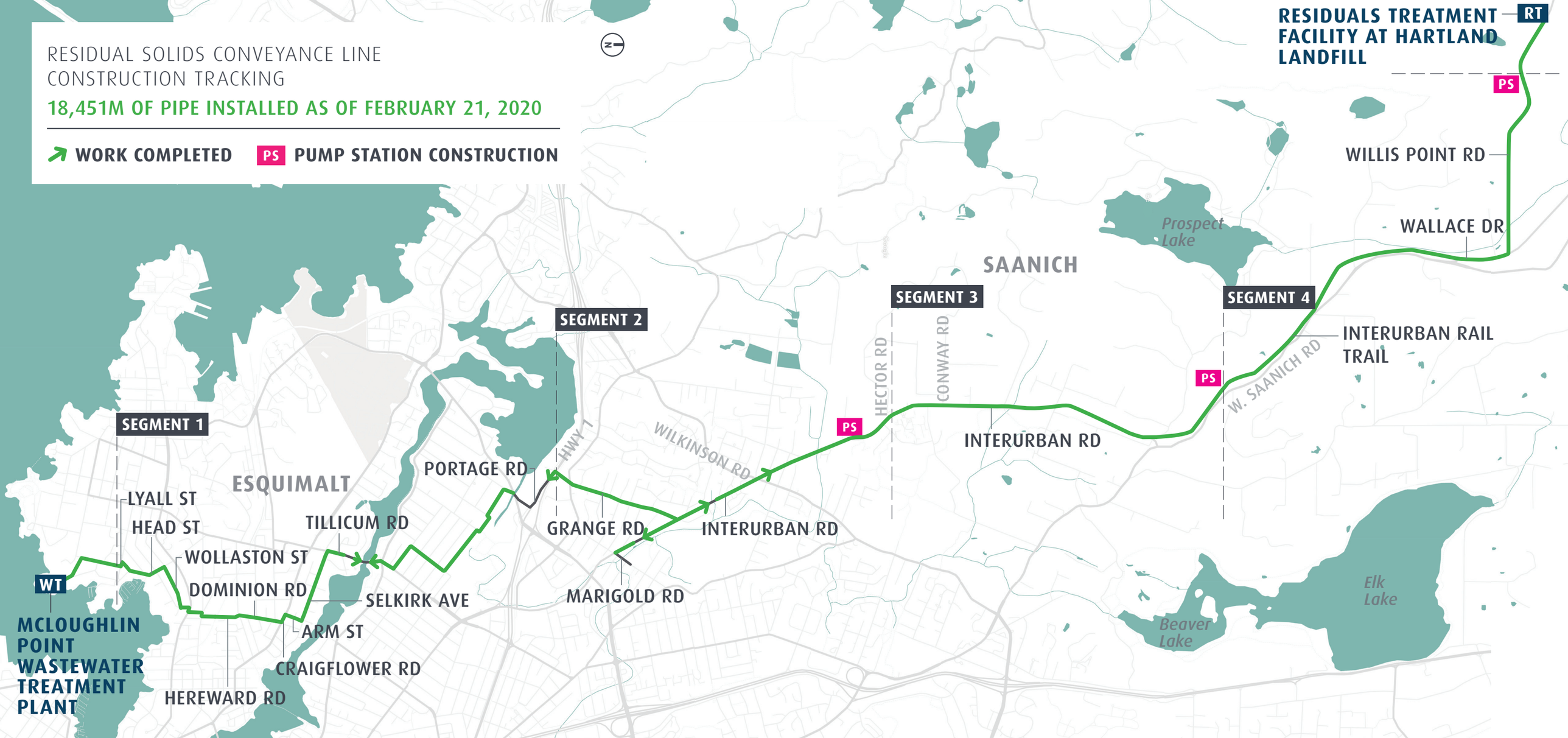
For more information

Website
wastewaterproject.ca

Email
wastewater@crd.bc.ca

24–7 Project information line
1.844.815.6132

Appendix H− Residual Solids Conveyance Line (February 21, 2020)


RESIDUAL SOLIDS CONVEYANCE LINE CONSTRUCTION TRACKING
18,451M OF PIPE INSTALLED AS OF FEBRUARY 21, 2020
WORK COMPLETED
PS PUMP STATION CONSTRUCTION
RESIDUALS TREATMENT FACILITY AT HARTLAND LANDFILL
RT
PS
WILLIS POINT RD
WALLACE DR
Prospect Lake
SAANICH
SEGMENT 3
SEGMENT 4
SEGMENT 2
SEGMENT 1
HECTOR RD
CONWAY RD
INTERURBAN RAIL TRAIL
W. SAANICH RD
INTERURBAN RD
WILKINSON RD
HWY 1
PORTAGE RD
ESQUIMALT
LYALL ST
HEAD ST
TILLICUM RD
GRANGE RD
INTERURBAN RD
WOLLASTON ST
DOMINION RD
SELKIRK AVE
MARIGOLD RD
WT
MCLOUGHLIN POINT WASTEWATER TREATMENT PLANT
ARM ST
CRAIGFLOWER RD
HEREWARD RD
Beaver Lake
Elk Lake

Appendix I– Clover Point Pump Station: Extended Work Hours (March 2020)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

March 16, 2020

Clover Point Pump Station: Extended Work Hours

Construction of the Clover Point Pump Station is temporarily extending work hours from 7:00 a.m. to 2:00 a.m. to complete screen relocation work. This work is scheduled to begin today and take approximately two weeks to complete. This work is weather dependent.

What to Expect

- The majority of work will take place inside the pump station.
- Noise and lights associated with construction equipment may be expected.
- Diesel-powered pumping units will be in operation and are equipped with acoustic enclosures to reduce noise.
- Measures are in place to mitigate any construction-related impacts to the surrounding community.

Work Hours

- Monday to Friday 7:00 a.m. to 2:00 a.m.
- Saturday from 10:00 a.m. to 7:00 p.m.

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 until April 2020.

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

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 J– Biosolids

Biosolids

WHAT ARE BIOSOLIDS?

Biosolids are a safe, resource-rich byproduct of wastewater treatment that are produced by treating organic material removed during the treatment process. Biosolids can be used for a number of beneficial uses.

The treatment process at the Residuals Treatment Facility will create Class A biosolids.

The biosolids produced in our region will be a minimum 90% dry and will be dark, dry granular pellets. Approximately 7,000 tonnes of Class A biosolids will be produced each year, starting in 2021.

WHAT IS IN BIOSOLIDS?

Biosolids contain nutrients and energy that can be recovered and used. For example biosolids contain nutrients such as nitrogen, phosphorus, calcium, sulphur, iron, and others that are required for vegetation growth. The nutrient content and organic matter in biosolids are often used to promote vegetation establishment and growth; alternatively, their energy can be harnessed through combustion as an alternate fuel.

Class A biosolids must meet regulatory requirements set by the Province of B.C. through the Organic Matter Recycling Regulation. These requirements dictate maximum allowable levels of pathogens and contaminants (e.g. heavy metals) to ensure protection of human health and the environment. These regulations also provide strict controls on how and where biosolids may be used.

HOW ARE BIOSOLIDS MADE?

During the wastewater treatment process at McLoughlin Point Wastewater Treatment Plant, residual solids will be removed from wastewater and conveyed to the Residuals Treatment Facility for further treatment.

Each treatment step at McLoughlin Point and the Residuals Treatment Facility will contribute to a higher quality of effluent and biosolids.

At the Residuals Treatment Facility, the residual solids undergo anaerobic digestion in which microorganisms will break down biodegradable material in the absence of oxygen and produce biogas. The residual solids are then dewatered and heated at a very high temperature (220°C), creating Class A biosolids. Biogas produced during the digestion process will be collected within the facility and fully used as fuel for the dryer.

BENEFICIAL USE OF BIOSOLIDS

Once treated, biosolids can be used for a number of beneficial purposes. Beneficial use means that the nutrient and organic matter and/or energy content of the biosolids are utilized. The B.C. Ministry of Environment & Climate Change Strategy establishes and enforces standards for wastewater treatment and the beneficial use of biosolids.

Using these biosolids beneficially aligns with the CRD's commitment to climate action and environmental stewardship.

Visit **crd.bc.ca/biosolids** to learn about the CRD's plan for the beneficial use of biosolids.

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

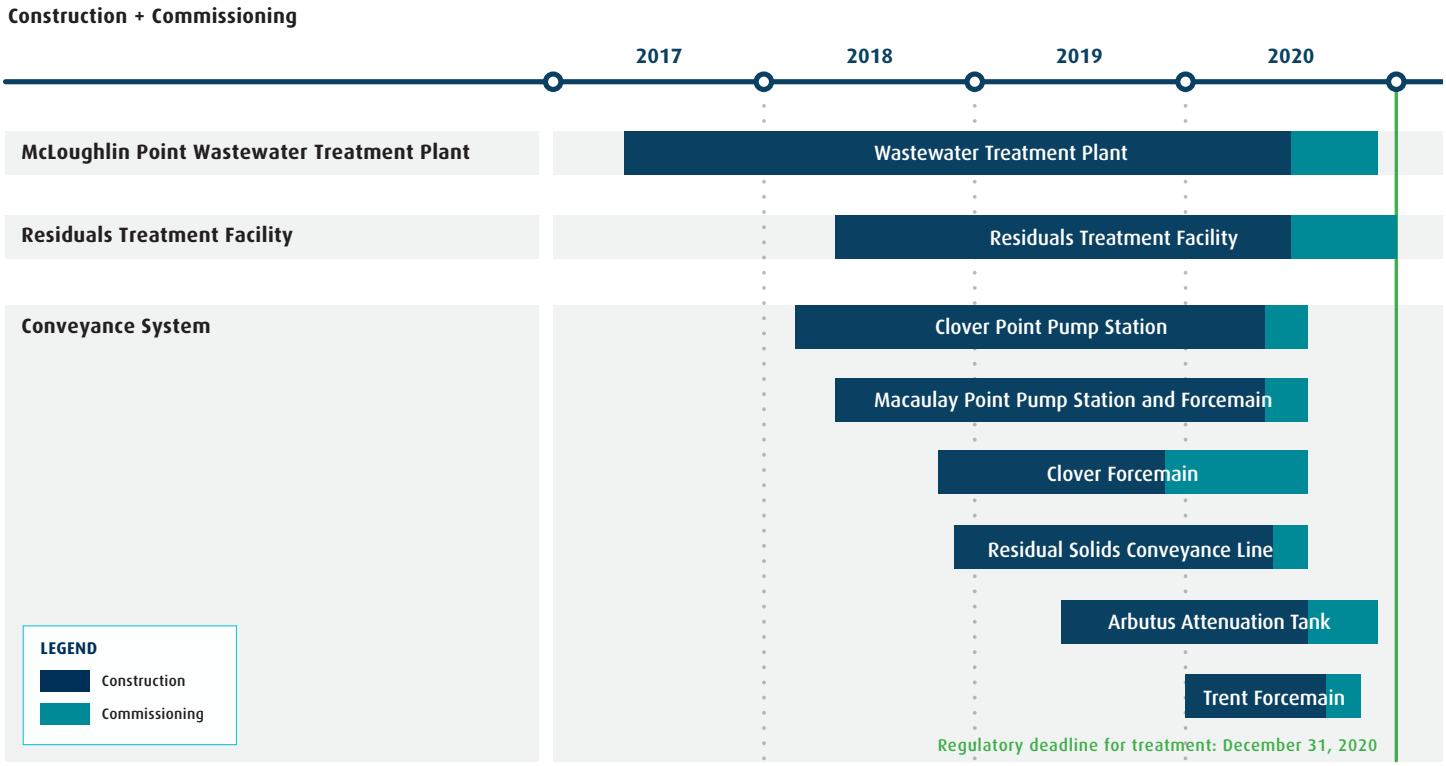
Appendix K– Project Schedule

Wastewater Treatment Project
Treated for a cleaner future

Information Sheet

Wastewater Treatment Project Schedule*

The Wastewater Treatment Project will be constructed through nine separate elements, and construction will be staged to the end of 2020. Communications and engagement activities will take place in advance of project construction beginning in each area.



*Schedule subject to updates as Project planning progresses.

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. The Wastewater Treatment Project will be built so we comply with federal regulations by the end of 2020, and is being funded by the Government of Canada, the Government of British Columbia and the CRD.

For More Information

Website: wastewaterproject.ca
Email: wastewater@crd.bc.ca
24-7 Project Information Line: 1.844.815.6132

Appendix L– Trent Forcemain

Wastewater Treatment Project
Treated for a cleaner future

Information Sheet
March 2020

Trent Forcemain

The Trent Forcemain will be installed as part of the Wastewater Treatment Project's conveyance system. This 1.9km pipe will run from the intersection of Chandler Avenue and St Charles Street connecting to the Clover Point Pump Station. The Trent Forcemain consists of a 0.9m diameter pipe and a 1.5m diameter pipe.

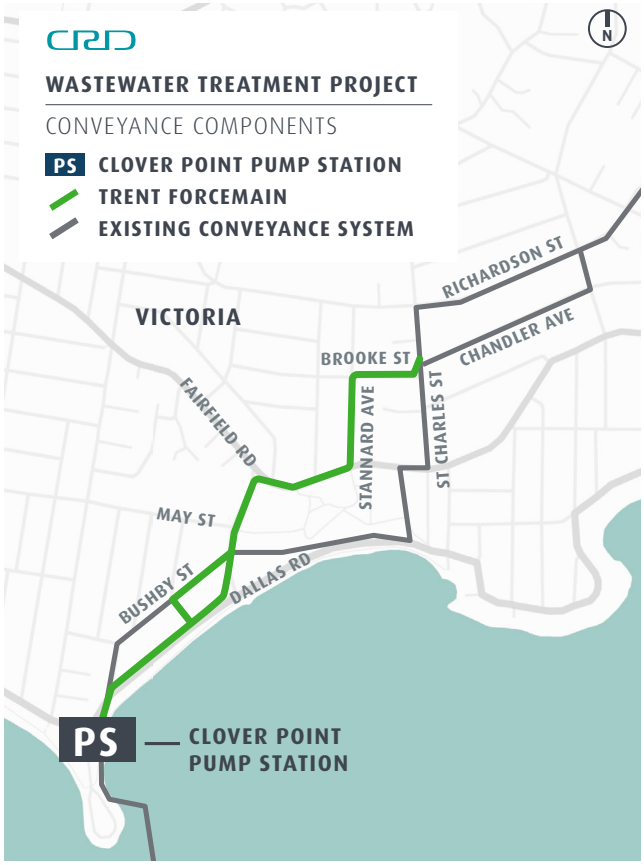
The eastern branch of the Capital Regional District's core area conveyance system collects wastewater from Saanich, Oak Bay, and Victoria, directing it to the Clover Point Pump Station. Construction of the Trent Forcemain will increase the capacity of this system and reduce wet weather overflows.

CONSTRUCTION

Construction for the Trent Forcemain began in February 2020 and is anticipated to take approximately 10 months to complete.

Anticipated work hours are Monday to Friday from 7:00 a.m. to 7:00 p.m. and Saturday from 10:00 a.m. to 7:00 p.m. The pipe will be installed in segments to minimize the impact to residents. It will be constructed within existing road rights of way in accordance with a traffic management plan to minimize impacts to vehicle traffic, cyclists and pedestrians. Single lane alternating traffic will be in place with signage and flaggers directing traffic as required.

Any temporary impacts to driveway access and parking will be coordinated in advance.



The pipe will be installed along the Dallas Road Waterfront Trail from the Clover Point Pump Station to Eberts Street. The waterfront trail will be closed during construction but access to the beach will remain open. Following construction, the trail will be restored to its original condition.

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. The Wastewater Treatment Project will be built so we comply with federal regulations by the end of 2020, and is being funded by the Government of Canada, the Government of British Columbia and the CRD.

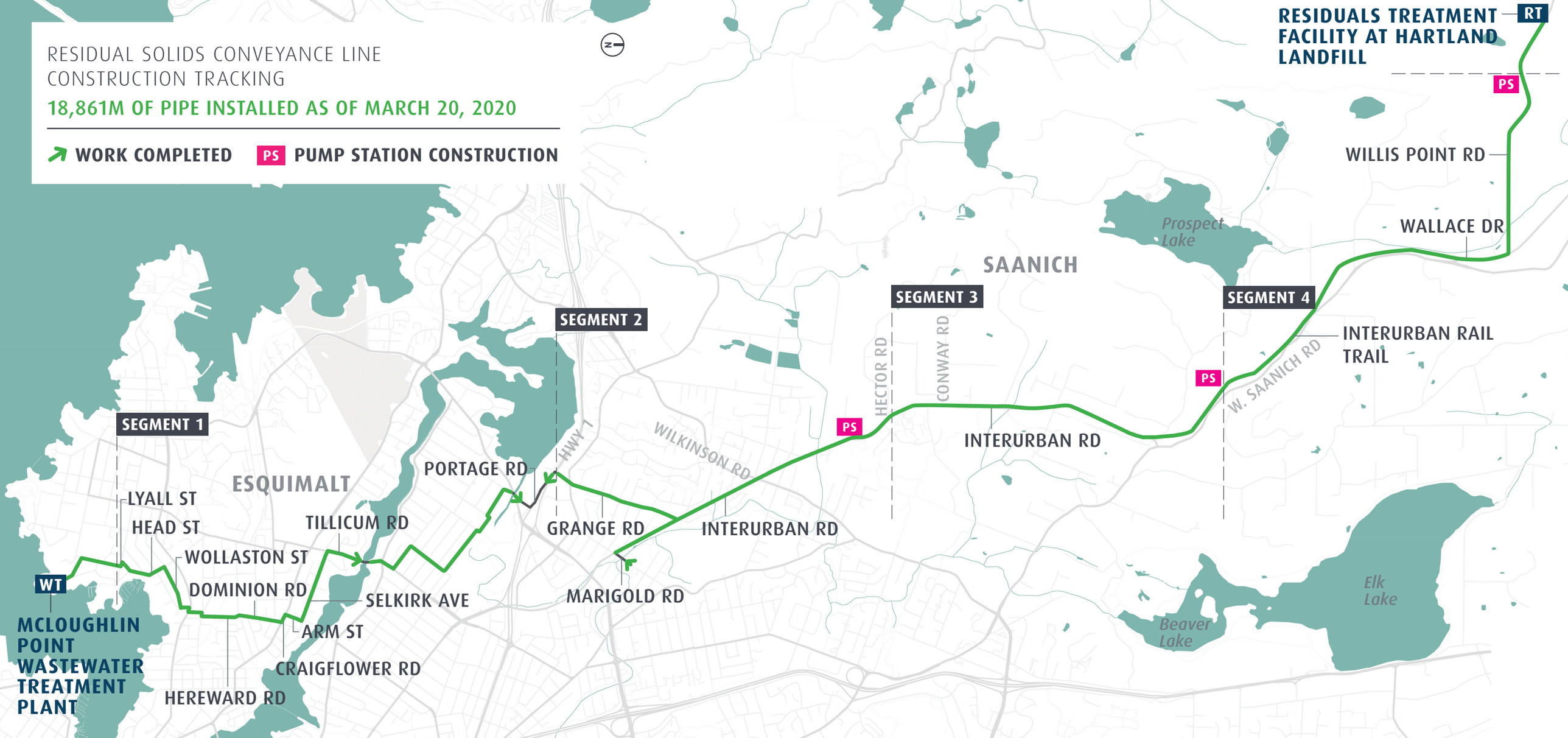
Any questions about the work, please contact the Project Team.

24/7 Phone Line
1.844.815.6132

Email
wastewater@crd.bc.ca

Website
wastewaterproject.ca

Appendix M– Residual Solids Conveyance Line Map (March, 2020)


RESIDUAL SOLIDS CONVEYANCE LINE CONSTRUCTION TRACKING
18,861M OF PIPE INSTALLED AS OF MARCH 20, 2020
WORK COMPLETED
PS PUMP STATION CONSTRUCTION
RESIDUALS TREATMENT FACILITY AT HARTLAND LANDFILL
RT
PS
WILLIS POINT RD
WALLACE DR
Prospect Lake
SAANICH
SEGMENT 3
SEGMENT 4
SEGMENT 2
SEGMENT 1
HECTOR RD
CONWAY RD
INTERURBAN RAIL TRAIL
W. SAANICH RD
INTERURBAN RD
WILKINSON RD
HWY 1
PORTAGE RD
ESQUIMALT
LYALL ST
HEAD ST
TILLICUM RD
GRANGE RD
INTERURBAN RD
WOLLASTON ST
DOMINION RD
SELKIRK AVE
MARIGOLD RD
WT
MCLOUGHLIN POINT WASTEWATER TREATMENT PLANT
ARM ST
CRAIGFLOWER RD
HEREWARD RD
Beaver Lake
Elk Lake

Appendix N− Monthly Cost Report (March)

MONTHLY COST REPORT
as at March 31, 2020

Description	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to February 29, 2020	Expended over reporting period (March 2020)	Expended to March 31, 2020	Expended to March 31, 2020 as a % of Allocated Budget	Remaining (Unexpended) Allocated Budget at March 31, 2020	Total Committment at March 31, 2020	Unexpended Commitment at March 31, 2020	Uncommitted Allocated Budget at March 31, 2020	Forecast to Complete	Forecast at Completion	Variance at Completion $	Variance at Completion as a % of Allocated Budget
McLoughlin Point Wastewater Treatment Plant	**331.4**	**328.1**	**277.5**	**5.0**	**282.5**	**86%**	**45.6**	**320.5**	**38.0**	**7.6**	**45.6**	**328.1**	**-**	**0%**
Construction	306.7	320.3	276.9	5.0	281.8	88%	38.5	319.8	38.0	0.5	38.5	320.3	-	0%
Contingency	14.9	0.9	-	-	-	0%	0.9	-	-	0.9	0.9	0.9	-	0%
Financing	9.8	6.9	0.7	-	0.7	9%	6.2	0.7	0.0	6.2	6.2	6.9	-	0%
Residuals Treatment Facility	**159.4**	**139.7**	**10.3**	**0.3**	**10.6**	**8%**	**129.1**	**138.7**	**128.1**	**1.0**	**129.1**	**139.7**	**-**	**0%**
Construction	145.4	138.7	10.3	0.3	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	4%	0.8	0.0	0.0	0.8	0.8	0.8	-	0%
Conveyance System	**158.1**	**216.0**	**144.9**	**7.4**	**152.3**	**71%**	**63.6**	**194.5**	**42.2**	**21.5**	**63.6**	**216.0**	**-**	**0%**
Macaulay Point Pump Station	25.4	30.8	23.9	1.4	25.3	82%	5.4	30.8	5.4	0.0	5.4	30.8	-	0%
Macaulay Forcemain	5.6	7.4	6.5	0.1	6.6	88%	0.9	7.4	0.9	-	0.9	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	27.4	24.3	0.3	24.6	90%	2.8	27.2	2.6	0.2	2.8	27.4	-	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	10.9	0.6	11.5	47%	13.1	23.1	11.6	1.4	13.1	24.6	-	0%
Clover Forcemain	14.6	32.5	27.5	0.6	28.0	86%	4.4	32.0	4.0	0.4	4.4	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	0.2	0.5	0.7	6%	10.6	7.9	7.2	3.4	10.6	11.3	-	0%
Residual Solids Conveyance Line	19.1	36.1	30.5	1.2	31.7	88%	4.3	35.8	4.1	0.3	4.3	36.1	-	0%
Residual Solids Pump Stations & Bridge Crossings	4.6	18.4	7.7	2.8	10.5	57%	7.8	16.8	6.3	1.6	7.8	18.4	-	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	-	0%
Financing	5.8	4.1	0.3	-	0.3	8%	3.7	0.3	0.0	3.7	3.7	4.1	-	0%
Project Management Office ("PMO")	**75.9**	**77.9**	**52.2**	**1.7**	**53.8**	**69%**	**24.0**	**68.5**	**14.6**	**9.4**	**24.0**	**77.9**	**-**	**0%**
Project costs Aug 2016-Dec 2016	2.2	2.2	2.2	-	2.2	100%	-	2.2	-	-	-	2.2	-	0%
Owner's Engineering	17.2	17.3	12.8	0.6	13.4	77%	3.9	17.3	3.9	-	3.9	17.3	-	0%
Conveyance Design	5.0	9.7	7.0	0.4	7.4	76%	2.3	8.1	0.7	1.6	2.3	9.7	-	0%
Advisors & Professional Support	7.0	15.0	9.8	0.2	10.0	67%	5.0	11.1	1.1	3.8	5.0	15.0	-	0%
Project Team & Project Board	31.3	24.5	15.9	0.4	16.3	66%	8.2	23.7	7.5	0.8	8.2	24.5	-	0%
CRD Allocations	3.4	3.4	2.4	0.1	2.4	71%	1.0	3.4	1.0	-	1.0	3.4	-	0%
Office, Supplies & Expenses	3.9	2.5	1.6	0.0	1.6	66%	0.9	2.0	0.4	0.4	0.9	2.5	-	0%
Computer Hardware, Software & Training	1.0	1.1	0.6	0.0	0.6	54%	0.5	0.6	-	0.5	0.5	1.1	-	0%
Contingency	4.8	2.3	-	-	-	0%	2.3	-	-	2.3	2.3	2.3	-	0%
BC Hydro	**12.9**	**4.3**	**2.0**	**-**	**2.0**	**47%**	**2.3**	**2.0**	**0.0**	**2.3**	**2.3**	**4.3**	**-**	**0%**
Third Party Commitments	**8.1**	**8.1**	**3.7**	**0.1**	**3.7**	**46%**	**4.4**	**6.8**	**3.1**	**1.3**	**4.4**	**8.1**	**-**	**0%**
Program Reserves	**19.2**	**0.9**	**-**	**-**	**-**	**0%**	**0.9**	**-**	**-**	**0.9**	**0.9**	**0.9**	**-**	**0%**
Core Area Wastewater Treatment Project	**765.0**	**775.0**	**490.6**	**14.4**	**505.0**	**65%**	**269.9**	**731.0**	**226.0**	**43.9**	**269.9**	**775.0**	**-**	**0%**

* Values presented in $millions, results in minor rounding differences
** Cost report presents approved expenditures
^ Component no longer required, and would not provide any value therefore removed from Project Scope; Costs include Seaterra initiation, planning and design

Appendix O- Quarterly Cost Report

QUARTERLY COST REPORT
as at March 31, 2020

Description	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to December 31, 2019	Expended over reporting period (Q1 2020 Jan-Mar)	Expended to March 31, 2020	Expended to March 31, 2020 as a % of Allocated Budget	Remaining (Unexpended) Allocated Budget at March 31, 2020	Total Committment at March 31, 2020	Unexpended Commitment at March 31, 2020	Uncommitted Allocated Budget at March 31, 2020	Forecast to Complete	Forecast at Completion	Variance at Completion $	Variance at Completion as a % of Allocated Budget
McLoughlin Point Wastewater Treatment Plant	**331.4**	**328.1**	**267.6**	**14.9**	**282.5**	**86%**	**45.6**	**320.5**	**38.0**	**7.6**	**45.6**	**328.1**	**-**	**0%**
Construction	306.7	320.3	266.9	14.9	281.8	88%	38.5	319.8	38.0	0.5	38.5	320.3	-	0%
Contingency	14.9	0.9	-	-	-	0%	0.9	-	-	0.9	0.9	0.9	-	0%
Financing	9.8	6.9	0.7	(0.1)	0.7	9%	6.2	0.7	0.0	6.2	6.2	6.9	-	0%
Residuals Treatment Facility	**159.4**	**139.7**	**9.3**	**1.4**	**10.6**	**8%**	**129.1**	**138.7**	**128.1**	**1.0**	**129.1**	**139.7**	**-**	**0%**
Construction	145.4	138.7	9.2	1.4	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	4%	0.8	0.0	0.0	0.8	0.8	0.8	-	0%
Conveyance System	**158.1**	**216.0**	**134.4**	**17.4**	**152.3**	**71%**	**63.6**	**194.5**	**42.2**	**21.5**	**63.6**	**216.0**	**-**	**0%**
Macaulay Point Pump Station	25.4	30.8	21.2	4.1	25.3	82%	5.4	30.8	5.4	0.0	5.4	30.8	-	0%
Macaulay Forcemain	5.6	7.4	6.3	0.3	6.6	88%	0.9	7.4	0.9	-	0.9	7.4	-	0%
Craigflower Pump Station	12.5	12.4	12.4	0.0	12.4	100%	-	12.4	-	-	-	12.4	-	0%
Clover Point Pump Station	23.7	27.4	24.0	0.6	24.6	90%	2.8	27.2	2.6	0.2	2.8	27.4	-	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	9.7	1.7	11.5	47%	13.1	23.1	11.6	1.4	13.1	24.6	-	0%
Clover Forcemain	14.6	32.5	26.8	1.2	28.0	86%	4.4	32.0	4.0	0.4	4.4	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	0.2	-	0.7	6%	10.6	7.9	7.2	3.4	10.6	11.3	-	0%
Residual Solids Conveyance Line	19.1	36.1	27.2	4.5	31.7	88%	4.3	35.8	4.1	0.3	4.3	36.1	-	0%
Residual Solids Pump Stations & Bridge Crossings	4.6	18.4	5.5	5.0	10.5	57%	7.8	16.8	6.3	1.6	7.8	18.4	-	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	-	0%
Financing	5.8	4.1	0.4	(0.1)	0.3	8%	3.7	0.3	0.0	3.7	3.7	4.1	-	0%
Project Management Office ("PMO")	**75.9**	**77.9**	**50.6**	**3.2**	**53.8**	**69%**	**24.0**	**68.5**	**14.6**	**9.4**	**24.0**	**77.9**	**-**	**0%**
Project costs Aug 2016-Dec 2016	2.2	2.2	2.3	(0.1)	2.2	100%	-	2.2	-	-	-	2.2	-	0%
Owner's Engineering	17.2	17.3	12.5	0.8	13.4	77%	3.9	17.3	3.9	-	3.9	17.3	-	0%
Conveyance Design	5.0	9.7	7.0	0.4	7.4	76%	2.3	8.1	0.7	1.6	2.3	9.7	-	0%
Advisors & Professional Support	7.0	15.0	9.7	0.3	10.0	67%	5.0	11.1	1.1	3.8	5.0	15.0	-	0%
Project Team & Project Board	31.3	24.5	14.8	1.4	16.3	66%	8.2	23.7	7.5	0.8	8.2	24.5	-	0%
CRD Allocations	3.4	3.4	2.3	0.2	2.4	71%	1.0	3.4	1.0	-	1.0	3.4	-	0%
Office, Supplies & Expenses	3.9	2.5	1.5	0.1	1.6	66%	0.9	2.0	0.4	0.4	0.9	2.5	-	0%
Computer Hardware, Software & Training	1.0	1.1	0.6	0.0	0.6	54%	0.5	0.6	-	0.5	0.5	1.1	-	0%
Contingency	4.8	2.3	-	-	-	0%	2.3	-	-	2.3	2.3	2.3	-	0%
BC Hydro	**12.9**	**4.3**	**2.0**	**0.0**	**2.0**	**47%**	**2.3**	**2.0**	**0.0**	**2.3**	**2.3**	**4.3**	**-**	**0%**
Third Party Commitments	**8.1**	**8.1**	**3.4**	**0.3**	**3.7**	**46%**	**4.4**	**6.8**	**3.1**	**1.3**	**4.4**	**8.1**	**-**	**0%**
Program Reserves	**19.2**	**0.9**	**-**	**-**	**-**	**0%**	**0.9**	**-**	**-**	**0.9**	**0.9**	**0.9**	**-**	**0%**
Core Area Wastewater Treatment Project	**765.0**	**775.0**	**467.3**	**37.2**	**505.0**	**65%**	**269.9**	**731.0**	**226.0**	**43.9**	**269.9**	**775.0**	**-**	**0%**

* Values presented in $millions, results in minor rounding differences
** Cost report presents approved expenditures
^ Component no longer required, and would not provide any value therefore removed from Project Scope; Costs include Seaterra initiation, planning and design

Wastewater Treatment Project
Treated for a cleaner future

REPORT TO CORE AREA WASTEWATER TREATMENT PROJECT BOARD
MEETING OF TUESDAY, MAY 26, 2020

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

ISSUE

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

BACKGROUND

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

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

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

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

DISCUSSION

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

The Monthly report for the period of April 2020 is attached as Appendix A.

RECOMMENDATION

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

RESOLVED that:

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

Elizabeth Scott, Deputy Project Director
Wastewater Treatment Project

Dave Clancy, Project Director
Wastewater Treatment Project
Concurrence

Attachments: 1

Appendix A: Wastewater Treatment Project April 2020 Monthly Report

ES:er

Wastewater Treatment Project
Treated for a cleaner future

CRD Wastewater Treatment Project

Monthly Report

Reporting Period: April 2020

TABLE OF CONTENTS

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*.					Three recordable incidents occurred over the period. Site inspections are ongoing. The Project Team is actively monitoring the status of the COVID-19 public health emergency and is taking additional precautions to protect our staff, contractors, and the public. All Project contractors have implemented additional precautions to ensure the health and safety of their workers. The Project Team will continue to monitor and follow the direction of the government during this evolving situation.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.					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).					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. 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.

* 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 approximately 6 feet 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
Person Hours		
PMO	3 559	141 587
Project Contractor	101 862	1 774 618
Total Person Hours	105 421	1 916 205
PMO	30	
Project Contractors (& Project Consultants) working on Project Sites	587	
Total Number of Employees	617	
Near Miss Reports	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
		Project Frequency (from January 1, 2017)
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 15th, 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

Permit/Licence	*Anticipated Date*	*Status*	*Party Responsible for Obtaining Perming*
McLoughlin Point WWTP			
Municipal Wastewater Regulation ("MWR") Registration	Q2 2020	Submitted September 2019	CRD
McLoughlin Point Harbour Crossing			
Transport Canada Lease	Following completion of construction	On track	HRP
McLoughlin Point Outfall			
Transport Canada Lease	Following completion of construction	On track	HRP
Residuals Treatment Facility			
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

*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 4th 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	-	-
TOTAL	**$459.3M**	**$2.5M**	**$330.1M**

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
Project				
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)
McLoughlin Point Wastewater Treatment Plant				
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	**Medium**	**High**	**Closed**
L	**M**	**H**	**C**

2.9 Status (Engineering, Procurement and Construction)

2.9.1 Wastewater Treatment Plant (McLoughlin Point WWTP)

The McLoughlin Point WWTP Project Component 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)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

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.

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)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

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.

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 C− Clover Point Pump Station Overnight Work (April 15, 2020) (Appendix C)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

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

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

24/7 Phone Line
1.844.815.6132

Email
wastewater@crd.bc.ca

Website
wastewaterproject.ca

Appendix D− Temporary Overnight Work: Marigold Road (April 17, 2020) (Appendix D)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

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 20th. 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.

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 E− Residual Solids Conveyance Line: Gorge Bridge Construction Update

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

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.

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 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 and follow us on Twitter @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.

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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 and follow us on Twitter @crd_bc

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

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.

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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 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.

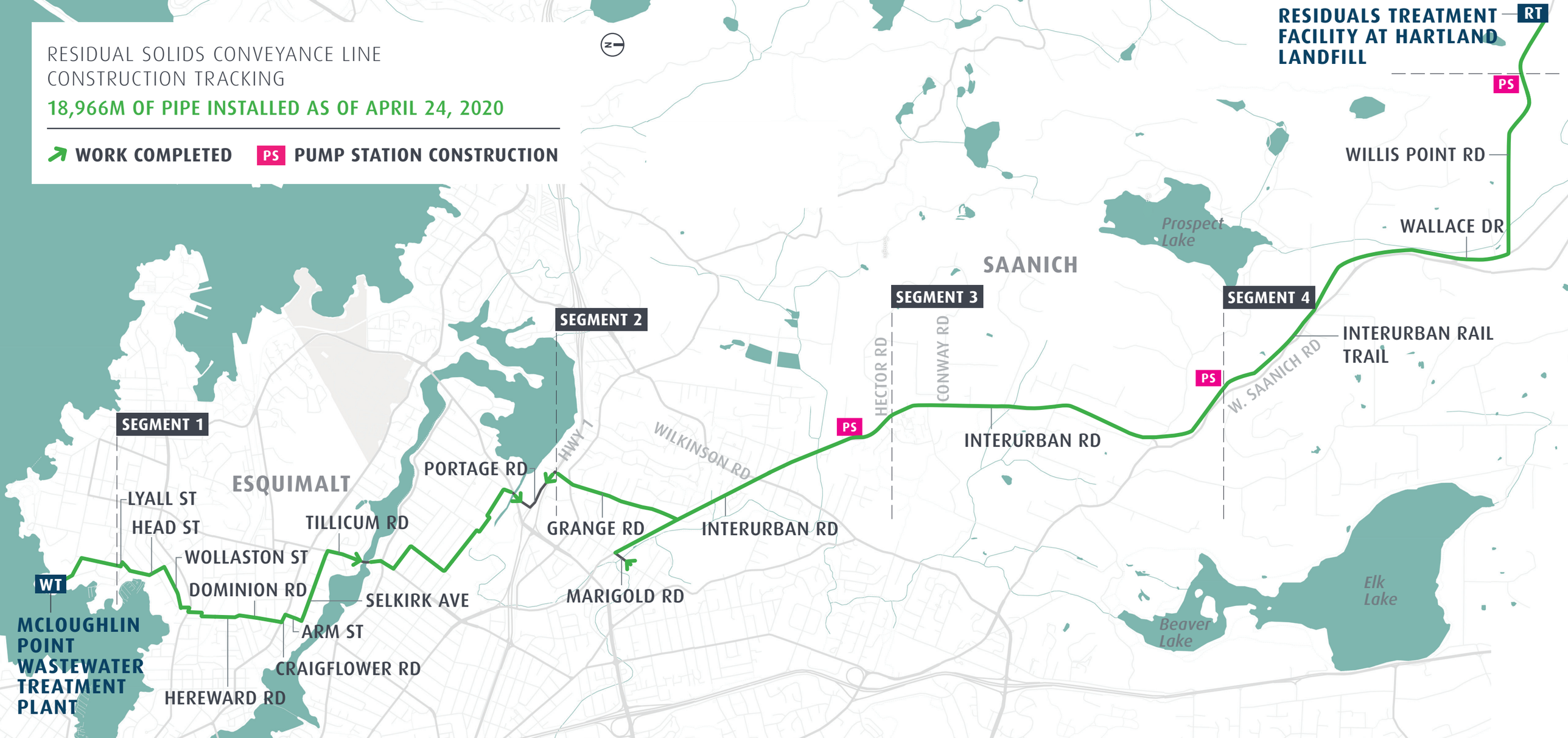
For updates, please visit www.crd.bc.ca and follow us on Twitter @crd_bc

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.

-30-

For media inquiries, please contact:
Andy Orr, Senior Manager
CRD Corporate Communications
Tel: 250.360.3229
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
PS PUMP STATION CONSTRUCTION
RESIDUALS TREATMENT FACILITY AT HARTLAND LANDFILL
RT
PS
WILLIS POINT RD
WALLACE DR
Prospect Lake
SAANICH
SEGMENT 3
SEGMENT 4
SEGMENT 2
SEGMENT 1
INTERURBAN RAIL TRAIL
W. SAANICH RD
HECTOR RD
CONWAY RD
INTERURBAN RD
WILKINSON RD
HWY 1
PORTAGE RD
GRANGE RD
INTERURBAN RD
MARIGOLD RD
ESQUIMALT
LYALL ST
HEAD ST
TILLICUM RD
WOLLASTON ST
DOMINION RD
SELKIRK AVE
ARM ST
CRAIGFLOWER RD
HEREWARD RD
WT
MCLOUGHLIN POINT WASTEWATER TREATMENT PLANT
Beaver Lake
Elk Lake

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 Committment 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
McLoughlin Point Wastewater Treatment Plant	**331.4**	**328.1**	**282.5**	**5.6**	**288.1**	**88%**	**40.0**	**320.8**	**32.8**	**7.3**	**40.0**	**328.1**	**-**	**0%**
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%
Residuals Treatment Facility	**159.4**	**139.8**	**10.6**	**(0.0)**	**10.6**	**8%**	**129.1**	**138.8**	**128.1**	**1.0**	**129.1**	**139.8**	**-**	**0%**
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%
Conveyance System	**158.1**	**215.9**	**152.3**	**2.6**	**155.0**	**72%**	**61.0**	**194.6**	**39.6**	**21.3**	**61.0**	**215.9**	**-**	**0%**
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	-	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%
Project Management Office ("PMO")	**75.9**	**77.9**	**53.8**	**1.0**	**54.8**	**70%**	**23.1**	**68.9**	**14.1**	**8.9**	**23.1**	**77.9**	**-**	**0%**
Project costs Aug 2016-Dec 2016	2.2	2.2	2.2	-	2.2	100%	-	2.2	-	-	-	2.2	-	0%
Owner's Engineering	17.2	17.5	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%
BC Hydro	**12.9**	**4.3**	**2.0**	**0.0**	**2.0**	**48%**	**2.3**	**2.1**	**0.0**	**2.2**	**2.3**	**4.3**	**-**	**0%**
Third Party Commitments	**8.1**	**8.1**	**3.7**	**0.1**	**3.8**	**47%**	**4.3**	**6.8**	**3.0**	**1.3**	**4.3**	**8.1**	**-**	**0%**
Program Reserves	**19.2**	**0.9**	**-**	**-**	**-**	**0%**	**0.9**	**-**	**-**	**0.9**	**0.9**	**0.9**	**-**	**0%**
Core Area Wastewater Treatment Project	**765.0**	**775.0**	**505.0**	**9.3**	**514.3**	**66%**	**260.6**	**732.0**	**217.7**	**42.9**	**260.6**	**775.0**	**-**	**0%**

* Values presented in $millions, results in minor rounding differences
** Cost report presents approved expenditures
^ Component no longer required, and would not provide any value therefore removed from Project Scope; Costs include Seaterra initiation, planning and design

Item 7.1

REPORT TO CORE AREA WASTEWATER TREATMENT PROJECT BOARD
MEETING OF TUESDAY, JULY 7, 2020

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

ISSUE

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

BACKGROUND

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

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

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

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

DISCUSSION

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

The Monthly report for the period of May 2020 is attached as Appendix A.

RECOMMENDATION

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

RESOLVED that:

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

Elizabeth Scott, Deputy Project Director
Wastewater Treatment Project

Dave Clancy, Project Director
Wastewater Treatment Project
Concurrence

Attachments: 1

Appendix A: Wastewater Treatment Project May 2020 Monthly Report

ES:er

CRD Wastewater Treatment Project

Monthly Report

Reporting Period: May 2020

TABLE OF CONTENTS

1 Executive Summary

1.1 Introduction

This Monthly Report covers the reporting period of May 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 the chemical distribution system; roofing and envelopes in the Primary treatment area; Biological Aerated Filter (BAF) tank covers in the Secondary treatment area; secondary effluent fiberglass reinforced plastic (FRP) baffles; lower level 1 pumps and mechanical piping in the tertiary treatment area; Lower level interior flooring, millwork painting and door installation; the green roof installation. In addition the blind was removed from the outfall, and FRP baffles installed, pig receiving station piping completed, and installation of main plant water service is ongoing on site.

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 on Digester 1 and the Digested Solids Storage Tank (DSST); ongoing electrical work, and commissioning of the overhead crane in the Residuals Handling Building; mechanical and insulation installation and the generator run and load test are completed in the Residuals Drying Facility; completed hydro test of water storage tank, chemical piping installation and fiberglass reinforced plastic (FRP) duct installation continued in the Residuals Storage and Odour Control Building; and the architectural finishes are complete and electrical and mechanical deficiencies are being closed out 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 pipe supports, completed bypass pumping for tie-in at new inlet channel installed fuel storage tank and exhaust fan for diesel generator; progressed work on fuelling system; and progressed work at the new public plaza and washroom.

- Macaulay Point Pump Station: Kenaidan Contracting Limited ("Kenaidan" as the Design-Build Contractor) progressed construction activities over the reporting period including: completed fiberglass reinforced plastic (FRP) platform and ducting in the wet well; completed installation of wood siding on the north side of the building; ongoing installation of penthouse louver; installed the inlet fire damper in the genset room; ongoing commissioning of the programmable logic control (PLC) and motor control centres (MCC); and exposing and cutting pigging chamber wall and cut pipe penetration opening.

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: seawall balustrade replacement, poured new concrete wall and commenced grading for new sidewalk.

- 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: completing pipe installation and pressure testing section from the north side of Tillicum Bridge to the south side of Admirals Bridge, completed air valve chamber on Grange Road, and addressed deficiencies across all segments.

    - Residual Solids Pump Stations: Knappett Projects Inc. ("Knappett" as the Construction Contractor) continued construction activities including: installation of odour control unit underground vent and drain piping, and general backfill of the site at Pump Station 1; the BC Hydro line installed and the odour control slab was poured at Pump Station 2; pressure testing and finishing items continued within the wet well and valve chamber at Pump Station 3; and the Marigold crossing was completed.

- Arbutus Attenuation Tank ("AAT"): NAC Constructors Ltd. (as the Construction Contractor) continued construction activities including: completed fourth concrete pour, installed ducting from BC Hydro Pole to BC Hydro meter base, and commenced bulk excavation.

- Trent Forcemain: Jacob Bros. Construction Inc. (as the Construction Contractor) progressed construction activities including: completion of storm sewer relocation on

Bushby Street, commenced forcemain installation on Stannard Avenue, and concrete flow through chamber stripped and backfilled.

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 two recordable safety incidents occurred and the total recordable incident frequency increased from 1.5 at the end of the April 2020 to 1.6. 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*.					Two recordable incidents occurred over the period. Site inspections are ongoing. The Project Team is actively monitoring the status of the COVID-19 public health emergency and is taking additional precautions to protect our staff, contractors, and the public. All Project contractors have implemented additional precautions to ensure the health and safety of their workers. The Project Team will continue to monitor and follow the direction of the government during this evolving situation.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.					Two minor environmental incidents occurred over the reporting period.
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).					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. 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.

* 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 (May 2020) 12 safety incidents occurred, comprising: 1 medical aid recordable, 2 first-aid, 1 lost time recordable and 8 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
May 1, 2020	Residual Solids Pump Stations	**Lost Time**	A worker sustained a hand injury when they lost their balance and crushed their finger between the handle of a cabinet and the steel cabinet.	Worker was sent to First Aid for assessment. An X-rays confirmed a fracture of the finger.	Tool-box talk held with crews to bring attention to the increase of hand injuries. They also reviewed the need for Hazard Assessments before starting work and in this case a working platform was recommended and installed.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
May 5, 2020	Residual Solids Pump Stations	First Aid	Worker sustained a minor hand injury while trimming a piece of wood.	Worker reported to first aid where the laceration was cleaned and bandaged. No further follow up was required.	Tool-box talk to remind workers to wear the appropriate rated gloves for task was conducted.
May 6, 2020	McLoughlin Pt WWTP	First Aid	A Worker sustained a minor hand injury when they grabbed the end of a piece of pipe. Worker was wearing gloves at time of incident.	Worker reported to first aid where the laceration was cleaned and bandaged. No further follow up was required.	Tool-box talk to remind workers to wear the appropriate rated gloves for task was conducted.
May 11, 2020	Residual Solids Pipes	Medical Aid	A worker sustained a hand injury by striking their finger with a sledge hammer.	Worker reported to First Aid and was sent for x-rays. X-ray confirmed that the finger was fractured.	Tool-box talk with workers to remind them to focus on task and understand the hazards with the work being undertaken was conducted.
May 12, 2020	Residual Solids Pump Stations	Report Only	Worker was pulling a cable and experienced shoulder pain.	Worker reported to First Aid where they were evaluated with no follow up required.	Worker reminded to use good ergonomic practices and to perform stretching prior to any awkward task.
May 13, 2020	Residual Solids Pipes	Report Only	A worker over torqued a steel bolt on a pipe coupler causing it to break.	The pipe was under pressure and released water into the work area. No one was hurt in incident.	Tool-box talk reminding workers to be aware of the task at hand. Along with the proper use of small hand tools.
May 19, 2020	Clover Point Pump Station	Report Only	A member of the public disregarded notices indicating that Clover Point is a construction worksite and opened the construction gate.	A worker still on site inform the driver this was a construction site and they were trespassing. The driver accelerated around the worker and in doing so struck the workers hand with their mirror. The worker reported to First Aid and no further follow up was required.	The incident was reported to Police. A tool box talk reviewing the process of deescalating situations with members of the public was conducted.
May 20, 2020	Trent Forcemain	Report Only	A gas line was damaged by material sloughing into the excavation.	All equipment was immediately shut down and the area evacuated. Fortis was called and repaired the gas line.	A tool-box talk reviewing means and methods in securing the slope in an excavation was conducted.
May 21, 2020	Trent Forcemain	Report Only	While excavating a phone line was damaged interrupting the service to a nearby residence.	Locates were arranged prior to digging. Phone cable was not highlighted.	Phone Company attended site and repaired the service.
May 26, 2020	Residual Solids Pump Stations	Report Only	An inspector while descending using precast ladder rungs in a manhole fell approximately 1m.	One of the ladder rungs dislodged causing him to fall backwards striking his lower back against a pipe support. He reported to a medical facility to be evaluated with no treatment provided.	Safety Notice was issued to all Prime Contractors in regards to incident. All contractors were instructed to inspect ladder rungs in pre-cast manholes. No other issues were reported from any of the sites.
May 29, 2020	Arbutus Attenuation Tank	Report Only	A worker rolled their ankle on an uneven surface.	Worker reported incident to First Aid Attendant on site with no further treatment provided	Tool-box talk to discuss ensuring awareness of the work area and identification of hazards was conducted.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
May 29, 2020	Residual Solids Pump Stations	Report Only	Worker was using a torque wrench on the bolts of a flange when the wrench slipped striking the worker in the face.	Worker received 2 chipped front teeth. Worker was assessed by First Aid Attendant and instructed to see a dentist to evaluate damaged teeth.	Tool-box talk to discuss proper body positioning when using handheld tools was conducted.

Key safety activities conducted during May included:

- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett, Jacob Bros and NAC;
- weekly project update meeting with prime contractor: HRMG;
- monthly Incident Investigation reviews;
- hosted Prime Contractor Safety Coordination Meeting with Project 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;
- compliance checks of COVID-19 Safe Work Plans of our Prime Contractors; and
- safety email sent out to inform Prime Contractors of high incidents “hand injuries” on the Project.

Table 3: WTP Safety Information

	Reporting Period (May 2020)	Project Totals
Person Hours		
PMO	3 492	145 079
Project Contractor	98 376	1 872 994
Total Person Hours	101 868	2 018 073
PMO	30	
Project Contractors (& Project Consultants) working on Project Sites	581	
Total Number of Employees	611	
Near Miss Reports	0	45
High Potential Near Miss Reports	0	6
Report Only	8	158
First Aid	2	55
Medical Aid	1	9
Medical Aid (Modified Duty)	0	2
Lost Time	1	5
Total Recordable Incidents	2	16
		Project Frequency (from January 1, 2017)
First Aid Frequency		5.4
Medical Aid Frequency		1.1
Lost time Frequency		0.5
Total Recordable Incident Frequency		1.6

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 May included:

- The CRD, District of Saanich and Knappett met at the Colquitz River crossing site to discuss plans for riparian restoration and tree replacement; and
- The CRD, Parsons, Don Mann and their environmental consultant McElhanney met at the site of a culvert replacement on the Interurban Trail. The purpose of the visit was to discuss upcoming in-stream work to facilitate fish passage through the culvert.

Over the reporting period, there were two minor environmental incidents at the Clover Point pump station:

- Overnight on May 6th, there was an unplanned discharge at Clover Point Pump Station when flows were diverted to the short outfall channel as a result of an electrical fault. The CRD's overflow response procedure was implemented: the CRD posted public health advisory signs and closed nearby beaches to swimming for approximately 36 hours.
- Overnight on May 29th, there was an unplanned discharge at Clover Point Pump Station when flows were diverted to the short outfall channel as a result of loss of power to the screens. The CRD's overflow response procedure was implemented: the CRD posted public health advisory signs and closed nearby beaches to swimming for approximately 5.5 days.

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 May included:

- The BC Ministry of Environment and Climate Change Strategy (ENV) issued an Operational Certificate to the CRD that authorizes air emissions from the Residuals Treatment Facility; and
- The CRD met with ENV to review and provide feedback on the draft MWR Registration letter.

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. Receipt of the Operational Certificate is the only change from the Key Permits Status table in April's monthly report.

Table 4- Key Permits Status

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

2.3 First Nations

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

Key activities in May included:

- The CRD and the Esquimalt and Songhees liaisons continued to develop content for interpretive signs for installation at Clover Point, Macaulay Point and Mcloughlin Point.

2.4 Stakeholder Engagement

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

Construction Communications

One construction notice was issued to stakeholders in the reporting period:

- Trent Forcemain: Water Service Shutdown Notice Update (May 11, 2020) (Appendix A)

The Trent Forcemain notice was hand delivered to 190 residences in the Fairfield area. As well, 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.

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

- Core Area Wastewater Discharge Notice (May 7, 2020) (Appendix B); and
- Core Area Wastewater Discharge Notice (May 30, 2020) (Appendix C).

Project Website

Over the reporting period the Project website, wastewaterproject.ca, was updated with information about the Project. One construction notice and two public service announcements were posted. A map showing the progress of construction along the Residual Solids Conveyance Line (Appendix D) was updated.

The CRD's Twitter account was used to provide Project information to the public, including updates about wastewater discharge at the Clover Point Pump Station.

Two alerts were posted regarding the wastewater discharge at Clover Point following the CRD's response protocol.

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;
- District of Saanich Technical Working Group;
- PISCES (Portage Inlet Sanctuary Colquitz Estuary Society); 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- May 2020

Inquiry Source	Contacts for May
Information phone line inquiries	33
Email inquiries responded to	6

Key themes of the public inquiries were as follows:

- interest in work on Grange Road;
- questions regarding water shut-off for the Trent Forcemain; and
- questions about final restoration.

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

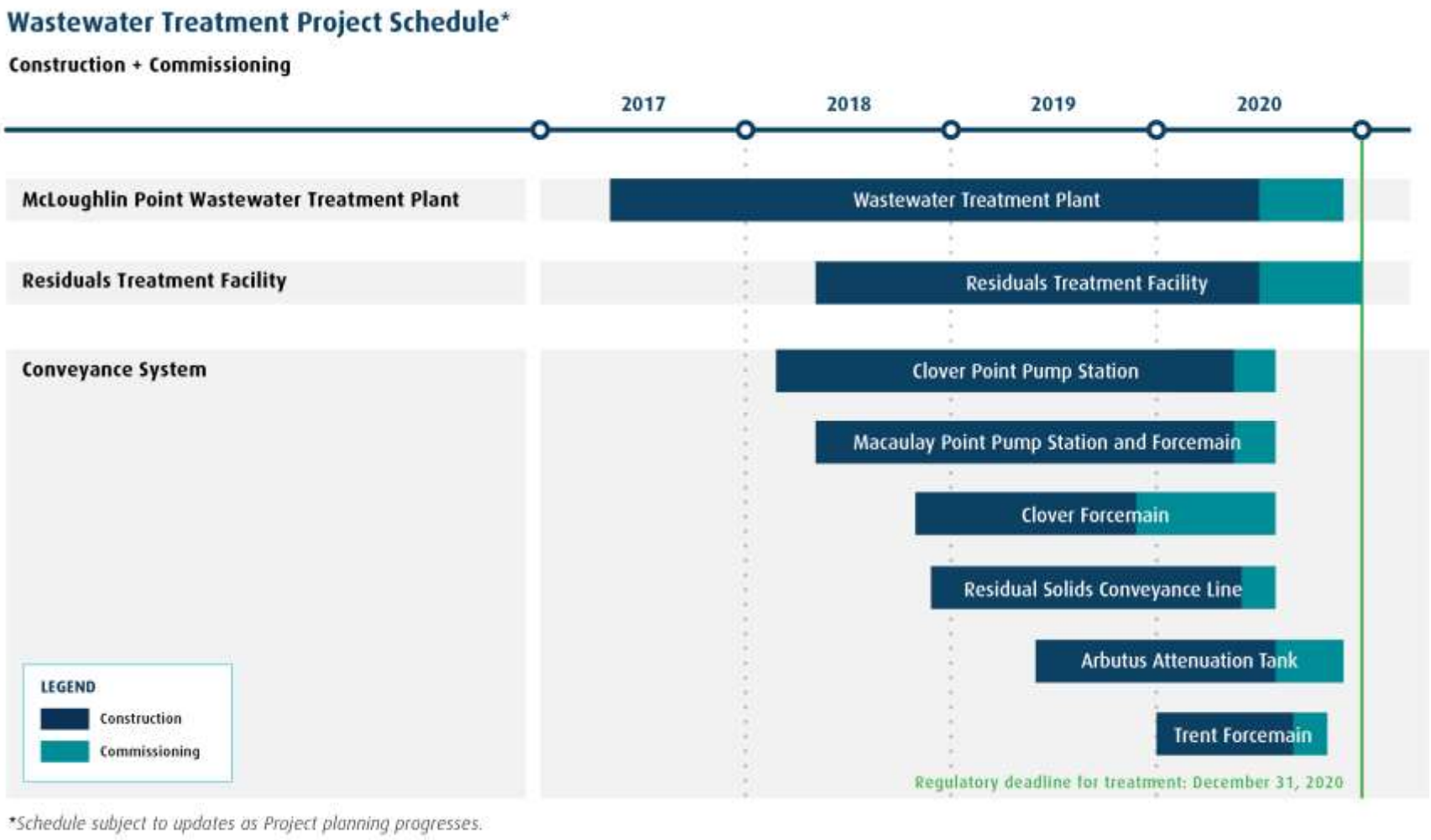
Progress over the reporting period is summarized in Section 2.9.

Figure 1 shows the high-level Project schedule. This schedule has not changed from that shown in the April 2020 Monthly Report.

The Project schedule 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



*Schedule subject to updates as Project planning progresses.

2.6.1 30 day look ahead

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

Safety

- CRD corporate occupational health and safety coordination committee meeting;
- 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;
- participate in CRD Fatigue Management Seminar; and
- issue Safety Notices for trending observations or similar incident occurring on project sites.

Environment and Regulatory Management

- The CRD anticipates receiving the MWR Registration from ENV.
- 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;
- ongoing community liaison meetings; and
- distribution of Project Update #9.

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 Operations & Maintenance building(O&M);
- install fire sprinkler system;

- install exterior finishes; and
- conduct walk downs 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 heating ventilation and air conditioning (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;
- commence repair to damaged panels at Digester #1;
- complete repair to roof panels and redo pneumatic test at Digester #2;
- hydro test at Digester #3;
- complete works and hydro testing at Digested Solids Storage Tank;
- continue instrumentation at the Digester Building;
- continue installation of hopper and shelter at Other Municipal Solids Receiving Facility;
- continue biogas piping, odour control ductwork, and building systems at the Residuals Handling Building;
- continue stair installation, exterior doors & hardware, HVAC, lighting, finishes, electrical installation, load-out structure, and process piping at the Dryer Building;
- continue biogas system installation at the Digester Building;
- complete Biogas Conditioning System;
- complete electrical work at Equalization Building;
- complete electrical at the Water Pump House;
- continue electrical and ductwork installation at Odour Control Area;
- substantial completion of Operations Building; and
- continue site grading and retention ponds.

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;
- rock removal within tank footprint;
- commence 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 Avenue;
- complete surface restoration;
- saw cut and remove pavement, sidewalk and curbs on Memorial Crescent; and
- install sanitary sewer on Memorial Cres from Dallas Road to Thurlow Avenue.

2.6.2 60 day look ahead

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

Safety

- participate in CRD corporate occupational health and safety coordination committee meeting;
- host Prime Contractor Safety Coordination Meeting with Project safety representatives via Team Meeting conference call
- 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.

First Nations

- The CRD and First Nation liaisons to continue planning post-construction archaeological artifact displays for community members.

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

- complete backfill of tsunami and planter walls;
- construct road structure;
- commence landscaping;
- continue building envelope throughout;
- continue process mechanical and electrical throughout;
- install cabinetry and millwork in O&M building;
- complete fire sprinkler system in O&M building;
- complete accessory installation in offices, control room and restrooms;
- complete system walk downs; and
- commence functional testing.

Clover Point Pump Station

- complete construction of existing Pumping Station upgrades;
- continue landscaping;
- complete construction Public Washroom;
- install coating for floor, walls and ceilings in screen/degritter room, wet well access room and odour control screen room;
- complete electrical works;
- commence functional and operational testing of equipment; and
- install split stone to exterior retaining walls.

Macaulay Point Pump Station

- install 1800 Weholite pipe extension;
- install slide gate;
- install fire stopping and smoke seals;
- install stainless steel door hardware;
- apply paint and sealants throughout;
- install office furniture and accessories;
- install washroom accessories and partitions; and
- install green roof system.

Residuals Treatment Facility

- continue functional start-up, wet testing and initial system verification;
- complete repair to damaged panels and redo hydrotest at Digester #1;
- commence insulation at Digester #2;
- commence insulation at Digester #3;
- complete works at the Digester Building;
- install jib crane at Other Municipal Solids Receiving Facility;
- complete biogas piping and odour control ductwork at the Residuals Handling Building;
- complete truck load-out assembly and continue ducting insulation at the Dryer Building;

- continue biogas system installation at the Digester Building;
- complete Biogas Conditioning System;
- complete instrumentation work at Equalization Building;
- complete electrical work at the Water Pump House;
- complete electrical and ductwork installation at Odour Control Area;
- set up Control Room at Operations Building; and
- continue site grading and retention ponds.

Clover Forcemain

- form and pour new seawall;
- install new seawall railings;
- install new modified curbs
- install new sidewalks;
- install new bollards; and
- complete Dallas Road surface works.

Residual Solids Pump Stations

- continue construction in Pump Stations, including completion of equipment installation, Electrical and Site Works;
- conduct interim commissioning with water in Pump Stations;
- complete construction and start of Commissioning in Marigold Control Valve Chamber;
- complete Residual Solids Forcemain and Centrate Return Line tie-in, test and commissioning; and
- complete installation of Admiral Bridge Pipe and pressure testing.

Arbutus Attenuation Tank (AAT)

- complete installation of rock anchors;
- form, rebar and install floor drains and piping in slab;
- commence installation of sumps and commence installation of FRP one sided walls;
- complete installation of temporary power for site in coordination with BC Hydro; and
- complete installation of water service for site in coordination with District of Saanich.

Trent Forcemain

- complete installation of 900mm PVC Forcemain in Fairfield Rd;
- install new 900mm PVC Forcemain in Memorial Crescent;
- install new 900mm Sanitary Sewer Main in Bushby Street;
- install new 900mm PVC Forcemain in Brooke Street; and
- supply and install blowdown assembly with manhole frame & cover in Fairfield Road, Stannard Ave and Memorial Crescent.

2.7 Cost Management and Forecast

The monthly cost report for May is shown in Appendix E. 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 $0.9 million. The significant commitments made in the reporting period comprised the approval of provisional items in construction contracts and contract change orders.

2.7.2 Expenses and Invoicing

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

2.7.3 Contingency and Program Reserves

Contingency draws totalling $282,892 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 April 30, 2020		$ (53,677,075)
Contingency and Program Reserve balance as at April 30, 2020		**$ 15,640,976**
Preparation of the application for a Certificate of Compliance for McLoughlin Point	May-20	$ (217,924)
Procurement and installation of equipment to allow for the continuous monitoring of odor control treatment System emissions via SCADA	May-20	$ (64,968)
WWTP Total Draw		$ (282,892)
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		$ (282,892)
Contingency and Program Reserve balance as at May 31, 2020		**$ 15,358,084**

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	$2.5M	$103.3M
Government of Canada (Green Infrastructure Fund)	$50M	$0.7M	$44.0 M
Government of Canada (P3 Canada Fund)	$41M	-	-
Government of British Columbia	$248M	-	$186.0M
Federation of Canadian Municipalities	$0.3M	-	-
TOTAL	**$459.3M**	**$3.2M**	**$333.3M**

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.

There were no changes to the active risks summary in the reporting period. 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
Project				
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)

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

2.9 Status (Engineering, Procurement and Construction)

2.9.1 Wastewater Treatment Plant (McLoughlin Point WWTP)

The McLoughlin Point WWTP Project Component is continuing with Harbour Resource Partners ("HRP" as the Design-Build contractor for the McLoughlin Point WWTP) progressing:

- Primary treatment area:
  - Densadeg 1, 2 and 3 are going through final walk downs prior to hand over to commissioning;
  - primary odour control fiberglass reinforced plastic (FRP) pipe and equipment nearing completion;
  - plate settler 1 & 2 are progressing through final walk downs prior to hand over to commissioning;
  - chemical distribution systems installation ongoing, PVC piping is progressing; and
  - roofing and envelopes are nearing completion across the primary area.

- Secondary treatment area:
  - moving bed bio reactor (MBBR) 1 & 2 are mechanically complete, covers are complete;
  - Biological Aerated Filter (BAF) cell 12 is complete;
  - electrical teams have transitioned to field terminations by system from the work in the main electrical room;
  - all motor control centres are now powered;
  - communication network is ongoing;
  - electrical work in the blower building is nearing completion;
  - heat recovery room is progressing;
  - penthouse building envelopes are nearing completion; and
  - BAF tank covers are progressing.

- Tertiary treatment area:
  - continued upper disk filter walls, including outfall shaft roof slab, concrete is complete;
  - installation of secondary effluent FRP baffles ongoing;
  - lower level 1 pumps and mechanical piping installation is nearing completion;
  - level 2 process pipe continued with installation of UV system and pumps; and
  - cinder block masonry is ongoing.

- O&M building:
  - lower level interior flooring and millwork in progress;
  - lower level drywall is complete;
  - lower level painting and suspended ceiling is progressing;
  - door installation is in progress;
  - level 2 heating ventilation and air conditioning (HVAC) plumbing and fire suppression are all nearing completion;
  - steel stud installation on level 2 is nearing completion and drywall, paint, drop ceilings, flooring and millwork are underway;
  - roofing is complete, cladding on all levels is nearing completion, green roof installation is in progress; and
  - glazing installation complete on level 1 and nearing completion on level 2.

- Site Works:
  - removed outfall blind and installed FRP baffles;
  - pig receiving station piping complete;
  - installation of main plant water service is ongoing; and
  - storm line no.2 installed and backfill progressed across site.

Photographs of construction progress over the month of May at McLoughlin Point WWTP are shown in Figures 2-5.

Figure 2− McLoughlin Point Wastewater Treatment Plant - Coating of leading edge Operations & Maintenance roofing.

Figure 3− McLoughlin Point Wastewater Treatment Plant- Installed floor coating in the laboratory.

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Figure 4− McLoughlin Point Wastewater Treatment Plant- Installation of Hydronic lines to Odour Control roof to unit.

Figure 5− McLoughlin Point Wastewater Treatment Plant- Installing insulation and cladding on east face of Blower Building.

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:

- Digester Area:
  - Digester 1 external pipe connections;
  - Digester 2 Pneumatic test;
  - Digester 3 Close up and make ready for hydro test;
  - Digested Solids Storage Tank external pipe connections; and
  - Digester Building mechanical and electrical is in progress.

- Other Municipal Solids Receiving Facility:
  - Electrical cable terminations are in progress.

- Residuals Handling Building:
  - electrical work continued in all areas;
  - FRP grating install is in progress;
  - FRP ducting install ongoing; and
  - overhead crane commissioning completed.

- Residuals Drying Facility:
  - mechanical installation is in progress;
  - electrical terminations continued;
  - insulation install is in progress; and
  - generator run and load test completed.

- Residuals Storage & Odour Control:
  - mechanical and electrical work is in progress;
  - FRP duct install is progressing;
  - hydro test of water storage tank was completed; and
  - chemical piping install commenced.

- Operations Building:
  - completed all architectural finishes; and
  - electrical and mechanical deficiency's being closed out.

Photographs of construction progress over the month of May at the Residuals Treatment Facility are shown in Figures 6-8.

Figure 6− Residuals Treatment Facility- Installation of fiberglass reinforced plastic ducting for odour control systems being installed as well as structural supports.

Figure 7− Residuals Treatment Facility- Installation of fire alarm systems ongoing throughout site.

Figure 8− Residuals Treatment Facility – Fire protection water system mechanical installations nearing completion in Water Pump House.

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 pipe supports, completed bypass pumping for tie-in at new inlet channel; installed fuel storage tank and exhaust fan for diesel generator; progressed work on fuelling system; and progressed work at the new public plaza and washroom.

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

- progressed civil works (saw cut/demolition);
- completed pipe supports;
- progressed drag struts;
- completed bypass pumping for 1500mm tie-in at new inlet channel;
- installed fuel storage tank and exhaust fan for diesel generator;
- progressed work on fuelling system;
- progressed civil/concrete works at existing inlet sanitary channels;
- progressed de-gritter cone/head cell works;
- progressed demolition/concrete works at new inlet channel; and
- progressed works at the new public plaza and washroom.

Photographs of construction progress over the month of May at Clover Point are shown in Figures 9-11.

Figure 9−Clover Point Pump Station- Headcell installation.

Figure 10−Clover Point Pump Station- Diesel fuel tank storage room location.

Figure 11- Clover Point Pump Station – Cable tray installation in screen & degritter 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:

- completed fiberglass reinforced plastic (FRP) platform in the wet well;
- ongoing installation of FRP platform and stairs in the pump room;
- completed installation of FRP ducting in the wet well;
- completed installation of wood siding on North side of the building;
- ongoing process piping installation in the pump room is ongoing;
- inlet fire damper in the genset room is installed;
- installation of louver on the west side of the building;
- ongoing installation of penthouse louver;
- ongoing commissioning of programmable logic control and motor control centres;
- pigging chamber outfall pipe has been received and fused;
- exposed Pigging chamber wall and cut pipe penetration opening; and
- ongoing installation of Weholite pipe to the drop structure.

Photographs of construction progress over the month of May at Macaulay Point Pump Station are shown in Figures 12-13.

Figure 12−Macaulay Point Pump Station- Wet well fiberglass reinforced plastic platform installation.

Figure 13−Macaulay Point Pump Station- Pump Room progression.

2.9.3.3 Clover Forcemain (CFM)

Windley Contracting Ltd. (“Windley” as the Construction Contractor) continued construction activities including:

- continued seawall balustrade replacement construction;
- commenced pouring new concrete wall; and
- commenced new sidewalk grading.

Photographs of construction progress over the month of May on the Clover Forcemain are shown in Figures 14-15.

Figure 14−Clover Forcemain- Curb and gutter and sidewalk prep at Dock Street and Dallas road looking west.

Figure 15−Clover Forcemain- New concrete wall replacing old balustrade wall, rebar installed for sidewalk and concrete curb delineating Cycle Track and sidewalk, Dallas Road from Dock Street looking east.

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:

- Segment #1
  - completed pipe installation and a pressure test was conducted from the north side of Tillicum Bridge to south side of Admirals Bridge (Pass).
- Segment #2**:**
  - completed air valve chamber on Grange Road; and
  - pipe leak was detected and repaired.

- Segment #3:
  - cleaned up and demobilized after base-paving around the low point drains at Interurban Road north of Quayle Road;
  - completed the installation of the relocated line valve on Interurban Road; and
  - final restoration (line painting, etc.) and deficiency repairs were completed along the Interurban Road and trail.

- Segment #4
  - final deficiencies were addressed, including sign and bollard reinstallation, soil and seed placement, etc.

Photographs of construction progress over the month of May on the Residual Solids Pipes are shown in Figures 16-18.

Figure 16− Residual Solids Pipes- Milling asphalt prior to paving on Grange Road.

Figure 17−Residual Solids Pipes- Back fill and compaction on Grange Road after coupler repair.

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Figure 18−Residual Solids Pipes -Installing plug valves at Selkirk Ave.

Residual Solids Pump Stations: Knappett Projects Inc. ("Knappett" as the Construction Contractor for the Residual Solids Pump Stations) continued construction activities including:

- Pump Station 1
  - installed odour control unit underground vent and drain piping;
  - commenced the south pipe tie in;
  - electrical crews worked on the kiosk, installed conduit, and finished items in the wet well; and
  - general backfill took place across the site.

- Pump Station 2
  - BC Hydro line was installed;
  - pressure testing continued along with associated tie ins; and
  - The odour control slab was poured.

- Pump Station 3
  - surge tank line valve was installed and the line was trenched; and
  - pressure testing and finishing items continued within the wet well and valve chamber.

- Marigold Crossing:
  - Marigold crossing was completed, with asphalt paving left to complete.

- Tillicum Bridge:
  - Pipe spools were installed along with associated deflection spools and flexible couplings; and
  - The pipe was pressure tested and passed.

- Admirals Bridge:
  - Pipe hanger installation commenced.

Photographs of construction progress over the month of May on the Residual Solids Pump Stations are shown in Figures 19-20.

Figure 19−Residual Solids Pump Stations– Marigold Road – Backfilling and compaction of pipe installed on east side of Colquitz Creek.

Figure 20 −Residual Solids Pump Stations – Tillicum Bridge pipe installed under Tillicum Bridge.

2.9.3.5 Arbutus Attenuation Tank

NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) continued construction activities including:

- completed concrete pour #4 for the tie beam;
- installed ducting from BC Hydro pole to BC Hydro meter base;
- concrete equipment pad for BC Hydro meter base formed and poured; and
- bulk excavation commenced and continued throughout the month.

A photograph of construction progress during the month of May at the Arbutus Attenuation Tank is shown in Figure 21.

Figure 21−Arbutus Attenuation Tank- Excavation continues with placement of base course gravel installed.

2.9.3.6 Trent Forcemain

Jacob Bros. Construction Inc. (as the Construction Contractor for the Trent Forcemain) progressed construction activities including:

- concrete flow through chamber stripped and backfilled;
- completed storm sewer relocation on Bushby Street;
- completed Memorial Cres and Fairfield Road watermain tie-in works; and
- commenced forcemain installation on Stannard Ave.

A photograph of construction progress during the month of May at the Trent Forcemain is shown in Figure 22.

Figure 22- Trent Forcemain – Stannard Avenue – Forcemain installation progresses.

Appendix A− Trent Forcemain: Water Service Shutdown Notice Update (May 11, 2020) (Appendix A)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

UPDATE

May 11, 2020

Trent Forcemain: Water Service Shutdown Notice

As part of construction for the Trent Forcemain, a water main is being relocated along Fairfield Road and Memorial Crescent. Connecting the new water main to the existing system requires a temporary interruption of water service between the hours of 10:00 a.m. and 2:00 p.m. on the following dates:

- Wednesday, May 13
- Thursday, May 14

If you require the use of water during these hours, we ask that you prepare prior to the shut-off time of 10:00 a.m. each day.

What to Expect

- Water service will be temporarily shut off each day from approximately 10:00 a.m. to 2:00 p.m.
- The actual duration of the shut-off will depend on the conditions encountered.
- The water may be discoloured after the water service is restored. While the water is safe for consumption, we encourage you to run the tap on cold in the tub or shower until the water runs clear.

Traffic Impacts

- Fairfield Road will have single lane alternating traffic on Wednesday, May 13.
- Memorial Crescent will have single lane alternating traffic on Thursday, May 14.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.

Work Hours

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

If you have any further questions about the water disruption, please contact the Project Team at our 24/7 phone line 1-844-815-6132.

Thank you for your patience as this work is completed. We apologize for any inconvenience this may cause.

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

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

24/7 Phone Line
1.844.815.6132

Email
wastewater@crd.bc.ca

Website
wastewaterproject.ca

Appendix B− Core Area Wastewater Discharge Notice (May 7, 2020) (Appendix B)

Making a difference...together

Public Service Announcement

For Immediate Release
May 7 2020

Core Area Wastewater Discharge Notice

Victoria, BC- Construction at the Clover Point Pump Station resulted in an unplanned wastewater discharge out the short outfall the morning of May 7, 2020. The areas affected are in the vicinity of Clover Point Park, between Cook Street and Hollywood Place. This pump station is currently undergoing upgrades related to the Wastewater Treatment Project.

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

As a precaution and in consultation with Island Health, beaches within the affected areas will be posted with public health advisory signs for one day. Due to the small amount of discharge, the advisory signs are anticipated to be removed tomorrow afternoon.

For updates, please visit www.crd.bc.ca and follow us on Twitter @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.

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For media inquiries, please contact:
Andy Orr, Senior Manager
CRD Corporate Communications
Office 250.360.3229
Cell 250.216.5492

Appendix C− Core Area Wastewater Discharge Notice (May 30, 2020) (Appendix C)

Making a difference...together

Public Service Announcement

For Immediate Release
May 30 2020

Core Area Wastewater Discharge Notice

Victoria, BC- Construction at the Clover Point Pump Station resulted in an unplanned wastewater discharge out the short outfall the night of May 29, 2020. The areas affected are in the vicinity of Clover Point Park, between Cook Street and Hollywood Place. This pump station is currently undergoing upgrades related to the Wastewater Treatment Project.

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

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 and follow us on Twitter @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.

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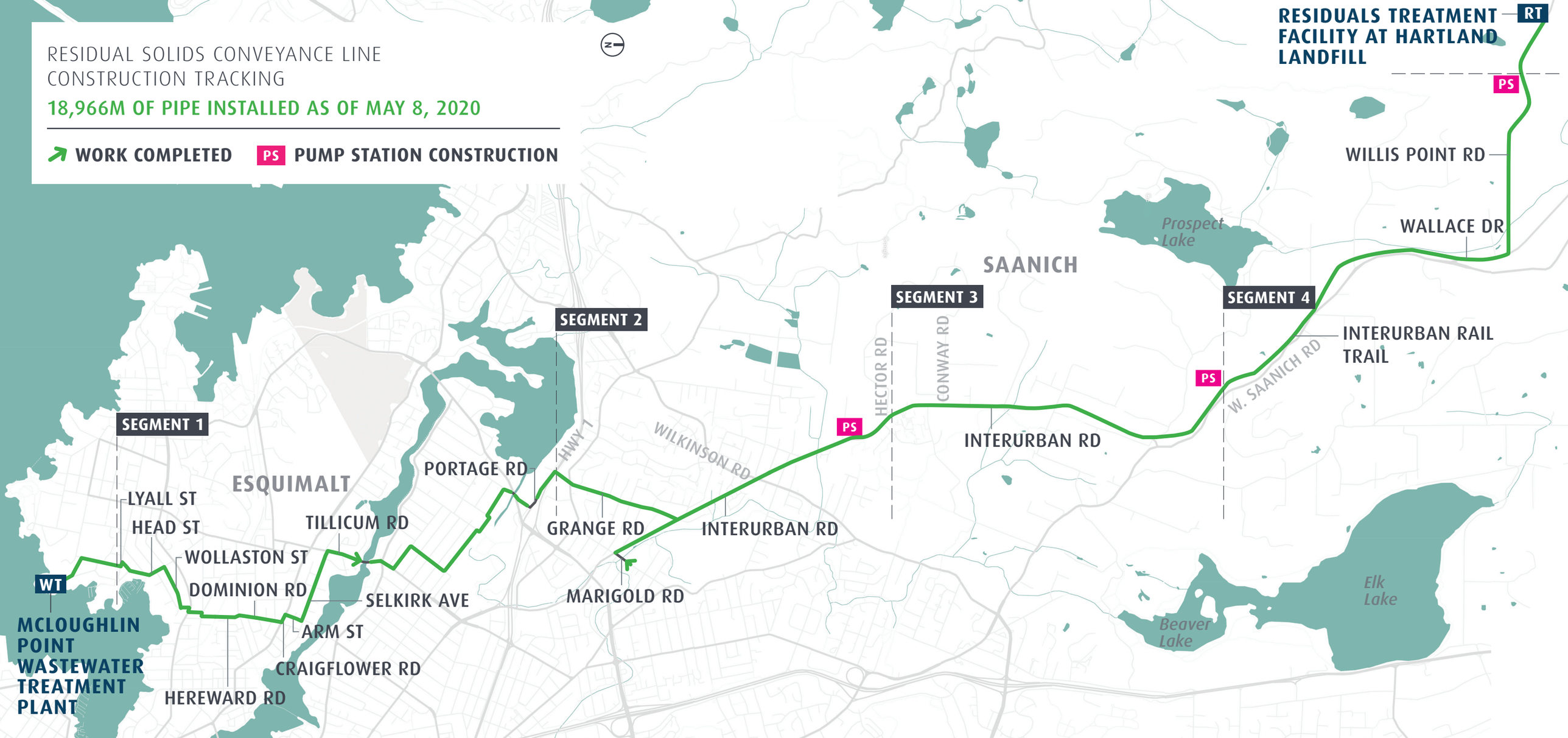
For media inquiries, please contact:
Andy Orr, CRD, Senior Manager, Corporate Communications
Office 250.360.3229 Cell 250.216.5492

Appendix D– Residual Solids Conveyance Line Map (May 8, 2020)


RESIDUAL SOLIDS CONVEYANCE LINE CONSTRUCTION TRACKING
18,966M OF PIPE INSTALLED AS OF MAY 8, 2020
WORK COMPLETED
PS PUMP STATION CONSTRUCTION
RESIDUALS TREATMENT FACILITY AT HARTLAND LANDFILL
RT
PS
WILLIS POINT RD
WALLACE DR
Prospect Lake
SAANICH
SEGMENT 4
SEGMENT 3
SEGMENT 2
SEGMENT 1
INTERURBAN RAIL TRAIL
W. SAANICH RD
HECTOR RD
CONWAY RD
INTERURBAN RD
WILKINSON RD
HWY 1
PORTAGE RD
GRANGE RD
INTERURBAN RD
MARIGOLD RD
ESQUIMALT
LYALL ST
HEAD ST
TILLICUM RD
WOLLASTON ST
DOMINION RD
SELKIRK AVE
ARM ST
CRAIGFLOWER RD
HEREWARD RD
WT
MCLOUGHLIN POINT WASTEWATER TREATMENT PLANT
Beaver Lake
Elk Lake

Appendix E− Monthly Cost Report (May)

MONTHLY COST REPORT
as at May 31, 2020

Description	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to April 30, 2020	Expended over reporting period (May 2020)	Expended to May 31, 2020	Expended to May 31, 2020 as a % of Allocated Budget	Remaining (Unexpended) Allocated Budget at May 31, 2020	Total Committment at May 31, 2020	Unexpended Commitment at May 31, 2020	Uncommitted Allocated Budget at May 31, 2020	Forecast to Complete	Forecast at Completion	Variance at Completion $	Variance at Completion as a % of Allocated Budget
McLoughlin Point Wastewater Treatment Plant	**331.4**	**328.1**	**288.1**	**5.8**	**293.8**	**90%**	**34.3**	**321.1**	**27.3**	**7.0**	**34.3**	**328.1**	**-**	**0%**
Construction	306.7	321.0	287.5	5.8	293.3	91%	27.7	320.5	27.2	0.5	27.7	321.0	-	0%
Contingency	14.9	0.2	-	-	-	0%	0.2	-	-	0.2	0.2	0.2	-	0%
Financing	9.8	6.9	0.6	-	0.6	8%	6.3	0.7	0.1	6.2	6.3	6.9	-	0%
Residuals Treatment Facility	**159.4**	**139.8**	**10.6**	**0.2**	**10.9**	**8%**	**128.9**	**138.8**	**127.9**	**1.0**	**128.9**	**139.8**	**-**	**0%**
Construction	145.4	138.8	10.6	0.2	10.9	8%	127.9	138.8	127.9	0.0	127.9	138.8	-	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	2%	0.8	0.0	0.0	0.8	0.8	0.8	-	0%
Conveyance System	**158.1**	**215.9**	**155.0**	**6.0**	**160.9**	**75%**	**55.0**	**194.8**	**33.9**	**21.1**	**55.0**	**215.9**	**-**	**0%**
Macaulay Point Pump Station	25.4	30.8	26.2	0.7	26.9	87%	3.9	30.8	3.9	0.0	3.9	30.8	-	0%
Macaulay Forcemain	5.6	7.4	6.6	0.8	7.4	99%	0.1	7.4	0.1	-	0.1	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	0.1	24.7	91%	2.6	27.2	2.5	0.1	2.6	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	11.8	0.4	12.2	50%	12.3	23.1	10.9	1.4	12.3	24.6	-	0%
Clover Forcemain	14.6	32.5	29.0	0.2	29.2	90%	3.3	31.9	2.7	0.6	3.3	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	1.2	0.5	1.7	15%	9.6	8.1	6.4	3.2	9.6	11.3	-	0%
Residual Solids Conveyance Line	19.1	36.1	31.7	2.1	33.8	94%	2.3	36.0	2.2	0.1	2.3	36.1	-	0%
Residual Solids Pump Stations & Bridge Crossings	4.6	18.3	10.5	1.2	11.7	64%	6.6	16.9	5.1	1.4	6.6	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	-	0%
Financing	5.8	4.1	0.3	-	0.2	6%	3.8	0.3	0.1	3.7	3.8	4.1	-	0%
Project Management Office ("PMO")	**75.8**	**77.9**	**54.8**	**1.0**	**55.8**	**72%**	**22.0**	**69.4**	**13.5**	**8.5**	**22.0**	**77.9**	**-**	**0%**
Project costs Aug 2016-Dec 2016	2.2	2.2	2.2	-	2.2	100%	-	2.2	-	-	-	2.2	-	0%
Owner's Engineering	17.2	17.5	13.7	0.4	14.1	81%	3.4	17.5	3.4	-	3.4	17.5	-	0%
Conveyance Design	5.0	9.5	7.4	0.2	7.6	80%	1.9	8.4	0.8	1.1	1.9	9.5	-	0%
Advisors & Professional Support	7.0	15.0	10.1	0.1	10.2	68%	4.8	11.4	1.2	3.6	4.8	15.0	-	0%
Project Board	2.0	1.3	0.9	0.0	0.9	71%	0.4	0.9	-	0.4	0.4	1.3	-	0%
Project Board Expenses	0.3	0.1	0.1	-	0.1	64%	0.0	0.1	-	0.0	0.0	0.1	-	0%
Project Team	29.1	23.1	15.6	0.3	15.9	69%	7.2	22.8	6.9	0.3	7.2	23.1	-	0%
Project Team Expenses	1.2	0.5	0.3	-	0.3	60%	0.2	0.3	-	0.2	0.2	0.5	-	0%
CRD Financial Services	1.5	1.4	0.9	0.0	0.9	64%	0.5	1.4	0.5	-	0.5	1.4	-	0%
CRD Human Resources	0.3	0.3	0.2	0.0	0.2	85%	0.0	0.3	0.0	-	0.0	0.3	-	0%
CRD Corporate Communications	0.2	0.2	0.2	-	0.2	86%	0.0	0.2	0.0	-	0.0	0.2	-	0%
CRD Real Estate	0.3	0.3	0.2	-	0.2	88%	0.0	0.3	0.0	-	0.0	0.3	-	0%
CRD Information Technology	0.4	0.4	0.3	0.0	0.3	68%	0.1	0.4	0.1	-	0.1	0.4	-	0%
CRD Insurance	0.1	0.0	0.0	-	0.0	100%	-	0.0	-	-	-	0.0	-	0%
CRD Operations	0.6	0.6	0.5	0.0	0.5	81%	0.1	0.6	0.1	-	0.1	0.6	-	0%
CRD Legislative Services	0.1	0.1	0.1	-	0.1	100%	-	0.1	-	-	-	0.1	-	0%
CRD Corporate Safety	0.2	0.2	0.2	-	0.2	100%	-	0.2	-	-	-	0.2	-	0%
CRD Executive Services	-	0.1	0.1	-	0.1	71%	0.0	0.1	0.0	-	0.0	0.1	-	0%
Office Lease	1.5	1.3	0.8	0.0	0.8	65%	0.4	1.2	0.4	0.1	0.4	1.3	-	0%
Office Supplies, Communications & Vehicles	1.2	0.7	0.5	0.0	0.5	79%	0.2	0.5	0.0	0.1	0.2	0.7	-	0%
Computer Hardware, Software & Training	1.0	1.1	0.6	-	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%
BC Hydro	**12.9**	**4.3**	**2.0**	**-**	**2.0**	**48%**	**2.3**	**2.1**	**0.0**	**2.2**	**2.3**	**4.3**	**-**	**0%**
Third Party Commitments	**8.1**	**8.1**	**3.8**	**0.1**	**3.9**	**47%**	**4.3**	**6.8**	**2.9**	**1.3**	**4.3**	**8.1**	**-**	**0%**
Program Reserves	**19.2**	**0.9**	**-**	**-**	**-**	**0%**	**0.9**	**-**	**-**	**0.9**	**0.9**	**0.9**	**-**	**0%**
Core Area Wastewater Treatment Project	**765.0**	**775.0**	**514.3**	**13.0**	**527.3**	**68%**	**247.6**	**733.0**	**205.6**	**42.0**	**247.6**	**775.0**	**-**	**0%**

* Values presented in $millions, results in minor rounding differences
** Cost report presents approved expenditures
^ Component no longer required, and would not provide any value therefore removed from Project Scope; Costs include Seaterra initiation, planning and design