



CORE AREA WASTEWATER TREATMENT PROJECT BOARD
Notice of a Meeting on **Thursday, October 25, 2018 at 9:00 a.m.**
Room 488, 4th floor, 625 Fisgard Street, Victoria, BC

Don Fairbairn (Chair)
Bob Lapham

Brenda Eaton (Vice-Chair)
Colin Smith

Dana Hayden
Tim Stanley

David Howe

AGENDA

1. Approval of Agenda and Statement of No Conflict

Motion:

That the Agenda be approved.

2. Safety Minute

3. Approval of the September 26, 2018 Meeting Minutes.

Motion:

That the minutes of the September 26, 2018 meeting be approved.

4. Report of the Chair

5. Presentations/Delegations

6. Project Board Business

- 6.1. Staff Report for Information: Wastewater Treatment Project Quarterly Report – Q3 – July to September 2018

Motion:

That the Staff Report, Wastewater Treatment Project Quarterly Report – July to September, 2018 be received for information and forwarded to the Core Area Liquid Waste Management Committee and CRD Board for information.

7. Correspondence

8. New Business

- 8.1. Confirmation of upcoming Meeting Dates:

- Next Project Board Meeting: **Monday**, November 26, 2018
- Next Core Area Liquid Waste Management Committee Meeting: TBD (2019)

9. Motion to Close the Meeting

Motion:

That the Core Area Wastewater Treatment Project Board meeting be closed in accordance with the Community Charter, **Part 4, Division 3, 90(1) (m)** a matter that, under another enactment, is such that the public may be excluded from the meeting.

10. Adjournment

To ensure quorum, advise Rachel Mattiuz 250.360.3267 if you are unable to attend.



**Minutes of a Meeting of the Core Area Wastewater Treatment Project Board
Held Wednesday, September 26, 2018 in Room 488, 625 Fisgard Street, Victoria, BC**

Members: D. Fairbairn (Chair); B. Eaton (Vice Chair); D. Hayden; D. Howe; R. Lapham;
C. Smith; T. Stanley;

CRD Staff: D. Clancy, Project Director, E. Scott, Deputy Project Director; R. Mattiuz (recorder)

The meeting was called to order at 9:05 a.m.

1. Approval of Agenda and Statement of No Conflict
The members stated they had no conflict with the agenda items.

MOVED by C. Smith, **SECONDED** by B. Eaton,
That the agenda be approved as circulated.

CARRIED

2. Safety Moment
D. Clancy provided the safety moment "The Great Shakeout 2018" relating to earthquake safety and the annual province-wide earthquake drill scheduled for October 18.

3. Approval of the July 26, 2018 Meeting Minutes

MOVED by D. Howe, **SECONDED** by B. Eaton,
That the minutes of the July 26, 2018 meeting be approved.

CARRIED

4. Report of the Chair

The Chair reported the following:

It is a busy time for everyone both personally and Project-related as the season shifts from summer to fall with family responsibilities and the transition of the many components of the Project from procurement phase into construction phase.

5. Presentations/Delegations:
There were no presentations or delegations.

6. Confirmation of upcoming Project Board Dates

Thursday, October 25, 2018
Monday, November 26, 2018
Thursday, January 31, 2019
Thursday, February 28, 2019
Thursday, March 28, 2019
Friday, April 26, 2019

Friday, May 31, 2019
Thursday, June 27, 2019
Thursday, July 25, 2019
Monday, September 30, 2019
Thursday, October 31, 2019
Tuesday, November 26, 2019

MOVED by D. Hayden, **SECONDED** by B. Eaton,
That the above-noted Project Board meeting dates be approved.

CARRIED

7. Project Board Business

7.1. Staff Report for Information: Wastewater Treatment Project Monthly Report – July 2018

MOVED by D. Hayden, **SECONDED** by T. Stanley,
That the Staff Report, Wastewater Treatment Project Monthly Report – July 2018, be received for information and forwarded to the Core Area Liquid Waste Management Committee and CRD Board for information.

CARRIED

7.2. Staff Report for Information: Wastewater Treatment Project Monthly Report – August 2018

D. Clancy and E. Scott provided a summary presentation of the August monthly report including:

- safety performance, including an outline of four incidents that occurred over the reporting period and confirmed the Project protocol, investigation and classification of safety incidents on the construction sites;
- cost management, forecast and budget expenditures;
- changes in the status of key permits;
- construction activities; and
- communications and engagement activities.

Discussion ensued on safety management, contingency, reserve and the process of reporting on contingency draws.

MOVED by T. Stanley, **SECONDED** by R. Lapham,
That the Staff Report, Wastewater Treatment Project Monthly Report – August 2018, be received for information and forwarded to the Core Area Liquid Waste Management Committee and CRD Board for information.

CARRIED

7.3. Staff Report for Approval –Project Management Plan (PMP)

E. Scott reviewed the Project Management Plan, noting the Project Team have been implementing the approaches laid out in the PMP and refining the PMP, since the start of 2017. The PMP is being brought forward to the Project Board for formal review and approval at this time but the Project Team has been coordinated in its implementation of the approaches outlined and general Project chartering sessions have been held to achieve this.

Discussion ensued and the Project Board confirmed the Project scope.

MOVED by C. Smith, **SECONDED** by T. Stanley,
That the Staff Report, Project Management Plan be approved.

CARRIED

Minutes – September 26 2018
Core Area Wastewater Treatment Project Board

8. Correspondence

9. New Business

9.1. Confirmation of upcoming Meeting Dates:

- Next Project Board Meeting: Thursday, October 25 2018
- Next Core Area Liquid Waste Management Committee Meeting: October 10, 2018

10. Motion to Close the Meeting

MOVED by D. Hayden, **SECONDED** by T. Stanley,

That the Core Area Wastewater Treatment Project Board meeting be closed in accordance with the Community Charter, **Part 4, Division 3, 90(1) (m)** a matter that, under another enactment, is such that the public may be excluded from the meeting.

CARRIED

11. Adjournment

The Project Board moved to closed session at 10:30 a.m.

The Project Board rose from its closed session at 11:35 a.m. without report.

On motion the meeting adjourned at 11:45 am.

CHAIR

RECORDER



**REPORT TO CORE AREA WASTEWATER TREATMENT PROJECT BOARD
MEETING OF THURSDAY, OCTOBER 25, 2018**

SUBJECT **Wastewater Treatment Project Quarterly Report – July to September 2018**

ISSUE

To Provide the Core Area Wastewater Treatment Project Board with the Quarter 3 Report for July to September 2018.

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.

The Business Case established the CAWTP control budget (the Control Budget) of \$765 million.

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 July to September 2018 is attached as Appendix A.

RECOMMENDATION

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

Core Area Wastewater Treatment Project Board – October 25, 2018
Wastewater Treatment Project Quarterly Report – July to September 2018

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RESOLVED that:

The Staff Report, Wastewater Treatment Project Quarterly Report – July to September 2018, 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 Quarterly Report – July to September 2018

ES:rm



Wastewater Treatment Project

Treated for a cleaner future

CRD Wastewater Treatment Project

Quarterly Report

Reporting Period: July - September 2018

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1. Executive Summary

1.1. Introduction

This quarterly report covers the reporting period of July through September 2018, and outlines the progress made on the Wastewater Treatment Project over this time.

The Wastewater Treatment Project (the “Project”) includes three main components (the “Project Components”): the McLoughlin Point Wastewater Treatment Plant (the “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.

Overall the Wastewater Treatment Project progressed as planned and the Project remains on-schedule to meet the provincial and federal regulations for treatment of the Core Area’s wastewater by December 31, 2020. Over the reporting period some refinements were made to individual components’ construction start and completion dates (see section 2.6 for details), and the Project schedule will continue to be optimized as the Project and planning progresses.

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

The RTF Project Component is continuing with Hartland Resource Management Group (“HRMG” as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) progressing planning and permitting, design engineering activities, and vendor selection. Construction activities over the reporting period included drilling, rock blasting, excavation, rock crushing, and backfilling.

The Conveyance System is anticipated to be delivered through eight construction contracts: two design-build contracts and six 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 planning, design and construction activities over the reporting period, including: completing installation of secant piles and tie-backs; excavation to pump room elevation; installation of flagging on powerlines and of wood lagging for the soldier pile wall; tie-back performance testing; and commenced excavation of a new storm/sanitary wet well.
- Macaulay Point Pump Station and Forcemain: Kenaidan Contracting Ltd. (“Kenaidan” as the Design-Build Contractor) progressed planning, design and construction activities over the reporting period, including: demolition of the existing workshop, laboratory and exterior concrete walls; installation of new duct bank for relocation of transformer and generator; completion of the temporary bin



room including concrete base slab, structure framework and installation of conveyors; and commenced excavation of the building footprint to bedrock.

Progress on the design-bid-build Conveyance System contracts over the reporting period included:

- Clover Forcemain: The Request for Proposals (RFP) closed in July and proposals were received and evaluated. Windley Contracting Ltd. was selected and the contract was awarded in September. Mobilization and construction activities are expected to begin in October 2018.
- Residual Solids Conveyance Line (“RSCL”): The RSCL will be delivered through three contracts, with work progressing as follows:
 - RSCL100: Residual Solids Pipes: The request for proposals (RFP) was issued in July and closed in August. The Project Team evaluated the proposals.
 - RSCL 200: Residual Solids Pumps: Parsons (as the Design Consultant) progressed planning and design activities including furthering design deliverables The Project Team issued a request for qualifications (RFQ) in August to pre-qualify contractors for construction of the work. The request for qualifications (RFQ) closed in September.
 - RSCL 300: Saanich Infrastructure Improvements: The Project Team will be arranging a detailed design kick-off meeting with Parsons (as the Design Consultant) and the District of Saanich before year end.
- Arbutus Attenuation Tank: KWL (as the Design Consultant for the Arbutus Attenuation Tank), continued to finalize the drawings and specifications for the Arbutus Attenuation Tank by progressing the final (100%) design deliverable; and completing the submission to District of Saanich for building permit.



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.

Two changes were made to the dashboard over the reporting period as follows:

- **Safety:** the safety KPI for the Conveyance System was changed from green to yellow in August, as there was a recordable safety incident at the Clover Point Pump Station site. Corrective action has been identified and implemented; and
- **Cost:** the cost KPI for the Conveyance System was changed from yellow to orange in August. Cost pressures experienced on multiple Conveyance procurements as a result of inflation in the Vancouver Island construction market has resulted in budget pressures. Corrective action has been identified and implemented, however further action is anticipated to be required to maintain the Control 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*.					One recordable incident occurred at the Clover Point Pump Station site over the reporting period. Corrective action has been identified and implemented. Site inspections are ongoing.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction					No environmental issues.
Regulatory Requirements	Deliver the Project such that the Core Area complies with provincial and federal wastewater regulations.					No regulatory issues.
Stakeholders	Continue to build and maintain positive relationships with First Nations, local governments, communities, and other stakeholders.					Engagement activities were ongoing in the reporting period. Significant efforts were made to provide accurate and timely information to stakeholders.
Schedule	Deliver the Project by December 31, 2020.					No schedule issues
Cost	Deliver the Project within the Control Budget (\$765 million).					Project expenditures within Control Budget but cost pressures experienced on multiple Conveyance procurements as a result of inflation in the Vancouver Island construction market. Corrective action has been identified and is being implemented (see Section 2.7 for details), but further action is anticipated to be required to maintain the Control 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 summarised in Table 2. The total recordable incident frequency (TRIF) for the reporting period, inclusive of Project Contractors and Project Management Office (PMO) staff was one.

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

Over the reporting period seven safety-related incidents occurred across the four active construction sites: three report only incidents, three first aid incidents and one medical aid incident which resulted in the Project's first recordable incident.

A number of the incidents occurred at the Residuals Treatment Facility site. The Project Team in cooperation with HRMG have investigated each of the incidents and are working to ensure that the appropriate safety training and oversight is in place and safety plans and procedures are adhered to by all staff on the site. HRMG's senior site management fully understand the importance of a comprehensive safety program and culture and are committed to ensuring that is achieved.

On July 26, 2018 a report only incident occurred when an excavator operator for a subcontractor to HRMG was clearing a blast area at the RTF site. While moving blasted materials with the excavator, the operator heard a loud bang under his excavator bucket. The operator stopped the task, shut off the machine and reported to the site office. A visual check was performed by the blasting company which determined that one of the blasting caps used for the earlier blasting activity had not detonated. The detonator involved had been intended to operate as a secondary safety measure to ensure the actual charges were fully detonated. This is considered a very rare occurrence and the potential for damage or harm is low.

Corrective action with respect to the incident was taken; after a blast occurs and the area has been inspected and cleared to be safe, the blasting contractor will conduct a walkthrough of the area to see if any blasting caps are visible within the blast rubble. If any caps appear to be intact the blasting contractor will follow their approved procedures to ensure the cap is detonated safely.

On August 2, 2018 a report only incident occurred at the RTF site. A loaded 30 tonne articulated rock truck was being backed into the designated dumping area at the stockpile at the south east corner of the site. During the backing up process the driver checked the vehicle's mirrors to ensure that a flat surface was being maintained to keep the load balanced. He began to dump the load of rock and the box of the truck began to tip. The driver immediately tried to retract the box, however it had already spilled its load of rocks as the truck was designed to provide safety for the operator and for the machine so that in soft ground conditions if the box is off balance it will not tip the cab over with it.



Corrective actions with respect to the incident were taken. The root cause of the incident was threefold:

- poor layout of the stockpile;
- operator error in attempting to dump when conditions were not proper to do so; and
- possible equipment failure.

The truck was immediately tagged “out of service” prior to inspection for any damage. A rubber pad on the #2 axel was replaced allowing the truck to return to service. Although the driver recognized that the conditions were not ideal to dump the contents of the box, this had not been reported to the supervisor. Therefore the driver underwent further safety training on the unloading of materials and recognizing site conditions along with appropriate reporting requirements. The stockpile layout for dumping material was redesigned to ensure trucks have a larger level area to use when backing up and unloading material.

On August 8, 2018 a first aid incident occurred at the Macaulay Point site. A ten foot high scaffold system was erected by a subcontractor to Kenaidan. This scaffold was used to access and secure cables located at ceiling height to allow for the shutdown and relocation of a transformer. The scaffolding was erected with handrails placed on all four sides to enclose the working deck of the scaffold system. Later in the day the handrails on the scaffolding were removed due to limited space around existing piping that was restricting access to complete the work. A worker on the scaffolding securing the cables lost his balance and fell backwards off the scaffolding. The worker fell approximately 2.4 meters from the working deck. The worker reported to the site supervisor with lower back and leg pain. As a precautionary measure the injured worker was sent to a physician for an additional assessment in which no further treatment was required. The worker resumed regular duties the following day.

Corrective actions with respect to the incident were taken as follows:

- scaffold system was tagged “out of service” and dismantled the day after the incident;
- work area was cordoned off to keep unauthorized personnel out of area due to overhead hazards and limited work area;
- Chinook Scaffolding was contracted to erect proper scaffolding in task areas as well as any modifications to be performed to facilitate work;
- scaffolding inspection checklists were provided to workers to complete prior to working from any scaffolding systems;
- safe work practice review taken with workers on scaffolding and fall protection;
- field level risk assessment card review training on how to identify all hazards associated with task and control measures that will be put into place to reduce or eliminate hazards;
- rigging, slinging and hoisting procedures were reviewed with workers;
- prime contractor and subcontractor supervisor reviewed inspection procedures, incident reporting, worker competency and regulatory requirements for scaffolding; and
- a safety notice was distributed to CRD and prime contractors with regards to the incident and outlined corrective actions taken to prevent recurrence on any project sites.



On August 10, 2018 a first aid incident occurred involving a mechanic subcontractor performing maintenance work to a water truck at the RTF site. The mechanic was tightening a loose bolt with a wrench and the wrench slipped from his grasp causing him to pinch his finger against a solid surface. The mechanic reported the incident to onsite first aid. A function test was performed on the finger and it was determined that no further first aid was needed and the mechanic returned to work.

A corrective action was taken with respect to the incident. As the cause of the incident was improper use of a tool, a review of the procedure followed and an instruction to perform this task in a slower, more controlled motion was given.

On August 27, 2018 a recordable medical aid incident occurred at the Clover Point Pump Station site. Two subcontractor workers were moving a timber to install as lagging on the soldier pile wall. The worker at ground level (the "groundsman") was pushing one end of a ten foot long timber up to his coworker that was positioned at a higher elevation on the opposite side of the wall in order to guide it into position. When the groundsman lifted up the timber to slide it onto existing lagging, a board directly beneath the timber slipped from the existing wall and pinched the groundsman's left index finger. The worker received a crush injury to his finger which split the skin open. Both workers reported the incident to the onsite supervisor. It was determined that the finger would require medical attention and the worker was taken to the hospital for treatment. X-rays of the finger were taken that showed a hairline fracture and stitches were needed to close the open wound. The worker returned to the subcontractor head office to participate in their modified duty program. The worker is not required to have additional treatment for his finger injury. A review of lifting and placing procedures was also undertaken.

Corrective actions were taken with respect to the incident. The timber that slipped had not been properly secured. Every fourth timber is now secured in the pile wall using lag bolts to prevent any timbers from being able to move. Additionally, the crew is to backfill lagging as soon as possible to avoid further movement of boards and also to ensure all nails installed in the timber lagging are tight up against the steel beams.

On September 12, 2018 a first aid incident occurred at the RTF site. A subcontractor worker was moving de-watering equipment at the excavation site. The worker picked up one end of a two inch hose and while moving it lost his balance jarring his hip and back. The worker reported to the onsite first aid station to report the incident and for an assessment as he was experiencing some discomfort in the hip and back area.

Corrective actions with respect to the incident were taken. A review of the activity was performed and training on the proper lifting and movement of equipment was undertaken with the worker.

On September 25, 2018 a report only incident occurred at the RTF site. An equipment operator was excavating some material midway down an excavated slope when material broke free from the excavator bucket causing a boulder that was in the process of being relocated to roll uncontrolled down the bank. No other workers or equipment were in the area where the excavation was taking place.

Corrective actions with respect to the incident were taken. A toolbox talk was performed with the crew to remind them that any slope work being performed cannot have workers or equipment below the work area and when excavating on any slope the machine bucket



is to be fully underneath material to catch any loose debris or boulders that have a chance of breaking free.

In July, key safety activities included:

- regular site tours performed at all active sites;
- daily site visits at Macaulay site to confirm all site safe work plans are being reviewed and followed;
- bi-weekly HRP and CRD management site safety tour at McLoughlin Point site;
- monthly office/site inspections with contractors and CRD Corporate at all active sites;
- monthly communication meeting with WTP Safety Manager and CRD Corporate Safety Manager;
- office safety orientation for new staff;
- safety orientation for CRD WTP staff and hazard assessment review for Macaulay site;
- review safety expectations with new safety representative for HRMG at RTF site;
- demolition activity reviews at Macaulay site;
- HRMG Site Safety Plan, Emergency Response Plan and first aid assessment reviews;
- periodic blasting and rock crushing safety reviews at the RTF;
- prime contractor three week lookahead reviews to ensure safety compliance is being addressed with upcoming activities;
- review of HRP's new blasting plan;
- attended HRMG site blasting plan review with the Hartland Landfill's blasting contractor;
- equipment inspection document review;
- incident reporting review with prime contractors at active work locations; and
- inspections, toolbox talk and safe work procedures document review at each active worksite.

In August, key safety activities included:

- review document submissions from prime contractors;
- review of site specific safety plans and high risk tasks;
- CRD prime contractor orientation for new supervisor (Kenaidan);
- WTP Safety Manager and/or Construction Manager conducted regular site inspections at all active Project work sites and daily inspections and Macaulay and Clover Point;
- monthly office/site inspections with prime contractors and CRD Corporate at all active sites;
- monthly communication meeting with WTP Safety Manager and CRD Corporate Safety Manager;
- weekly project update meetings with HRP;
- traffic management plan reviews for Clover Point Pump Station (HRP);
- incident reporting review with prime contractors at active work locations;
- participated in WorkSafeBC tour with prime contractor and Hartland CRD representatives at the RTF project site; and
- organized prime contractor monthly safety meetings with CRD.

In September, key safety activities included:



- reviewed prime contractor safety program for Clover Forcemain site;
- new contractor (Ryzuk) CRD safety orientation;
- silica plan revision 1 review for RTF site;
- blasting plan reviews for Macaulay and Clover Point projects;
- periodic blasting/silica exposure plan reviews at RTF site;
- set up office warden training for new designate;
- set up monthly safety meeting for all prime contractor safety personnel on the WTP;
- WTP Safety Manager and/or Construction Manager conducted daily site tours to Macaulay and Clover sites and regular site inspections at remaining active sites;
- develop monthly summary for CRD Corporate Safety Manager in regards to Project activities;
- monthly office/site inspections with contractors and CRD Corporate at all active sites;
- monthly communication meeting with WTP Safety Manager and CRD Corporate Safety Manager;
- incident reporting review with prime contractors at active work locations; and
- sent out safety notices to prime contractors on scaffolding safety and a fall protection recall notice on retractable lifelines.



Table 2 – WTP Safety Information

	Reporting Period (Q3 2018)	Project Total to-Date (from January 1, 2017)
Person Hours		
PMO	14,007	74,952
Project Contractor	55,617	257,177
Total Person Hours	69,623	332,128
Employees		
PMO	36	
Project Contractors working on Project sites	104	
Total Number Of Employees	140	
Incidents		
Near Miss Reports	0	8
High Potential Near Miss Reports	0	2
Report Only	3	5
First Aid	3	5
Medical Aid	0	0
Medical Aid (Modified Duty)	1	1
Lost Time	0	0
Total Recordable Incidents	1	1
	2018 Frequency (from January 1, 2018)	Project Frequency (from January 1, 2017)
First Aid Frequency		3.0
Medical Aid Frequency		0.6
Lost Time Frequency		0
Total Recordable Incident Rate		0.6



2.2. Environment and Regulatory Management

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

2.2.1. Environment

Environmental work progressed as planned over the reporting period. Work focused on environmental studies and reviewing contractors' and design consultants' environment-related submittals.

Key environmental management activities in July included:

- HRMG (as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) completed soil tests in support of soil disposal documentation requirements. Preliminary test results indicated that there may be some heavy metal contamination (due to bedrock qualities, rather than anthropogenic causes); and
- members of the PMO team accompanied CRD staff to observe marine water quality monitoring activities.

Key environmental management activities completed in August included:

- HRMG continued with soil tests in support of soil disposal documentation requirements. Test results indicated that there may be some heavy metal contamination, however, additional testing is required to validate results; and
- HRP (as the Design-Build Contractor for the McLoughlin Point WWTP), Stantec and the CRD continued advancing the MWR Registration. The focus of that work is on updating the Marine Environmental Impact Study (EIS) to address BC Ministry of Environment and Climate Change Strategy (ENV) comments that arose from their review.

Key environmental management activities completed in September included:

- Millennia Research (as the Project's archaeological advisor) began planning pre-construction archaeological excavations along the Clover Forcemain Route. The purpose of the archaeological excavations is to recover archaeological data, as legislated by the Heritage Conservations Act; and
- planning for a new dispersion model simulation of discharges from the outfalls at McLoughlin, Macaulay and Clover Points was initiated. The new dispersion model simulation is being completed in response to a request from the BC Ministry of Environment and Climate Change Strategy (ENV) following their review of the McLoughlin Point Outfall Environmental Impact Study.

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 the reporting period involved supporting HRP (as the Design-Build Contractor for the McLoughlin Point WWTP), Kenaidan (as the Design-Build



Contractor for the Macaulay Point Pump Station and Force-main), Kerr Wood Leidal (as the Design Consultant for the Clover Force-main and the Arbutus Attenuation Tank) and Parsons (as the Design Consultant for the RSCL) in the development of permit applications; engaging with the provincial and federal governments in support of obtaining key permits (summarized in Table 3); continuing to advance the MWR Registration, supporting HRMG in the development of an Operational Certificate application, and planning for future permit applications.

In July, key regulatory activities included:

- HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) received a Notice from the Director to Construct under Section 40 (b) of the MWR, authorizing construction of the McLoughlin Outfall;
- HRMG (as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) met with District of Saanich to discuss municipal permitting requirements; and
- HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) continued working with federal regulators to obtain outfall-related construction permits, approvals and authorizations.

In August, key regulatory activities included:

- HRMG (as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) and CRD met to review HRMG's draft Information Requirements Table (IRT) and to discuss planning of HRMG's Operational Certificate application. The IRT forms the basis of the Operational Certificate application; and
- HRP and CRD met with Fisheries and Oceans Canada (DFO) to receive an update on DFO's review of the application for a Fisheries Act Authorization for outfall construction.

In September, key regulatory activities included:

- HRMG and CRD met with ENV to discuss the IRT and terms of reference for HRMG's Operational Certificate application.

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

Updates to Table 3 from that were presented in the Project's Q2 2018 Quarterly Report are bolded in Table 3 and are as follows:

i) related to the McLoughlin Point WWTP:

- Township of Esquimalt Building Permit (Phase 2) has been received.

ii) related to the McLoughlin Point Outfall:

- Notice from the Director to Construct under section 40(b) of the MWR has been received.

iii) related to the Macaulay Point Pump Station:

- removed Township of Esquimalt Development Permit from the table as it was received in the last reporting period;



- added details about the phased Township of Esquimalt Building Permit approach; and
 - removed Notice from the Director to Construct under section 40(b) of the MWR from the table as it was received in the last reporting period.
- iv) related to the Clover Forcemain:
- removed Notice from the Director to Construct under section 40(b) of the MWR from the table as it was received in the last reporting period.
- v) related to the RSCL:
- removed Notice from the Director to Construct under section 40(b) of the MWR from the table as it has been received in the last reporting period.



Table 3- Key Permits Status

Permit / Licence	Anticipated Date	Status	Party Responsible for Obtaining Permit
<i>McLoughlin Point WWTP</i>			
Township of Esquimalt Phased Building Permits (Phase 1 obtained; Phase 2 submitted and anticipated in Q3 2018)	Q3 2018	Received	HRP
Municipal Wastewater Regulation ("MWR") Registration	Q4 2019	On track	CRD
<i>McLoughlin Point Harbour Crossing</i>			
Transport Canada Lease	Following completion of construction	On track	HRP
<i>McLoughlin Point Outfall</i>			
Fisheries and Oceans Canada (DFO) Fisheries Act Authorization	Q3 2018	Submitted: under review by DFO	HRP
Transport Canada Facility Alteration Permit	Q3 2018	Submitted: under review by Transport Canada	HRP
Transport Canada Licence (works access)	Q3 2018	Submitted: under review by Transport Canada	HRP
Transport Canada Lease	Following completion of construction	On track	HRP
Notice from the Director to Construct under Section 40 (b) of the MWR	Q3 2018	Received	HRP
<i>Macaulay Point Pump Station Upgrade</i>			
Township of Esquimalt Phased Building Permits (Phase 1 received; Phase 2 anticipated for submission Q4 2018)	Phase 1 - Q3 2018 Phase 2 – Q4 2018	Phase 1 received Phase 2 on track	Kenaidan
<i>ECI/Trent Twinning</i>			
Notice from the Director to Construct under Section 40 (b) of the MWR	Q4 2018	On track	Design engineer
City of Victoria Licence (works access)	Q1 2019	On track	Design engineer
<i>Arbutus Attenuation Tank</i>			
Notice from the Director to Construct under Section 40 (b) of the MWR	Q3 2018	On track	Kerr Wood Leidal
District of Saanich Building Permit	Q3 2018	On track	Kerr Wood Leidal
<i>Residuals Treatment Facility</i>			
Operational Certificate	Prior to start of RTF operations	On track	HRMG
District of Saanich Development and Building Permits	Q3 2018	On track	HRMG



2.3. First Nations

First Nations communication and engagement was ongoing over the reporting period. The CRD First Nations Relations Division worked with the Project's Environmental, First Nations and Regulatory Manager to advance consultation and reporting in support of federal and provincial permit applications.

In July, the PMO, CRD First Nations Relations Division and the Songhees and Esquimalt Liaisons continued meeting and advancing work in areas of shared interest. This included planning around signage for various Project components and management of archaeological materials during and after construction.

The Esquimalt and Songhees Liaisons sought approval from their respective leadership groups for the movement of archaeological soils from the construction of Clover Forcemain to Clover Point Park. This relocation would require the City of Victoria's approval.

In August, the PMO, CRD First Nations Relations Division and the Songhees and Esquimalt Liaisons continued meeting and advancing work in areas of shared interest. This included planning of an archaeological training day for members of the Esquimalt and Songhees communities. This training will be used to identify members of the communities who are interested in participating in cultural monitoring of construction activities in registered archaeological sites and in areas of high archaeological potential.

In September the Project Team made a presentation to Songhees Chief and Council. The presentation included a Project update, discussion of issues that required input of Chief and Council, such as approval of archaeological protocols and a summary of the Songhees Liaison's work on the Project to date.

In September the Chair of the Project Board and members of the Project Team met with the Chair, members and representatives of the W̱SÁNEĆ Leadership Council. The meeting was a continuation of engagement between the CRD and the W̱SÁNEĆ Leadership Council. The purpose of the meeting was to build relationships, share information and plan further engagement activities. Further meetings between the two parties are planned for the fall of 2018.

2.4. Stakeholder Engagement

A Communications and Engagement Plan was prepared by the Project Team and approved by the Project Board on April 4, 2017. The Communications and Engagement Plan has been a useful reference for the Project Team to-date and the Project Team intends to continue using it as the Project is planned, procured and implemented. Accordingly, the Project Team reviewed the Communications and Engagement Plan that was approved by the Project Board on April 4, 2017 and updated it in July 2018 to account for progress made on the Project in the time since the original Communications and Engagement Plan was approved. The purpose of the Communications and Engagement Plan is to: define the Wastewater Treatment Project's communications and engagement goals; outline the anticipated communications and engagement activities during the construction period; and describe the roles and responsibilities of the Wastewater Treatment Project's communications and engagement



team, including CRD staff, consultants and representatives from the contractors for each element of the Project.

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

July Overview

In the month of July, there was one updated construction notice issued to stakeholders: Residuals Treatment Facility: Blasting Schedule (July 4, 2018) (Appendix A). As well, signage noting the federal and provincial government funding for the Project was displayed at the Macaulay Point Pump Station and Forcemain site.

The Project website, wastewaterproject.ca, was updated with information about the Project in July. The following items were posted:

- one construction notice;
- updated Communications and Engagement Plan;
- a new section, Photo Gallery, was created to share photos of construction on the Project sites. The link is located on the main page of the website and the Project Team will continue to add photos over the construction period of the Project.

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;
- Department of National Defence;
- District of Saanich Technical Working Group;
- Greater Victoria Harbour Authority; and
- Township of Esquimalt Liaison Committee.

August Overview

Two construction notices were issued to stakeholders in the reporting period: Construction of the new Macaulay Point Pump Station & Forcemain (August 3, 2018) (Appendix B) and Macaulay Point Pump Station: Temporary Power Transfer (August 14, 2018) (Appendix C).

The August 3 construction notice was also displayed as signage at the Macaulay Point Pump Station and Forcemain site noting it describes an overview of what to expect during construction, work hours, traffic impacts and provides an image of the rendering and a map of the forcemain route.



Throughout the month of August, the Project website was updated, including the posting of the two construction notices. The photo gallery was also updated with a new photo of the concrete pour at the McLoughlin Point Wastewater Treatment Plant site.

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

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

In addition, the Project Team provided representatives from the Province of British Columbia's Ministry of Municipal Affairs and Housing with a tour of the Residuals Treatment Facility construction site.

September Overview

The Project Team held two community information open houses in September: on September 25, at the Victoria Edelweiss Club, and on September 26, at the Cook Street Village Activity Centre. The purpose of the meetings was to provide community stakeholders with information about upcoming construction of the Clover Forcemain and ongoing construction activities at the Clover Point Pump Station. The format of the meeting was drop-in on the two nights, with the same information provided at both meetings to provide flexibility for busy schedules. Over 160 residents attended the two meetings. The local community was notified about these open houses through the mail delivery of invitations (see Appendix D) via Canada Post to 3,346 residents in Victoria, the hand delivery of invitations to residents on Dallas Road, emails to residents who signed up for Project updates, CRD Twitter, and on the Project website. There were also two newspaper ads announcing the meetings in the Victoria News on September 19 and the Times Colonist on September 22. The Project Team's Deputy Project Director was interviewed on September 25 on CBC's morning show, "On The Island" and outlined the upcoming meetings to listeners, with a description of the upcoming work. The display boards featured at the events were posted to the website the same day and were also available as a printed package for participants to take home.

There were two construction notices issued to stakeholders in September. Both notices were posted to the website, emailed to stakeholders and hand delivered to nearby households, businesses or community facilities. They were: Arbutus Attenuation Tank: Geotechnical Work (September 10, 2018) (Appendix E) and Macaulay Point: Blasting Schedule (September 24, 2018) (Appendix F). As well, one information bulletin was issued: Clover Forcemain Contract Awarded (September 21, 2018) (Appendix G). It was posted to the Project's website and circulated via the CRD's twitter feed.

There were two updated information sheets posted to the website during September: Construction Schedule (Appendix H), and Clover Forcemain and Clover Point Pump Station (Appendix I). These documents were also available as hard copies at the community information open houses.



The Project website was updated with construction notices, information bulletin, open house invitation, display boards and information sheets posted. As well, the community questions section was updated to provide answers to frequently asked questions.

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

- Department of National Defence;
- District of Saanich Technical Working Group;
- Greater Victoria Harbour Authority;
- Township of Esquimalt Liaison Committee; and
- two community information open houses regarding the Clover Forcemain.

In addition, the Project Team provided representatives from the Province of British Columbia's Ministry of Municipal Affairs and Housing with a tour of Project sites.

Public Inquiries

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

Table 4 - Public Inquiries April - June, 2018

Inquiry Source	Contacts for July - September
Information phone line inquiries	25
Email inquiries responded to	17

Key themes of the public inquiries were as follows:

July

- information about construction at the Clover Point Pump Station; and
- requests for contractor contact information regarding employment.

August

- request for information about lighting on the cycle path along the Clover Forcemain;
- feedback about the truck route in Esquimalt;
- inquiries about wastewater treatment processing;
- inquiries about the Residual Solids Conveyance Line design and route; and
- general inquiries about project work.

September

- information about construction at the Residuals Treatment Facility;
- information about construction of the Clover Forcemain; and
- questions about construction timing.



2.5. Resolutions from Other Governments

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

2.6. Schedule

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

Figure 1 shows the high-level Project schedule, which has been updated from that shown in the Project's last (Q2 2018) quarterly report. The updates are as follows:

- Construction of the Residual Solids Conveyance is now scheduled to start in the final quarter of 2019 with completion forecast to be in the first quarter of 2020;
- Construction of the Clover Forcemain is now scheduled to start in the final quarter of 2019 with completion forecast to be in the third quarter of 2020; and
- Construction of the Arbutus Attenuation Tank is now scheduled to start in the first quarter of 2019 with completion forecast to be in the second quarter of 2020.

The Project remains on-schedule to meet the provincial and federal regulations for treatment of the Core Area's wastewater by December 31, 2020.

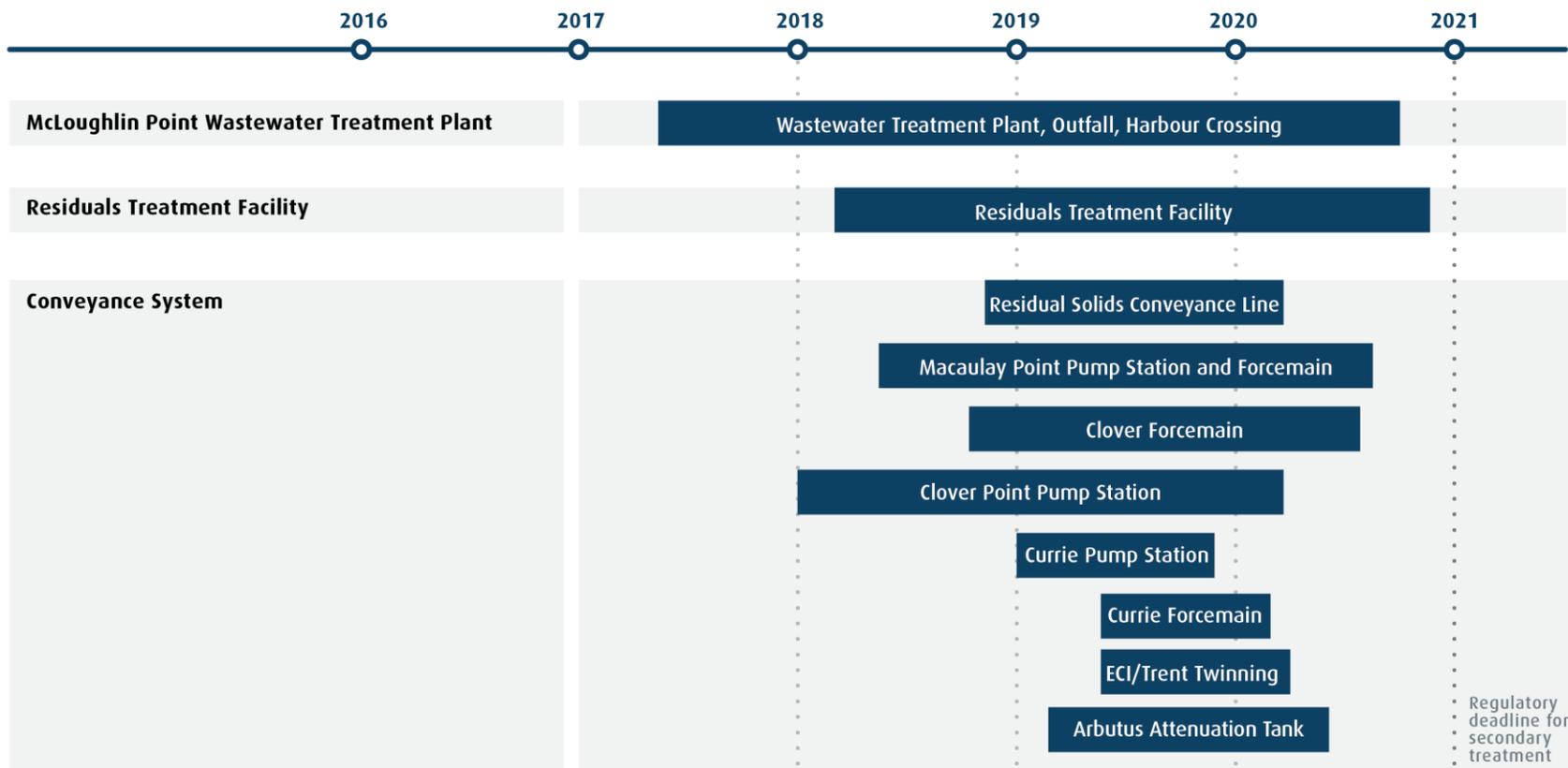
The schedule remains subject to optimization as the Project and planning progresses.



Figure 1-High-Level Project Schedule¹

Wastewater Treatment Project Schedule*

Construction + Commissioning



*Schedule subject to updates as project planning progresses.

¹ The schedule remains subject to optimization.



2.6.1. 30 day and 60 day lookahead

Key activities and milestones for the next 30 days (October) are:

Safety

- CRD contractor safety orientation (Parsons);
- review of any site specific safety plans or high risk tasks;
- document reviews as required;
- blasting plan revision reviews for Macaulay and Clover Point projects;
- attend CRD joint occupational health and safety meeting;
- WTP Safety Manager and/or Construction Manager will conduct regular site inspections at all active Project work sites;
- develop monthly project summary for CRD Corporate Safety Manager regarding Project activities;
- monthly office/site inspections with contractors and CRD Corporate at all active sites;
- monthly communication meeting with WTP Safety Manager and CRD Corporate Safety Manager;
- coordinate the October 18 “Great Shakeout” earthquake preparedness drill; and
- incident reporting review with prime contractors at active work locations (if applicable).

Environment and Regulatory Management

- CRD and KWL (as design consultant for the Arbutus Attenuation Tank) to submit an application for the Arbutus Attenuation Tank for a Notice from the Director to Construct under Section 40 (b) of the MWR; and
- Parsons (as Design Consultant for the RSCL) to prepare BC Water Sustainability Act applications for in-stream work associated with RSCL construction.

First Nations

- Millennia (as the Project’s Archaeological Advisor) to begin archaeological pre-construction digs along Clover Forcemain route with Windley Contracting Ltd. (as the Design-Bid-Build Contractor for the Clover Forcemain); and
- Project Team to continue consultation and engagement with the W̱SÁNEĆ Leadership Council.

Stakeholder Engagement

- ongoing construction communications with stakeholders;
- planning for community meetings related to the RSCL; and
- ongoing community liaison meetings.

Cost Management and Forecast

- prepare cost reports;
- monitor schedule;



- prepare for Q3 financial close and interim audit; and
- submit funding claims to Infrastructure Canada (under the Building Canada Fund and Green Infrastructure Fund).

Construction

McLoughlin Point

- continue construction of tsunami and planter walls;
- commence interior wall and slab pours #2, #3 & #4 in biological aerated filter (BAF) areas;
- construction of base slab at dirty backwash area;
- mobilize the micro tunnel boring machine (MTBM);
- tertiary concrete wall pours; and
- continue surface runoff/groundwater treatment and discharge.

Clover Point Pump Station

- commence and complete drilling and blasting of localized bedrock;
- install stair tower to access base slab elevation; and
- install base slab in wet well.

Macaulay Point Pump Station

- complete excavation of pump station footprint to bedrock;
- drill and blast; and
- remove blast rock.

Residuals Treatment Facility

- load, haul and stockpile crushed aggregate;
- widen site access road and build to grade;
- backfill to subgrade at digest #3 and municipal receiving pit; and
- excavate, install and backfill storm water system in area 1 (tank farm).

Clover Forcemain

- commence preconstruction archaeological digs; and
- commence utility locates from Ogden Point to Dock Street.

Residual Solids Conveyance Line (RSCL)

- TransCanada Highway Crossing: commence installation of casing pipe.

Engineering

McLoughlin Point

- construction package 4 yard pipe: issued for construction (IFC) design deliverable;
- detailed design report for the outfall: issued for construction (IFC) design deliverable; and
- overall design submission report: issued for construction (IFC) design deliverable.



Clover Point Pump Station

- early works package 2: submit issued for construction (IFC) design deliverable; and
- overall design submission: submit final (100%) design deliverable.

Macaulay Point Pump Station

- submit final (100%) design deliverable.

Residuals Treatment Facility

- early works packages: submit final (100%) design deliverable; and
- overall design submission: progress 90% design deliverable.

Residual Solids Conveyance Line:

- RSCL100: Residual Solids Pipes: commence preparation of construction plans.
- RSCL200: Residual Solids Pumps: submit 90% design deliverable and hold 90% design workshop.

Arbutus Attenuation Tank:

- progress final (100%) design deliverable.

Procurement

Residual Solids Conveyance Line:

- RSCL100: Residual Solids Pipes:
 - award construction contract to preferred proponent.
- RSCL200: Residual Solids Pumps:
 - issue request for proposal (RFP) to pre-qualified contractors; and
 - respond to inquiries from proponents and issue addenda, as needed.

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

Safety

- review document submissions from prime contractors;
- monthly prime contractor project safety meeting with all active Project safety representatives;
- development of any required safety documentation;
- site tours at all active sites; and
- monthly office/site inspections with prime contractors.

Environment and Regulatory Management

- HRMG to continue preparing the application for an Operational Certificate for the Residuals Treatment Facility.

First Nations

- ongoing consultation and engagement with the WSÁNEĆ Leadership Council; and
- Millennia Research with the support of Songhees and Esquimalt archaeological technicians to undertake archaeological data recovery excavations.



Stakeholder Engagement

- ongoing construction communications with stakeholders;
- community meetings for the RSCL; 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 odour control area foundations;
- commence raw sewage under slab piping;
- form and pour dirty backwash walls;
- biological aerated filters (BAF) wall pours and slab pours #5, #6 and #7;
- continue tertiary area concrete wall pours; and
- continue surface runoff/groundwater treatment and discharge.

Clover Point Pump Station

- form and pour concrete base slabs; and
- form and pour concrete walls.

Macaulay Point Pump Station

- continue drilling and blasting;
- continue rock removal to underside of the wet well; and
- detailed excavation and shoring existing sewer pipe.

Residuals Treatment Facility

- crushing of aggregate and haul to stockpile;
- prep slab on grade for digesters #1 and #2;
- backfill to subgrade at residual handling and drying area;
- excavate, install and backfill storm water system;
- commence forming, rebar and grounding for digester #1 tank base; and
- commence forming and rebar installation for solids receiving building foundation.

Clover Forcemain

- complete preconstruction archaeological digs; and
- perform utility locates.

Residual Solids Conveyance Line (RSCL)

- TransCanada Highway Crossing: continue installation of casing pipe.



Engineering

- finalize overall design submission report issued for construction (IFC) for WWTP;
- review early works packages and continue development of 90% design for RTF;
- complete final (100%) design for the Macaulay Point Pump Station and Forcemain;
- complete final (100%) design for the Clover Point Pump Station;
- complete final (100%) design of RSCL 200: Residual Solids Pumps; and
- complete final (100%) detailed design for the Arbutus Attenuation Tank.

Procurement

Residual Solids Conveyance Line:

- RSCL200: Residual Solids Pumps: respond to inquiries from proponents.

Arbutus Attenuation Tank:

- issue request for tenders, and respond to inquiries and issue addenda, as needed.

2.7. Cost Management and Forecast

The monthly cost report for September and the quarterly cost report are shown in Appendices J and K. The cost report summarizes Project expenditures and commitments by the three Project Components and the major cost centres common to the Project Components.

In August we adjusted the status of the Conveyance System cost key performance indicator (KPI) from yellow to orange. Orange indicates that the KPI is at risk unless corrective action is taken. Project expenditures are within the Control Budget but cost pressures continue to be significant on the conveyance components of the Project. In July and August the Project Team received proposals for the Clover Forcemain and the Residual Solids Conveyance Line, respectively. The Project Team held competitive procurements for each of these components of the Project and was successful in engaging qualified experienced contractors that submitted proposals under competitive conditions. However, the proposal prices received were greater than estimated primarily as a result of cost escalation due to inflationary pressures in the Victoria area construction market and material supply.

The Project Team awarded the Clover Forcemain in September and anticipates awarding the contract for the Residual Solids Conveyance Line in October. Upon award we will have procured (and secured pricing) for all components of the Project that are key to meeting provincial and federal regulations for tertiary treatment of the core area's wastewater, other than the Residual Solids Pump Stations which are under active procurement and anticipated to be awarded within the next quarter. The Project has contingency in-place to manage risks such as escalation, but to offset the escalation the Project Team continues to look for cost saving measures. In order to address the cost pressures on the Conveyance component of the Project the Project Team has implemented value engineering and is reviewing the scope of work for the remainder of the contracts.



2.7.1. Commitments

Commitments were made over the reporting period in furtherance of delivering the Project. The commitments made during the reporting period resulted in an increase in committed costs of \$33.7M. The significant commitments made in the reporting period were:

- award of the Clover Forcemain construction contract; and
- contract change orders and consultant/advisor contracts.

2.7.2. Expenses and invoicing

The Project expenditures for the reporting period were as expected. The main Project expenditures incurred over the reporting period were associated with: WWTP construction activities; capital improvement amenity payment to the Township of Esquimalt; conveyance system construction activities; and PMO-related costs.

The Project expenditures were within the budget allocations for each of the budget areas, with no variances to the planned budgets over the reporting period.

2.7.3. Contingency

Contingency draws over the reporting period are itemized in Table 5 and outlined herein. \$13.0M of contingency draws were made over the reporting period associated with the following:

- a draw was made in July for the excavation and disposal of contaminated soil (chlorides) at the McLoughlin Point site; and
- a draw was made in September for the award of the Clover Forcemain construction contract. As outlined in Section 2.7 the Project Team ran a competitive procurement for this contract but proposal prices received were greater than estimated, primarily as a result of cost escalation but also as a result of design development. Specifically, there has been greater than anticipated escalation in material and labour supply, as well as cost increases during design development to address geotechnical conditions and ensure a conservative design that can be built without adversely affecting the bluffs.

The remaining contingency and program reserve is anticipated to be sufficient to deliver the Project within the Control Budget.



Table 5 - Contingency and Program Reserve Draw-down Table

WTP Contingency and Program Reserve Draws and Reallocations	Draw Date	\$ Amount
Contingency and Program Reserve (in Control Budget)		\$ 69,318,051
Contingency and Program Reserve Draws to June 30, 2018		\$ (134,395)
Contingency and Program Reserve balance as at June 30, 2018		\$ 69,183,656
McLoughlin Point Site Remediation: excavation and disposal of contaminated soil (chlorides).	Jul-18	\$ (115,278)
WWTP Total Draw		\$ (115,278)
RTF Total Draw		\$ -
Clover Forcemain construction contract award.	Sep-18	\$(12,910,504)
Conveyance Total Draw		\$(12,910,504)
PMO Total Draw		\$ -
BC Hydro Total Draw		\$ -
WTP Program Reserve Draw		\$ -
Contingency and Program Reserve draws in the reporting period (July-Sept)		\$(13,025,782)
Total Contingency and Program Reserve draws to September 30, 2018		\$(13,160,177)
Contingency and Program Reserve balance as at September 30, 2018		\$ 56,157,874

2.7.4. Project Funding

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

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

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

The status of funding claims is summarised in Table 6. Note that the timing for the provision of the Government of British Columbia and Government of Canada's funding



differs by funding source. The Project Team will submit claims to the funding partners in accordance with the relevant funding agreements. In accordance with the funding agreements, funding from the P3 Canada Fund and Government of British Columbia cannot be claimed until the relevant Project components are substantially complete, which is scheduled to occur in 2020.

Table 6 – Grant Funding Status

Funding Source	Maximum Contribution	Funding Received in the Reporting Period	Funding Received to Date
Government of Canada (Building Canada Fund)	\$120,000,000	\$9,087,339	\$30,585,981
Government of Canada (Green Infrastructure Fund)	\$50,000,000	\$9,446,097	\$9,446,097
Government of Canada (P3 Canada Fund)	\$41,000,000	-	-
Government of British Columbia	\$248,000,000	-	-
TOTAL	\$459,000,000	\$18,533,436	\$40,032,078

The Project Team has incorporated both financial and non-financial securities into the construction contracts to ensure that the Project components are constructed in accordance with the contract requirements.

Financial securities included in the contracts include, but are not limited to:

- payment is subject to verification of progress;
- lien holdback, to be released in accordance with the provisions of the Builders Lien Act;
- warranty holdback, to be released upon completion of the warranty period;
- acceptance testing holdback, to be released upon successful completion of acceptance testing; and
- performance period holdback, to be released at the completion of the performance period.

In addition to the financial securities there are significant quality management requirements in each contract including quality monitoring, inspection, testing, documentation and audit requirements.

2.8. Key Risks and Issues

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

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

Risk level trends have remained unchanged from the Project's Q2 2018 Quarterly Report.



The risk that conveyance procurement is delayed due to design challenges has been removed from the table as the design of the key components of the Conveyance System has progressed.

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



Table 6- Project Active Risks Summary

Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level (based on likelihood and potential impact)	Trend in risk level from previous reporting period
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.	M	No change
Misalignment between Project objectives/scope and stakeholder expectations.	The assessed risk level reflects the Project Team's priority of establishing strong and effective community stakeholder engagement.	Community engagement activities were ongoing over the reporting period (see section 2.4 for further details).	M	No change
Lack of integration between Project Components.	Planning challenges and system integration between the WWTP, RTF and Conveyance System components of the Project results in schedule delays and/or additional Project costs.	Physical and schedule interfaces are clearly delineated in all construction contracts along with the requirement for commissioning and control plans. The Project Team is using a single Owner's engineer (Stantec) to develop the indicative design for all critical project components with significant interfaces.	M	No change



Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level (based on likelihood and potential impact)	Trend in risk level from previous reporting period
Senior government funds issue delayed.	The assessed risk level reflects the Project Team's priority of ensuring Project funding commitments are honoured.	Responsibility for meeting funding commitments have been assigned and are being monitored.	M	No change
Downstream works delays.	Delay from conveyance projects delay delivery of wastewater to WWTP.	Schedule has sufficient time allowance to ensure conveyance elements complete prior to requirement. Contractor agreements will include terms that require the contractor to recover schedule delays and/or allow for CRD acceleration.	M	No change
Downstream works delays.	Delay in the commissioning of the WWTP delays the commissioning of the conveyance system or the delivery of residual solids to the RTF.	Contract with HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) includes terms that require the contractor to recover schedule delays and/or allow for CRD acceleration. Liquidated damages for late delivery in HRP contract.	M	No change



Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level (based on likelihood and potential impact)	Trend in risk level from previous reporting period
Municipal Wastewater Regulation (MWR) Registration is not achieved or is delayed	A delay to achieving Municipal Wastewater Regulation 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 Wastewater Treatment Plant or Residuals Treatment Facility.	The Project Team maintain a centralized The Project Team (with Harbour Resource Partners and Stantec representatives) have been meeting regularly with Ministry of Environment representatives since September 2017 to review the Municipal Wastewater Regulation 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. A workplan and schedule have been developed and the Project Team, Ministry of Environment and relevant contractors will continue 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, contractor orientation.	M	No change
Change in Law.	A change in law impacts the scope, cost or schedule of the Project.	Keep apprised of proposed modifications to relevant regulations so as to do the following as appropriate: submit comments on proposed modifications; consider including anticipated modifications in contracts. Monitor announcements re: tariffs and consider expediting purchase of affected imports.	M	No change



Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level (based on likelihood and potential impact)	Trend in risk level from previous reporting period
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
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.	H	No change



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



2.9. Status (Engineering, Procurement and Construction)

2.9.1. Project Management Plan

A Project Management Plan was prepared by the Project Team in 2017; it has been used by the Project Team since that time, and has been revised and updated over that time.

The Project Management Plan has and will continue to be a useful reference for the Project Team as the Project is planned, procured and implemented. The purpose of the Project Management Plan is to:

- summarize the Project's context, governance and team organization structure;
- specify the project management objectives and approaches intended to be used to achieve the key performance indicators; and
- state key organizational roles and responsibilities that are anticipated to be required to provide effective management, administration and control of the Project.

The Project Management Plan was approved by the Project Board on September 26, 2018. The Project Team will review the Project Management Plan throughout the delivery of the Project and will update it as required.

2.9.2. WWTP

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

Engineering

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

July:

- construction package 4 yard pipe: 100% design deliverable;
- construction package 5 process building slabs: 90% design deliverable;
- construction package 6 operations and maintenance (O&M) slabs: 100% design deliverable; and
- detailed design report for the outfall: 90% design deliverable.

August:

- construction package 2 deep foundations: 100% and issued for construction (IFC) design deliverables;
- construction package 5 process building slabs: 100% design deliverable;



- construction package 7 tertiary area foundation and walls: complete issued for construction (IFC) design;
- overall design: 100% design deliverable; and
- detailed design report for the outfall: issued for construction (IFC) design deliverable.

September:

- construction package 5 process building slabs: issued for construction (IFC) design deliverable;
- construction package 6 operations and maintenance (O&M) slabs: issued for construction (IFC) design deliverable; and
- detailed design report for the outfall: issued for construction (IFC) design deliverable.

Construction

Key construction activities in progress or completed by HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) during the reporting period were as follows:

July:

- continued construction of tsunami and planter walls;
- completed phase 1 pile installation;
- drill and blast in tertiary area for biological aerated filter (BAF) effluent chamber;
- began to erect concrete placing boom for use on operations and maintenance (O&M) building;
- prefabricated wall gang forms and tertiary slab bulkheads and formwork for DensaDeg cones;
- demobilized pile rig and crane; and
- continued surface runoff/groundwater treatment and discharge.

August:

- continued construction of tsunami and planter walls;
- mobilized additional crew trailers and double stacked them;
- expanded area "A" parking lot to accommodate additional office trailers;
- completed erection of concrete placing boom for use on operations and maintenance (O&M) building;
- installed floor drains, rebar and grounding grid in tertiary slab;
- placed 610 cubic meters of concrete in first tertiary slab pour and 490 cubic meters in the second slab pour;
- prefabricated formwork for odour control slab and tertiary wall pours;
- prepared the area at the end of Victoria View Road for micro tunnel boring machine (MTBM) crane pad; and
- continued surface runoff/groundwater treatment and discharge.

September:

- mobilized and set up additional office trailers;
- commenced concrete wall pours in tertiary area;
- mobilized Western Pacific Enterprises (WPE) electrical subcontractor;

- drilled and installed rock anchors in the biological aerated filter (BAF), dirty backwash and DensaDeg No. 1 areas;
- excavated for operations and maintenance (O&M) building foundations and elevator shaft foundations; and
- continued surface runoff/groundwater treatment and discharge.

Photographs of construction progress over September at McLoughlin Point are shown in Figures 2 – 8.



Figure 2 – McLoughlin Point Wastewater Treatment Plant: Installation of tertiary wall reinforcing steel.



Figure 3 - McLoughlin Point Wastewater Treatment Plant: Installation of tertiary wall formwork.



Figure 4 - McLoughlin Point Wastewater Treatment Plant: Placing concrete in tertiary wall.



Figure 5 - McLoughlin Point Wastewater Treatment Plant: Grouting in anchor bolts for biological aerated filter (BAF) slab.



Figure 6 - McLoughlin Point Wastewater Treatment Plant: Installing biological aerated filter (BAF) slab formwork.



Figure 7 - McLoughlin Point Wastewater Treatment Plant: Preparing crane pad for hoisting the Micro Tunnel Boring Machine (MTBM).



Figure 8 - McLoughlin Point Wastewater Treatment Plant: Installing anchor bolts and rebar for biological aerated filter (BAF) slab.



2.9.3. RTF

The RTF Project Component continued scheduled activities with HRMG (as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) progressing planning and permitting, design engineering activities, and vendor selection. Construction activities over the reporting period included drilling, rock blasting, excavation, rock crushing and backfilling.

Engineering

HRMG progressed planning and design activities during the reporting period as follows:

July:

- continued design development and working toward 60% design submission;
- prepared and submitted various Project plans and submittals;
- submitted final baseline schedule;
- progressed with vendor selection;
- prepared independent certifier contract;
- worked with BC Hydro to confirm power requirements to the site; and
- worked with District of Saanich on permitting requirements.

August:

- submitted the 60% design submission;
- prepared and submitted various Project plans and submittals;
- progressed with vendor selection;
- finalized independent certifier contract;
- worked with BC Hydro to confirm power requirements to the site; and
- worked with District of Saanich and MOE on permitting requirements.

September:

- submitted early works package: issued for construction (IFC) for site access road;
- conducted 60% design review workshop with CRD;
- continued design development and working toward 90% design submission;
- worked with District of Saanich and MOE on permitting requirements; and
- continued development of other early works (foundations) packages.

Construction

Key construction activities in progress or completed by HRMG during the reporting period were as follows:

July:

- drilling, rock blasting and excavation;
- classified and stockpiled excavated material;
- coordinated blasting with Hartland Landfill blasting contractor and operations staff;
- crushed and stockpiled aggregate;
- set up and completed the HRMG office complex; and
- excavated upper Hartland access road and stockpiled material for future use.

August:

- drilled, rock blasted and excavated (blasting shut down mid-August due to extreme wildfire danger);
- hauled aggregate, placed in 300mm lifts and compact at digester #1 area;
- mobilized new crusher to site and crushed and stockpiled aggregate;
- excavated, loaded and hauled contaminated material to Hartland Landfill site; and
- excavated upper Hartland access road and stockpiled material for future use.

September:

- excavated and completed drilling and blasting;
- placed and compacted aggregate at digester tanks 1, 2, and 3 area;
- hauled material unsuitable for use as backfill from characterization stockpile to offsite facility;
- crushed blast rock and hauled to stockpile; and
- commenced widening of site access road.

Photographs of construction progress over September at the RTF are shown in Figures 9-10.



Figure 9 – Residuals Treatment Facility: Stockpiling crushed aggregate.



Figure 10 – Residuals Treatment Facility: Placing, spreading and compacting aggregate.



2.9.4. Conveyance System

The Conveyance System Project Component progressed as planned over the reporting period.

Pre-construction and construction activities for the two design-build Conveyance System contracts progressed over the reporting period. Five of the six design-bid-build Conveyance System contracts were in the engineering phase, with the majority of the work focused on the contracts summarised in the sub-sections below. The Clover Forcemain is in the pre-construction phase.

2.9.4.1. Clover Point Pump Station

The Clover Point Pump Station continued with design and construction activities during the reporting period.

Engineering

Kenaidan (as the Design-Build Contractor) completed the following engineering activities over the reporting period:

July:

- progression of planning and activity design activities including the submission of caisson work package (100%) – revision 3.

August:

- civil/structural early works 100% and issued for construction (IFC) package submitted for review; and
- public realm improvements package: submission for City of Victoria.

September:

- submitted revised civil/structural issued for construction (IFC) package for review.

Construction

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

July:

- completed installation of secant piles;
- demobilized secant pile contractor;
- installed flagging on powerlines feeding site office to alert paragliders of hazard;
- stockpiled construction debris encountered while excavating tie-back installation;
- excavated to elevation seven meters in preparation for tie back installation;
- mobilized tie back contractor;
- commenced installation of tie backs; and
- conducted performance test on tie-back 1-A.

August:

- continued to drill, install, tension and proof test tie-backs;
- removed excess fills from site to accommodate the drilling of the tie-backs; and
- installed wood lagging for the soldier pile wall.

September

- completed installation of tie-backs;
- excavated to pump room elevation; and
- commenced excavation of new storm/sanitary wet well.

Photographs of construction progress at the Clover Point Pump Station over the reporting period are shown in Figures 11-13.



Figure 11 – Clover Point Pump Station: Completed tie-back installation.



Figure 12 – Clover Point Pump Station: Excavating to base slab elevation.



Figure 13 – Clover Point Pump Station: Grinding concrete flush at caisson wall.



2.9.4.1. Macaulay Point Pump Station and Forcemain

The Macaulay Point Pump Station and Forcemain continued with design and construction activities during the reporting period.

Engineering

Kenaidan (as the Design-Build Contractor) completed the following engineering activities:

July:

- 90% early works 2 design submission;
- 90% complete design deliverable and workshop; and
- 90% hazard and operability (HAZOP) review meeting.

August:

- 90% hazard and operability (HAZOP) report provided.

September:

- early works package 1 design submission for demolition and temporary works.

Construction

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

July:

- demolition of existing workshop, laboratory and exterior concrete walls;
- removal of gantry crane; and
- installation of new duct bank for relocation of transformer and generator.

August:

- completed demolition of existing workshop, laboratory & exterior concrete walls;
- disconnected, relocated and re-connected the transformer and E-house;
- formed and placed concrete for base slab for the temporary bin room;
- commenced framing of the temporary bin room; and
- placed concrete for the new duct bank across View Point Road.

September:

- completed temporary bin room including installation of conveyors; and
- commenced excavation of the building footprint to bedrock.

Photographs of construction progress at the Macaulay Point Pump Station over the reporting period are shown in Figures 14 -16.



Figure 14 – Macaulay Point Pump Station: Construction of temporary bin room.



Figure 15 – Macaulay Point Pump Station: Commenced excavation of pump station footprint to bedrock.

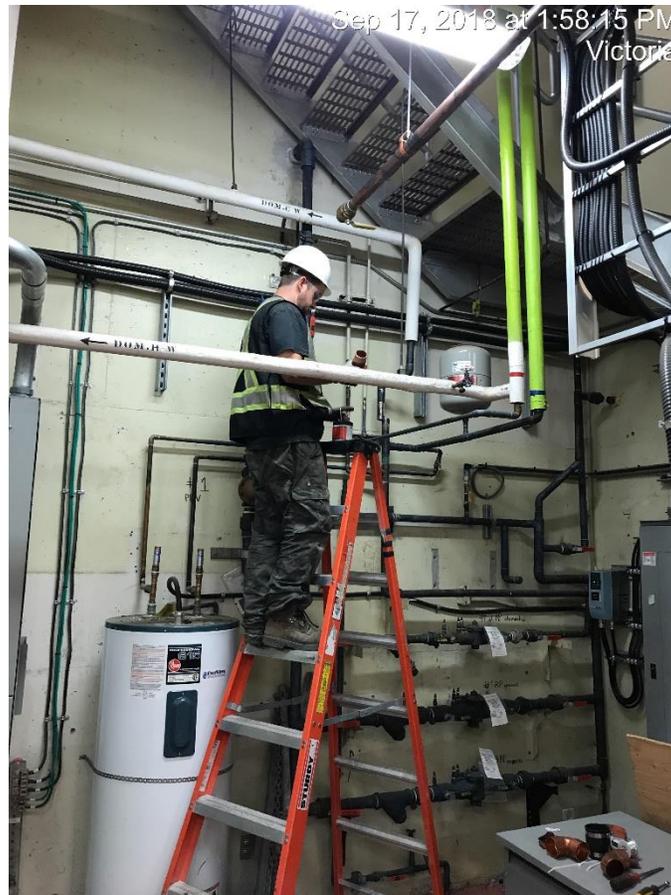


Figure 16 – Macaulay Point Pump Station: Installing temporary water service tie-in to existing pump station.

2.9.4.2. Clover Forcemain

The Request for Proposals (RFP) closed in July and proposals were received and evaluated. Windley Contracting Ltd. was selected and the contract was awarded in September. Mobilization and construction activities are expected to begin in October 2018.

2.9.4.3. Residual Solids Conveyance Line (RSCL)

The RSCL continues to progress through the detailed design phase.

In July, the Project Team and Parsons (as the Design Consultant) progressed and/or completed the following engineering and procurement activities:

- RSCL100: Residual Solids Pipes
 - issued request for proposals (RFP) to pre-qualified contractors; and
 - responded to inquiries from proponents and issued addenda.
- RSCL200: Residual Solids Pumps: progressed 90% design deliverable.

In August the Project Team and Parsons progressed and/or completed the following engineering and procurement activities:

- RSCL100: Residual Solids Pipes



- responded to inquiries from proponents and issued addenda; and
- received proposals from pre-qualified contractors in response to the RFP.
- RSCL200: Residual Solids Pumps: progressed 90% design deliverable.

In September the Project Team and Parsons progressed and/or completed the following engineering activities:

- RSCL100: Residual Solids Pipes: evaluated proposals received in response to RFP and selected preferred proponent.
- RSCL200: Residual Solids Pumps: progressed 90% design deliverable.

2.9.4.4. Arbutus Attenuation Tank

KWL (as the Design Consultant for the Arbutus Attenuation Tank), continued to finalize the drawings and specifications for the Arbutus Attenuation Tank by progressing the final (100%) design deliverable and completing the submission to the District of Saanich for a building permit.


Appendix A – Residuals Treatment Facility Blasting Schedule (July 4, 2018)

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

Construction Notice
UPDATE

July 4, 2018

Residuals Treatment Facility: Blasting Schedule

Site preparation for the Residuals Treatment Facility is underway. The contractor, Hartland Resource Management Group, will conduct controlled blasting and excavation as a part of this work.

Blasting Schedule from July 9 to September 14

- Monday to Friday, between 3:30 and 4:30 p.m., anticipated to be at 4:00 p.m.
- Once per day.
- Blasting schedule is subject to change.

Traffic Impacts

- Expect minor traffic delays on Willis Point Road at blast times (approximately 5 minutes) controlled by flaggers.

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.

For more information, please visit wastewaterproject.ca.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.



Appendix B – Macaulay Point Pump Station & Forcemain: Construction (August 3, 2018)



Construction of the new Macaulay Point Pump Station & Forcemain

The new Macaulay Point Pump Station and Forcemain is being built as part of the Wastewater Treatment Project. The existing pump station will be demolished and a new pump station will be constructed to convey wastewater from Colwood, Langford, View Royal, Esquimalt, Saanich and Victoria to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment. The new Macaulay Point Pump Station will continue to provide bypass pumping to the existing outfall during heavy storm events. The forcemain is the pipe that will connect the Macaulay Point Pump Station to the McLoughlin Point Wastewater Treatment Plant.

The design of the new pump station reflects its location on the waterfront, improving the visual impact of the building and creating greenspace for the community to enjoy. The pump station will have many sustainable features such as a green roof and rain garden.

What to Expect

- Demolition of the existing pump station workshop and laboratory building.
- Excavation and blasting for the new pump station.
- Construction of the below-grade concrete structure.
- Construction of the above-grade wood structure.
- Excavation and installation of the forcemain and utility relocations along the following roads: Vaughan, Anson, Bewdley and Peters.

Work Hours

- 7:00 a.m. to 7:00 p.m. Monday to Friday
- 9:00 a.m. to 5:00 p.m. Saturday
- No work is planned for Sundays or holidays, except on limited occasions.

Traffic Impacts

- Traffic impacts are expected to be minimal as the majority of the work will be conducted on the existing Macaulay Point Pump Station site.
- There will be localized single-lane traffic during forcemain construction.
- Truck traffic will follow the Traffic Management Plan approved by the Township of Esquimalt.
- The waterfront trail will remain open during construction and operations.

Construction is anticipated to be complete in summer 2020.

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.

For more information, please visit wastewaterproject.ca

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.



Appendix C - Macaulay Point Pump Station: Temporary Power Transfer (August 14, 2018)


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

Construction Notice

August 14, 2018

Macaulay Point Pump Station: Temporary Power Transfer

Temporary utility and power relocations will be completed for the Macaulay Point Pump Station on August 16-17, 2018. This work is coordinated as part of the Macaulay Point Pump Station upgrades. These utilities will allow the ongoing operation of the existing facility while the new pump station is under construction. To facilitate this work, the existing pump station will need to be powered by an external generator.

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

What to Expect

- A temporary generator will be used to allow the existing facility to operate and permit uninterrupted sewage flow while the new utilities are being installed.
- This generator will continue to operate through the night on August 16, returning to utility power prior to the end of the working day on August 17.

Work Hours

- Construction is not expected to extend beyond the work hours of 7:00 a.m. to 7:00 p.m., however the generator will continue to operate through the night.

Traffic Impacts

- No traffic disruptions are anticipated as part of this work.

About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees Nations and is being built so we comply with federal regulations by the end of 2020.

For more information, please visit wastewaterproject.ca.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.



Appendix D – Clover Forcemain Open House Invitation



WASTEWATER TREATMENT PROJECT

Clover Forcemain Community Information Open Houses

You're invited to find out more about construction on Dallas Road of the Clover Forcemain. This work is anticipated to begin in October 2018. The Wastewater Treatment Project Team will provide information and answer questions about the work.

CLOVER FORCEMAIN COMMUNITY INFORMATION OPEN HOUSES

Tuesday, September 25, 2018

5:00 p.m. to 8:00 p.m.

Victoria Edelweiss Club
108 Niagara Street

Wednesday, September 26, 2018

5:00 p.m. to 8:00 p.m.

Cook Street Village Activity Centre
380 Cook Street

FOR MORE INFORMATION ABOUT THE WASTEWATER TREATMENT PROJECT

Visit wastewaterproject.ca

E-mail wastewater@crd.bc.ca

Call 1.844.815.6132

OPEN HOUSE FORMAT

The Wastewater Treatment Project Team will provide information about construction of the Clover Forcemain and current activities at the Clover Point Pump Station. The format will be drop-in on two nights to provide flexibility for busy schedules. Come by anytime during either meeting to review Project information, find out about upcoming construction activities and timing, meet the Project Team members, and ask questions about the Project.

CLOVER FORCEMAIN

The Clover Forcemain is a pipe that will run along Dallas Road from Clover Point to Ogden Point, where it will connect to the Victoria cross-harbour undersea pipe. The pipe will convey wastewater from the Clover Point Pump Station to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment.

While building the pipe, the Team will also construct a cycle path and public amenities, including improvements to pedestrian crosswalks.

TIMING

Construction of the Clover Forcemain is anticipated to start in October 2018 and will take approximately two years to complete. To minimize impacts to all road users, the pipe will be installed in segments.



Appendix E – Arbutus Attenuation Tank: Geotechnical Work (September 10, 2018)



September 10, 2018

Arbutus Attenuation Tank: Geotechnical Work

The Wastewater Treatment Project includes construction of the Arbutus Attenuation Tank on Capital Regional District (CRD) owned land in Haro Woods in Saanich. It is an underground concrete tank that will temporarily store wastewater flows during high volume storm events to reduce the number of sewage outflows. The tank is one of several wastewater conveyance system upgrades that are part of the Wastewater Treatment Project to deliver tertiary wastewater treatment to residents in the core area of the CRD.

A geotechnical investigation will take place to inform the final design of the tank. This work consists of borehole drilling.

What to Expect

- The geotechnical work is anticipated to take place September 11-18, 2018 in Haro Woods.
- A truck-mounted drilling rig will be used to create approximately six boreholes located within the CRD property.
- Brush and vegetation will be cleared at the borehole sites before drilling begins.
- The estimated duration for drilling a borehole is approximately 2 to 3 hours.
- There will be some noise associated with the drilling work.

Hours of work

- Weekdays from 7:00 a.m. to 5:00 p.m.

Traffic Impacts

- There will be no traffic impacts.

Background

The Arbutus Attenuation Tank will be located on Arbutus Road, across the street from Queen Alexandra Centre for Children's Health. The tank will be installed on CRD lands that are already partially cleared and have been previously disturbed during the construction of existing sewers. Once construction is complete, the site will be planted with vegetation considering the local woodland setting. As part of the construction of the Arbutus Attenuation Tank, there will be road frontage improvements including bike lanes, sidewalks, and stormwater management. Construction of the tank is expected to begin in 2019 and will take approximately one year to complete.

About the Wastewater Treatment Project

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

For more information, please visit wastewaterproject.ca.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.



Appendix F – Macaulay Point: Blasting Schedule (September 24, 2018)



September 24, 2018

Macaulay Point: Blasting Schedule

As part of site preparation for the Macaulay Point Pump Station, the contractor, Kenaidan Contracting Ltd, will conduct controlled blasting and excavation. Blasting is anticipated to begin the week of October 1 and will last approximately seven weeks.

Blasting will occur Monday to Friday between 8:00 a.m. and 4:30 p.m. It is anticipated there will be 2-4 blasts per day.

Blasting Procedure

- Each blast will last less than 60 seconds
- All blasts will be covered with 5,000 pound blast mats. Blasting signs will be posted on the site boundary, and warning signals will be used as follows:
 - 12 short whistles at one second intervals followed by a two minute pause
 - Blast will be detonated
 - One long whistle signals all is clear

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, please visit wastewaterproject.ca.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.



Appendix G – Clover Forcemain: Award of Contract (September 21, 2018)


**Wastewater
Treatment Project**

Information Bulletin

For Immediate Release

September 21, 2018

Clover Forcemain Contract Awarded

Victoria, BC – The Capital Regional District (CRD) has awarded a \$30.9-million contract to Windley Contracting Ltd. to construct the Clover Forcemain. As part of the Wastewater Treatment Project, the Clover Forcemain is a pipe that will be built along Dallas Road connecting the Clover Point Pump Station and the cross-harbour undersea pipe at Ogden Point to convey wastewater to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment.

Windley was selected by the CRD through a competitive selection process. Windley is an experienced civil construction company based on Vancouver Island and has extensive experience building large projects in British Columbia and Alberta.

Construction of the Clover Forcemain is anticipated to begin in October 2018 and will take approximately two years to complete. The pipe will be installed in segments to minimize impacts to vehicle traffic, cyclists and pedestrians, as well as parking and access to residences and businesses along Dallas Road. Lane closures will be required and traffic control measures will be implemented. The contractor will also construct a cycle path and other public amenities, including improvements to pedestrian crosswalks.

The Clover Forcemain alignment was developed in collaboration with City of Victoria staff and considered the protection of the bluffs, the location of mature trees and sensitive vegetation, and traffic impacts during construction.

The Project Team will be holding two community information open houses on September 25 and 26 at the Victoria Edelweiss Club and the Cook Street Village Activity Centre to provide residents with information about construction activities and timing. Details are available here: <http://ht.ly/ROWS30lUf7H>

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, please visit: wastewaterproject.ca

-30-

For media inquiries, please contact:

Andy Orr, Senior Manager
CRD Corporate Communications
Tel: 250.360.3229
Cell: 250.216.5492





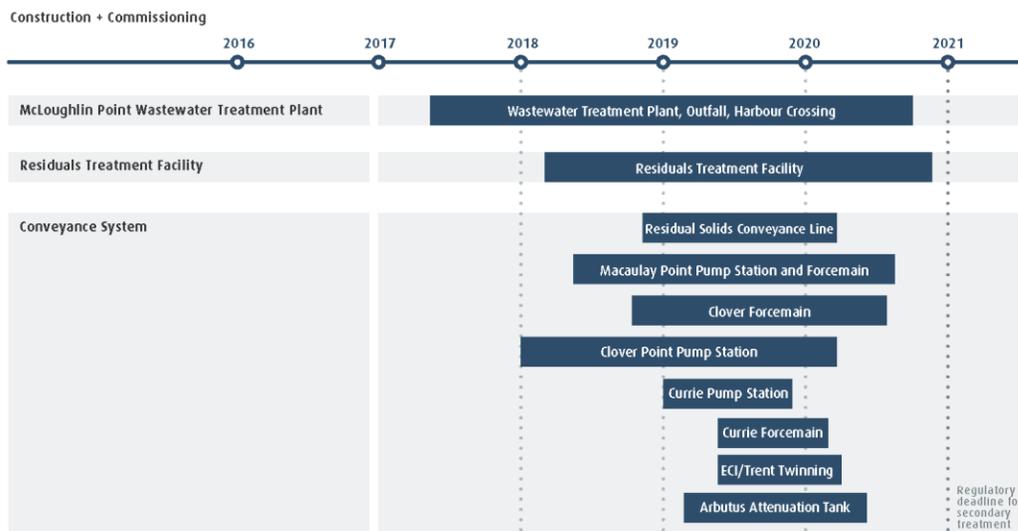
Appendix H – Information Sheet: Construction Schedule

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.



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 I – Information Sheet: Clover Forcemain and Clover Point Pump Station



Clover Forcemain

The Wastewater Treatment Project includes the construction of a pipe which will transport wastewater from the Clover Point Pump Station to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment. This pipe, called the Clover Forcemain, will run along Dallas Road from Clover Point to Ogden Point, where it will connect to the cross-harbour undersea pipe which was completed in April 2018.

CONSTRUCTION

Construction will begin in October 2018 and take approximately two years. Windley Contracting Ltd. has been selected to complete this work. 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 and the many users of Dallas Road. There will be multiple work crews during construction and single lane alternating traffic with signage and flaggers directing traffic as required. Vehicle access to residences and businesses along Dallas Road will be maintained. There will be no construction between Ogden Point and Dock Street during tourist season from mid-April to mid-October.

The Clover Forcemain alignment was developed in collaboration with the City of Victoria and considered the protection of the bluffs, the location of mature trees and sensitive vegetation, and traffic impacts during construction. Access to Clover Point Park and the pathway along Dallas Road will remain open during construction. Noise levels will be within the City of Victoria’s bylaw.

DID YOU KNOW?

- The pipe is 3.2km long and 1.2m in diameter and is made of HDPE (high-density polyethylene).
- A cycle path will be built to connect Ogden Point to Clover Point along the forcemain route.
- Other infrastructure improvements will be built along the route including new sidewalks, benches, bike racks and wayfinding signage.
- As partners on the Project, representatives from the Songhees and Esquimalt Nations have been involved in the design of the public space improvements and provided guidance on cultural and archaeological protocols.

Sequence of Construction




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

Clover Point Pump Station

The Clover Point Pump Station is being upgraded and expanded as part of the Wastewater Treatment Project. The current pump station was built in the 1970s and pumps sewage directly into the ocean. The expanded pump station will pump wastewater to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment and provide bypass pumping to the existing outfall during storm events.

PROJECT DESCRIPTION

The Clover Point Pump Station expansion will be primarily underground and below the grade of the adjacent section of Dallas Road, blending with the existing facility and surrounding area. The pump station will have state-of-the-art odour control systems so there will be no discernible odour in the community. Operating noise will not exceed the current level of noise from the existing pump station.

CONSTRUCTION ACTIVITIES

Construction to upgrade and expand the Clover Point Pump Station began in February 2018 and is anticipated to be complete in early 2020. The contractor, Kenaidan Contracting Ltd., has installed site office trailers and facilities, constructed a temporary laydown area, and installed temporary construction fencing around the perimeter of the work area. Excavation for the foundation of the expansion to the pump station is currently taking place.

Construction activities to be completed include concrete works to expand the existing underground structure; upgrades to mechanical and electrical equipment in the existing pump station; connection to the new Clover Forcemain; restoration of the surface; and public space improvements. 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 public space improvements were designed in collaboration with the City of Victoria and include a viewing plaza and public washrooms.



1. Cycle path
2. Gathering/dismount area for cycle path with bike racks and bike kitchen.
3. Viewing plaza with benches, drinking fountain and litter receptacle
4. Connecting sidewalk to Clover Point
5. Lower plaza viewing rest area
6. Raised grade to conceal washroom building
7. Public washroom
8. Connecting walkway to the Ross Bay seawall

The improvements were developed and approved by City of Victoria Council.

For More Information

Website: wastewaterproject.ca

Email: wastewater@crd.bc.ca

24-7 Project Information Line: 1.844.815.6132



Appendix J – September Cost Report

ASSET MANAGEMENT COST REPORT as at September 30, 2018														
Project Component	Control Budget	Allocated Budget	COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
			Expended to August 31, 2018	Expended over reporting period (September 2018)	Expended to September 30, 2018	Expended to September 30, 2018 as a % of Budget	Remaining (Unexpended) Budget at September 30, 2018	Total Commitment at September 30, 2018	Unexpended Commitment at September 30, 2018	Uncommitted Budget at September 30, 2018	Forecast to Complete	Forecast at Completion	Variance at Completion \$	Variance at Completion as a % of Budget
McLoughlin Point Wastewater Treatment Plant ^A	378.0	375.6	124.9	28.1	153.0	41%	222.6	341.8	188.8	33.8	222.6	375.6	-	0%
Residuals Treatment Facility ^A	195.0	176.3	15.1	0.4	15.5	9%	160.8	150.1	134.6	26.2	160.8	176.3	-	0%
Conveyance System ^A	192.0	213.1	40.4	2.5	42.9	20%	170.2	137.2	94.4	75.8	170.2	213.1	-	0%
Total Costs	765.0	765.0	180.4	31.0	211.4	28%	553.6	629.1	417.8	135.8	553.6	765.0	-	0%

^A - Including PMO and Common Costs

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

** Cost report presents approved expenditures



Appendix K – Quarterly Cost Report

WTP QUARTERLY COST REPORT as at September 30, 2018														
Project Component	COST EXPENDED							COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to June 30, 2018	Expended over reporting period (Q3 2018 July - Sept)	Expended to June 30, 2018	Expended to June 30, 2018 as a % of Budget	Remaining (Unexpended) Budget at June 30, 2018	Total Commitment at June 30, 2018	Unexpended Commitment at June 30, 2018	Uncommitted Budget at June 30, 2018	Forecast to Complete	Forecast at Completion	Variance at Completion \$	Variance at Completion as a % of Budget
McLoughlin Point Wastewater Treatment Plant ¹	316.6	319.5	97.7	40.8	138.5	43%	181.0	309.7	171.2	9.8	181.0	319.5	-	0%
Residuals Treatment Facility ¹	147.1	138.3	8.2	0.0	8.2	6%	130.1	135.0	126.8	3.3	130.1	138.3	-	0%
Conveyance System ¹	141.2	163.3	25.7	3.6	29.3	18%	134.0	113.1	83.8	50.2	134.0	163.3	-	0%
Project Management Office														
Project Management Office ("PMO")	71.1	75.6	27.7	4.2	31.9	42%	43.7	62.2	30.3	13.4	43.7	75.6	-	0%
Common Costs														
BC Hydro	11.6	4.0	0.8	0.2	1.0	24%	3.0	2.6	1.6	1.4	3.0	4.0	-	0%
Third Party Commitments	8.1	8.1	2.2	0.3	2.5	31%	5.6	6.5	4.1	1.5	5.6	8.1	-	0%
Program Reserve and contingencies	69.3	56.2	-	-	-	0%	56.2	-	-	56.2	56.2	56.2	-	0%
Total Costs	765.0	765.0	162.3	49.1	211.4	28%	553.6	629.1	417.8	135.8	553.6	765.0	-	0%

¹ - Excluding PMO, Common Costs and
^{*} Values presented in \$millions, results in minor rounding differences
^{**} Cost report presents approved expenditures