



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

CRD Wastewater Treatment Project

Monthly Report

Reporting Period: August 2017



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1 Executive Summary

1.1 Introduction

This monthly report covers the reporting period of August 2017 and outlines the progress made on the Wastewater Treatment Project during this time.

The Wastewater Treatment Project (the “Project”) includes three main Project components (the “Project Components”): the McLoughlin Point Wastewater Treatment Plant (the “WWTP”), the Residuals Treatment Facility (the “RTF”) and the Conveyance System (which includes upgrades to the conveyance network, including the construction of pump stations and pipes). The Project scope will be delivered through a number of contracts with a variety of contracting strategies.

Overall the Project is progressing as planned. The WWTP Project Component is continuing with Harbour Resource Partners (“HRP”) progressing engineering of the WWTP and outfall, drilling of the harbour crossing from Ogden Point, and site preparation at McLoughlin Point.

The RTF Project Component is in the procurement phase. The Request for Proposals (“RFP”) is progressing as planned, with technical submissions due in September 2017 and financial submissions due in October 2017.

The Conveyance System will be delivered through seven contracts. The two design-build Conveyance System contracts were in procurement during the reporting period:

- an RFP for the Clover Point Pump Station was issued on May 22, 2017 and closed on August 16, 2017;
- submissions were received in response to a Request for Qualifications (“RFQ”) for Macaulay Point Pump Station and Forcemain. The submissions were evaluated in accordance with the RFQ and a shortlist of three proponents was identified. The proponents were invited to participate in the next stage of the procurement process and were issued with the RFP on August 24, 2017. The RFP is scheduled to close in November 2017.

The five design-bid-build Conveyance System contracts are in the engineering phase. Stantec (as the owner's engineer) progressed the indicative design over the reporting period, and conducted survey, geophysical and geotechnical field work related to the Residual Solids Conveyance Line.

For each of the design-bid-build contracts the Project Team will procure design consultant services (including the “Engineer of Record” role). Progress on these procurements was made over the reporting period:

- Kerr Wood Leidal were re-engaged to complete the design consultant services for the Arbutus Attenuation Tank;
- the RFP for design consultant services for the Clover Forcemain closed on August 3, 2017. The proposals were evaluated in accordance with the RFP and Kerr Wood Leidal were selected as the preferred proponent; and
- the RFP for design consultant services for the Residual Solids Pipes and Pump Stations was issued in August. The RFP is scheduled to close in September 2017.



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.

Table 1- Executive Summary Dashboard

Key Performance Indicators		Project Overall	WWTP	RTF	Conveyance	Comments
Safety	Deliver the Project safely with zero fatalities and a total recordable incident frequency (TRIF) of no more than 1*.					No recordable incidents; site inspections ongoing.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction					No environmental issues.
Regulatory Requirements	Deliver the Project such that the Core Area complies with provincial and federal wastewater regulations.					No regulatory issues.
Stakeholders	Continue to build and maintain positive relationships with First Nations, local governments, communities, and other stakeholders.					Engagement activities were ongoing in the reporting period related mainly to the Ogden and McLoughlin Point construction activities. Significant efforts will continue to be 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

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

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



2 Wastewater Treatment Project Progress

2.1 Safety

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

Two safety-related incidents occurred in the reporting period (shown as 'report only' occurrences in Table 2) that did not result in recordable incidents:

- two PMO team members were involved in a motor vehicle incident while delivering construction notices in Esquimalt. No significant injuries were received in the incident and both team members were able to return to work after the incident; and
- a safety intervention regarding signage and unsafe operation of a motor vehicle in a construction zone was performed at Willis Point Road. A Jacob Brothers' employee (who was undertaking work at Hartland Landfill) and Island Flagging personnel (who was controlling traffic for the geotechnical crew on Willis Point Road) were spoken to regarding appropriate communication and adhering to control zones for worker(s) safety.

A contractor safety orientation was performed at the WTP offices with the teams conducting geophysical and geotechnical field work related to the Residual Solids Conveyance Line. The orientation covered:

- safety roles and responsibilities;
- policies and procedures to follow;
- incident reporting requirements; and
- contractor and public safety.

Other safety activities conducted over the reporting period included:

- a Project Team safety orientation was completed for a new Field Inspector, which included a review of tasks, the hazards associated with those tasks and control measures to mitigate the identified hazards for the WTP office and active worksites;
- a safety talk was held with a surveying contractor. Road safety tips were discussed and CRD WTP communication cards were given to the crew to provide to the public in the event of any questions regarding the Project;
- daily safety spot checks were performed on geotechnical and geophysical crews by the CRD WTP Safety Manager;
- Project Team construction and safety personnel conducted daily site safety tours of the Ogden Point and McLoughlin Point work sites;
- safety observation at the Ogden Point work site regarding ladder access to the drilling machine presented some safety risks due to the approaching fall weather and associated slipping hazards. The Contractor had the ladder immediately replaced with a ramp for safer access and egress;
- Project Team construction and safety personnel conducted and documented weekly safety inspections of Prime Contractor sites;
- the WTP Safety Manager and CRD corporate safety representatives performed a monthly site inspection and toured the route for geophysical and geotechnical field work related to the Residual Solids Conveyance Line;
- new safety related materials were added to the office safety bulletin board; and

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- a Prolog training seminar was held for WTP staff for document control orientation and management (including safety documentation).

Table 2 – WTP Safety Information

	Reporting Period (August 2017)	Project Total to-Date (from January 1, 2017)
Person Hours		
Project Management Office	4,345	17,647
Project Contractor	12,760	44,437
Total Person Hours	17,105	62,084
Number Of Employees		
Project Management Office	25	
Project Contractors working on Project site	68	
Total Number Of Employees	93	
Number Of Occurrences		
Near Miss Reports	0	1
High Potential near Miss Reports	0	1
Report Only	2	2
First Aid	0	0
Medical Aid	0	0
Medical Aid (Modified Duty)	0	0
Lost Time	0	0
Total Recordable Incidents	0	0
Frequency Rates		
First Aid Frequency	0	0
Medical Aid Frequency	0	0
Lost Time Frequency	0	0
Total Recordable Incident Rate	0	0



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2.2 Environment and Regulatory Management

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

2.2.1 Environment

Environmental work in August progressed as planned, with a focus on the management of contaminated soils at McLoughlin Point and the preparation of the Municipal Wastewater Regulation (“MWR”) Registration package. Key activities completed in August included:

- HRP continued characterizing and delineating contaminated soils at the McLoughlin Point site. Test-pitting and analysis of soil samples followed Provincial protocols and continued throughout the month;
- Millennia (the Project’s archaeological advisor) completed a preliminary field reconnaissance (“PFR”) to assess the need for archaeological permits during the geotechnical investigations of the Residual Solids Conveyance Line. Based on the results of the PFR, Millennia recommended that:
 - geotechnical investigations at three locations be postponed until the Project-wide archaeological permit that was applied for in July is issued; and
 - identified locations at which archaeological monitoring is recommended to be undertaken.

The PMO planned the geotechnical investigations in accordance with both of these recommendations; and

- the Project Team and HRP undertook a field visit to DND property adjacent to McLoughlin Point to assess the feasibility of agreeing to DND’s request to undertake ecosystem restoration activities rather than tree planting, as currently identified as part of the requirements of the Licence Agreement.

2.2.2 Regulatory Management

In August, the Project Team monitored and supported the advancement of construction-related regulatory approvals to help ensure that permit applications progressed as planned. The permitting activities for the reporting period involved engagement with municipalities and the provincial government in support of obtaining the key permits summarized in Table 3 below.

The progression of the various Project permits continues to be an area of focus due to the potential for adverse schedule impacts. The regulatory management activities were in-line with the planned Project progress for the period.

The Project Team, Stantec and HRP have been progressing construction-related and geotechnical investigation-related regulatory approvals in accordance with the overall schedule. Key permitting activities for August included:

- Stantec (as owner’s engineer) received authorizations from the Township of Esquimalt and District of Saanich for street-occupancy permits related to geotechnical investigations for the Residual Solids Conveyance Line;
- the Project Team met with the BC Ministry of Environment (“MoE”) to discuss the MWR registration. The purpose of the meeting was to provide the MoE with an overview of the Project and determine the scope of the MWR Registration. MoE have requested that the



Project be registered under a single MWR Registration, rather than separate registrations related to the different Project Components. MoEs preference has implications on how the MWR Registration will be applied for, as outlined below in relation to Table 3;

- HRP submitted an application for and received a Water Lot Licence from Transport Canada. The Water Lot Licence allows HRP to anchor a barge adjacent to the McLoughlin Point site in Victoria Harbour. To-date HRP have undertaken some barging from Rock Bay to transport excavated contaminated soils to appropriate sites, including approved and regulated landfill sites. The Water Lot Licence will allow HRP the option of barging directly from the McLoughlin Point site; and
- HRP submitted and received an amendment to the DND Licence Agreement to allow the use of DND sewer infrastructure for the disposal of water from excavations at McLoughlin Point.

The status of the 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 presented in the Project's July 2017 monthly report are as follows:

- i) related to the McLoughlin Point WWTP:
 - the party responsible for obtaining the MWR Registration has been changed from HRP to the CRD. MoE have requested that the Project be registered under a single MWR Registration. As this registration will cover the McLoughlin Point WWTP as well as other Project Components (that HRP is not responsible for) the Project Team will lead the MWR Registration with support from relevant Project Contractors;
 - the process for obtaining MWR registration is underway and this registration is required prior to commissioning of the plant. However, in order to start construction of the plant foundations a Notice from the Director to Construct is required under Section 40 (b) of the MWR. In July, a request was submitted to the MoE for a Notice from the Director to Construct the wastewater treatment plant and the notice is expected to be received in September.
- ii) related to the McLoughlin Point Harbour Crossing: the responsibility for obtaining the Transport Canada Lease has been updated to HRP based on the responsibilities under the Project Agreement;
- iii) related to the McLoughlin Point Outfall:
 - the responsibility for obtaining the Provincial Tenure Crown Grant and Transport Canada Lease has been updated to HRP based on the responsibilities allocated under the Project Agreement;
 - the process for obtaining MWR registration is underway and this registration is required prior to commissioning of the plant. However, in order to start construction of the outfall a Notice from the Director to Construct is required under Section 40 (b) of the MWR. A request is planned to be submitted to MoE in October 2017, pending receipt of approvals from Transport Canada;
- iv) related to the Residuals Treatment Facility: the addition of the Operational Certificate. MoE have determined that this is the authorizing mechanism most applicable to the RTF. It will be the RTF Project Co's responsibility to obtain the Operational Certificate prior to operations starting at the facility.



Table 3 - Key Permits Status

Permit / Licence	Anticipated Date	Status	Responsible Party
McLoughlin Point WWTP			
Rezoning within the Township of Esquimalt	Obtained	Complete	CRD
Township of Esquimalt Development Permit	Obtained	Complete	HRP/CRD
Township of Esquimalt Development Permit Amendment	Q4 2017	On track	HRP
Township of Esquimalt Phased Building Permits <ul style="list-style-type: none"> Phase 1: Early Works 	Obtained	Complete	HRP
Township of Esquimalt Phased Building Permits <ul style="list-style-type: none"> Future phases to be determined with Township of Esquimalt 	TBD	TBD	HRP
Municipal Wastewater Regulation ("MWR") Registration	Q4 2018	On track	CRD
Notice from the Director to Construct under Section 40 (b) of the MWR	Q3 2017	On track	HRP
McLoughlin Point Harbour Crossing			
Greater Victoria Harbour Authority Licence (works access)	Obtained	Complete	CRD
Transport Canada Licence (works access)	Obtained	Complete	HRP
Transport Canada Facility Alteration Permits (HDD and installation of the casing and pipe)	Obtained	Complete	HRP
Transport Canada lease	Following completion of construction	On track	HRP
McLoughlin Point Outfall			
Transport Canada Facility Alteration Permit	Q4 2017	Submitted: under review by Transport Canada	HRP
Transport Canada Licence (works access)	Q4 2017	Submitted: under review by Transport Canada	HRP
Provincial Tenure Crown Grant	Q4 2019	On track	HRP
Transport Canada Lease	Following completion of construction	On track	HRP
Notice from the Director to Construct under Section 40 (b) of the MWR	Q4 2017	On track	HRP
Macaulay Point Pump Station Upgrade			
Township of Esquimalt Development Permit	Q1 2018	On track	DB Contractor
Clover Forcemain			
City of Victoria Licence (works access)	Obtained	Complete	CRD
Clover Point Pump Station			
Rezoning within the City of Victoria	Obtained	Complete	CRD
City of Victoria Licence (facility siting)	Obtained	Complete	CRD
ECI/Trent Twinning			
City of Victoria Licence (works access)	Q1 2019	On track	Design Consultant



Permit / Licence	Anticipated Date	Status	Responsible Party
<i>Arbutus Attenuation Tank</i>			
Vancouver Island Health Authority Licence (works laydown)	Q2 2019	On track	CRD
<i>Residual Solids Pipes and Pump Stations</i>			
Ministry of Transportation and Infrastructure permits (works access)	Q1 2018	On track	Design Consultant
<i>Residuals Treatment Facility</i>			
Operational Certificate	Prior to start of RTF operations	On track	RTF Project Co
District of Saanich Development Permits	Q2 2018	On track	RTF Project Co

2.3 First Nations

First Nations communication and engagement was ongoing over the period.

The Songhees First Nation Liaison and Esquimalt First Nation Liaison continued coordination activities with their respective Nations, including meeting with their leadership to identify potential candidates for employment on the Project. Additionally, both First Nation Liaisons assisted the Project Team in disseminating Project related notices to their communities.

First Nation monitors assisted Millennia with their preliminary field reconnaissance and archaeological monitoring responsibilities during the geotechnical investigation program along the residual solids conveyance line route. Activities performed by the First Nation monitors included observing excavated soils for archaeological material and identifying areas of archaeological potential that could not be confirmed with desk-top work alone.

2.4 Stakeholder Engagement

During the month of August, 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 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 materials and methods supported the implementation of the Communications and Engagement Plan, including a public inquiry program, Project website updates, construction notifications, and community and stakeholder meetings.

Construction Communications

Construction was underway in the month of August in three areas: McLoughlin Point, Ogden Point, and geophysical and geotechnical work along the proposed route of the residual solids conveyance line in Esquimalt, Victoria and Saanich.

Construction Notices



In August, two construction notices (Appendices A and B) were issued to stakeholders and uploaded onto the Project website:

- [Residual Solids Conveyance Line: Preliminary field study work – Saanich: August 9](#)
- [Residual Solids Conveyance Line: Preliminary field study work – Esquimalt: August 9](#)

These construction notices were:

- mailed to residents and businesses in Saanich within 500m of the proposed route alignment;
- 150 notices were hand-delivered to residents and businesses in Esquimalt and Victoria;
- stakeholder groups in Esquimalt, Victoria and Saanich received an email notification; and
- posted to the Project website.

In addition, weekly McLoughlin Point blasting schedules were posted to the website to ensure the public was aware of what to expect in the upcoming week. An example of one of these blasting schedules is attached as Appendix C.

Project Website

The Project website, wastewaterproject.ca, was updated throughout the month. The site includes all construction and media releases, relevant reports and a “Community Questions” page to provide stakeholders with answers to commonly-asked questions.

Community Meetings

Over the reporting period the Project Team held a meeting with the Township of Esquimalt Liaison Committee. The Project Team also held meetings with representatives of the following municipalities:

- District of Saanich & Saanich Technical Working Group;
- Township of Esquimalt Technical Working Group; and
- City of Victoria.

Members of the Project Team also staffed an information booth at a Canada 150 Celebration event in Esquimalt in order to provide members of the public with an opportunity to ask questions.

Public Inquiries

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

Table 4- Project Inquiries

Inquiry Source	Contacts for August
Information phone line inquiries	17
Email inquiries responded to	21



Key themes of the public inquiries are as follows:

- public realm improvements in Victoria;
- the Arbutus Attenuation Tank;
- construction and impacts of the Residual Solids Treatment Facility;
- route of the Residual Solids Conveyance Line;
- geotechnical work in Esquimalt and Saanich;
- concerns about property damage;
- request for information meeting;
- employment, supplier and contractor interest; and
- requests to be added to email update list.

Media Releases

One media release was issued in August (attached as Appendix D) as follows:

- Macaulay Point Pump Station and Forcemain Proponents Shortlisted.

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

The Project progressed as planned during August.

The WWTP Project Component continued with the progression of engineering, drilling of the harbour crossing from Ogden Point, and site preparation at McLoughlin Point.

Procurement activities advanced according to schedule with the issue of the RFP for the Macaulay Point Pump Station and Forcemain Design-Build contract.

A number of Project planning related activities were ongoing throughout August. Key amongst these were detailed schedule integration activities including:

- review of the HRP baseline schedule by CRD - HRP are currently incorporating CRD comments into their baseline schedule for re-issue; and
- cost-loading of the Project schedule to support earned value management is planned to be completed by HRP within the next 30 days.

Figure 1 shows the high-level Project schedule. This schedule is unchanged from that shown in the July Monthly Report, however it remains subject to optimization as the Project and planning progress, and updates are anticipated to be made in the next Project report.



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Figure 1-High-Level Project Schedule¹



¹ This schedule is unchanged from that shown in the July Monthly Report, however it remains subject to optimization as the Project and planning progress, and updates are anticipated to be made in the next Project report.



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2.6.1 30 day lookahead

Key activities and milestones for the next 30 days are:

Safety

- three designated WTP staff are to receive Level 1 First Aid training;
- WTP Safety Manager and/or Construction Manager will conduct daily site inspections at all active Project work sites;
- Project Team review of incident reports: these reviews will be ongoing for the duration of the Project. As incident reports are submitted by Project contractors they will be reviewed to ensure that measures are put in place to prevent a recurrence. Depending on the type of incident notices may be sent to other Project contractors to advise them of the incident and the preventative measures taken;
- participation in the Joint Occupational Health and Safety Committee meeting; and
- participation in bi-weekly CRD safety meetings.

Environment and Regulatory Management

- Provincial issuance of a Heritage Inspection Permit in early September to allow for the field portion of the Archaeological Impact Assessment work to proceed;
- HRP is expecting to receive 'Notice from the Director' in early September that construction of the McLoughlin facility may proceed;
- Project Team anticipates submitting a draft 'Information Requirements Table' to the Ministry of Environment to provide scope for the MWR Registration application; and
- Project Team plans to meet with Department of National Defence staff to discuss post-construction ecosystem restoration activities.

First Nations

- engagement of Pauquachin Nation;
- employment of First Nations monitors during the Residual Solids Conveyance Line geotechnical investigation program; and
- continued engagement and cooperation with the Esquimalt Nation and the Songhees Nation through their designated liaisons.

Stakeholder Engagement

- coordination with the District of Saanich and community association representatives for upcoming public engagement in Saanich;
- planning for Fall community information sessions in Victoria, Esquimalt and Saanich;
- Fairfield Fall community event booth;
- ongoing community liaison meetings; and
- development of Project Update #4.



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Construction

McLoughlin Point

- remove fill behind existing retaining wall and demolition of retaining wall;
- continue blasting and excavation at McLoughlin site (estimated completion in September 2017); and
- trailer complex setup including office, crew and sanitary facilities (estimated move-in to site in September 2017).
- outfall shaft blasting;
- blast rock crushing; and
- excavation and disposal of contaminated material.

Ogden Point

- continue HDD pilot hole (expected to reach McLoughlin Point by mid-October 2017 – note that this is two weeks later than was expected as of the last monthly report, but it is not anticipated to have an impact on the overall schedule).

Engineering

WWTP

- CRD to provide formal response to 30% design comments;
- HRP to continue progress of 50% design;
- HRP to re-submit Concrete Package 1 – Tsunami and Planter Wall 100%;
- HRP to submit Concrete Package 2 – Foundation Support: 100%;
- HRP to submit Concrete Package 3 – Foundation: 100%; and
- HRP to submit Concrete Package 4 – Foundation Walls: 100%.

Conveyance

- complete geotechnical drilling along the Residual Solids Conveyance Line alignment;
- complete topographical surveying along the Residual Solids Conveyance Line alignment; and
- complete geophysical testing along the Residual Solids Conveyance Line alignment.

Procurement

RTF

- receipt of Residuals Treatment Facility Technical Submissions; and
- continue to respond to proponent enquiries.

Conveyance System

- evaluation of responses to Clover Point Pump Station RFP and selection of preferred proponent;



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- respond to proponent enquiries on the Macaulay Point Pump Station and Forcemain RFP; and
- closure of the design consultant services RFP for Residual Solids Conveyance Line.

2.6.2 60 day lookahead

Key activities and milestones for the next 60 days are:

Environment and Regulatory Management

- Project Team to continue preparing application for MWR Registration;
- HRP to begin preparing confirmation of remediation report and Certificate of Compliance application for McLoughlin Point; and
- Millennia to continue Archaeological Impact Assessment field investigations.

First Nations

- continued engagement and cooperation with the Esquimalt Nation and the Songhees Nation through their designated liaisons.

Stakeholder Engagement

- development of information materials for fall Community Information Meetings;
- ongoing community liaison meetings; and
- release of Project Update #4.

Construction

McLoughlin Point

- commence construction of the tsunami wall;
- set up second horizontal directional drill rig; and
- complete detailed excavation for wastewater treatment plant superstructure.

Ogden Point

- complete HDD pilot hole (expected to reach McLoughlin Point in October 2017); and
- commence reaming of 24" diameter bore hole.

Engineering

WWTP

- HRP to continue progress of 50% Design;
- CRD to review Concrete Package 1 – Tsunami and Planter Wall 100%;
- CRD to review Concrete Package 2 – Foundation Support: 100%;
- CRD to review Concrete Package 3 – Foundation: 100%; and
- CRD to review Concrete Package 4 – Foundation Walls: 100%



Procurement

Conveyance System

- award design-build contract for Clover Point Pump Station;
- Progress Macaulay Point Pump Station and Forcemain RFP; and
- selection of preferred proponent and award contract for design consultant services for Residual Solids Conveyance Line.

2.7 Cost Management and Forecast

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

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; third-party commitments; and PMO-related costs.

2.7.1 Commitments

Commitments were made during the reporting period that resulted in an increase in committed costs of \$2 million. The following were the significant commitments made in the reporting period:

- Millenia Research Limited - Archeological Consulting;
- KWL - Arbutus design consultant services;
- HRP - contract change orders; and
- Futura Properties - Tennyson Lease (Macaulay Point Pump Station Temporary Operations).

2.7.2 Expenses and invoicing

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

2.7.3 Contingency

A draw of \$1.2M was made from contingency in the reporting period. The contingency draw relates to: a change order to the HRP contract (related to the excavation of contaminated materials); the commitment to temporarily relocate operations staff from Macaulay Point Pump Station while it is under expansion; and PMO costs related to procurement.

This is the first material draw from contingency. The remaining contingency is anticipated to be sufficient to deliver the Project within the Control Budget.



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2.7.4 Program Reserve

A draw of \$30k was made from the program reserve for recruitment-related costs. The remaining program reserve is anticipated to be sufficient to deliver the Project within the Control Budget.

2.8 Key Risks and Issues

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

Table 5 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.



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Table 5 - Project Active Risks Summary

Risk No.	Risk	Risk Status	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
2	First Nations engagement	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
6	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
7	Misalignment between Project objectives/scope and stakeholder expectations	The assessed risk level reflects the Project Team's priority of establishing strong and effective community stakeholder engagement.	Community engagement activities were on-going over the reporting period.	M	No change
10	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



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Risk No.	Risk	Risk Status	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
18	Provincial or Federal government/agency permit requirements not met	Project Component required Provincial or Federal permit conditions are not met by Project contractors resulting in delays or work stoppage.	The Project Team is compiling a permit compliance register to monitor and manage Project permit condition compliance by Project contractors. Meetings with Federal and Provincial agencies to fully understand and meet requirements in a timely fashion	M	No change

Risk Level Key

Risk Level Range	Risk Level Range
L	Low
M	Medium
H	High



2.9 Status (Engineering, Procurement and Construction)

2.9.1 Wastewater Treatment Plant (WWTP)

The WWTP Project Component is continuing with HRP progressing engineering of the WWTP and outfall, drilling of the harbour crossing from Ogden Point, and site preparation at McLoughlin Point.

Engineering

HRP progressed multiple design and detailed planning in August, including:

- completion of DND Environmental Effect Determination (EED) Amendment No. 2; and
- submission of Concrete Package 1 – Tsunami and Planter Wall 90%.

Construction

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

McLoughlin Point

- commenced installation of PVC dewatering pipe from the temporary dewatering and water treatment system to the DND discharge point ;
- commenced crushing of blast rock in area “A”;
- continued drilling and blasting of rock outcrops and hauling the blast rock to area “A” for crushing;
- stripped off clean material to 300mm above contamination elevation and used the clean material to cap the HDD drill rig site;
- mobilized and set up temporary site offices;
- temporary power connected at site;
- continued the environmental test pitting site characterization process to obtain closure samples in contaminated areas to minimize the total volume of contaminated material;
- removal of contaminated material from site and disposal at an accredited facility;
- installed groundwater management system; and
- erosion and sediment control for site to protect environment from runoff.

Ogden Point

- placed geotextile fabric over the site and capped with gravel to level the site and minimize tripping hazards;
- management and disposal of contaminated soils; and
- continued drilling pilot hole to 337m (37%) under the harbour.

At McLoughlin Point construction progressed in line with the schedule with HRP furthering design and continuing with drilling (Figure 2) and blasting (Figure 3) while maintaining dust control for all blasting and loading operations (Figure 4). HRP continued loading and hauling blast rock to area “A” (Figure 5) and commenced crushing of the blast rock for use as structural fill (Figure 6).

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At Ogden Point the drilling of the HDD pilot hole continued and reached 337m across the harbour by end of the August.



Figure 2 - Drilling of rock outcrop



Figure 3- Blast rock

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Figure 4 - Maintaining dust control on site



Figure 5 – Loading blast rock on to trucks and hauling to area A



Figure 6 – Crushed blast rock in area A

2.9.2 RTF

The Residuals Treatment Facility is in the procurement phase. The procurement phase progressed as planned for the period.

The Project Team released addenda making updates and changes to the RFP and the initial draft project agreement.

The team held the third and final round of collaborative meetings in August, with each shortlisted proponent team spending an entire day providing comments to the Project Team on the project agreement.

The Project Team continues to receive enquiries from all three proponent teams with most of them being technical in nature and is working to ensure that they are answered in a timely manner.

2.9.3 Conveyance System

Engineering

The indicative alignment design continued to be progressed for both the Clover Point Forcemain and the Residual Solids Conveyance Line.

Survey, geophysical and geotechnical field work was conducted for the indicative design of the Residual Solids Conveyance Line. This work is anticipated to be completed in September, 2017.

Procurement

The Request for Proposals for the Clover Point Pump Station design-build contract closed on August 16, 2017 and proposals were received. The proposals are being evaluated.

Submissions were received in response to a Request for Qualifications ("RFQ") for Macaulay Point Pump Station and Forcemain. The submissions were evaluated in accordance with the RFQ and a shortlist of three proponents was identified. The proponents were invited to participate in the next stage of the procurement process and were issued with the RFP on August 24, 2017. The RFP is scheduled to close in November 2017.

For each of the design-bid-build contracts the Project Team will procure design consultant services (including the "Engineer of Record" role). Progress on these procurements was made over the reporting period:

- Kerr Wood Leidal (KWL) were re-engaged to complete the design consultant services for the Arbutus Attenuation Tank. KWL completed the design for the Arbutus Road Attenuation Tank in 2015, under the Seaterra Program. Part of the design process involved incorporating design features identified through the public consultation process undertaken at that time. KWL's contract was terminated in 2015 when the Seaterra Program was suspended. The requirements for the Arbutus Attenuation Tank have not changed so the Project Team have re-engaged KWL to complete their original



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design consultant contract work (i.e. provide tender and construction period services associated with their design);

- the RFP for design consultant services for the Clover Forcemain closed on August 3, 2017. The proposals were evaluated in accordance with the RFP and KWL were selected as the preferred proponent; and
- the RFP for design consultant services for the Residual Solids Pipes and Pump Stations was issued in August. The RFP is scheduled to close in September 2017.

Appendix A: Construction Notice – Saanich, August 9, 2017



Wastewater
Treatment Project
Treated for a cleaner future

Construction Notice

August 09, 2017

Wastewater Treatment Project: Residual Solids Conveyance Line

The Wastewater Treatment Project is being built to meet the provincial and federal regulations for treatment of the Core Area's wastewater by December 31, 2020.

The Project consists of three components:

1. A 108 megalitre per day tertiary treatment plant at McLoughlin Point in Esquimalt;
2. A conveyance system for piping the wastewater to the plant and the residual solids to the Residuals Treatment Facility at Hartland Landfill; and
3. A Residuals Treatment Facility at Hartland to produce Class A biosolids.

The Residual Solids Conveyance Line includes two pipes along with four or five pumping stations. The two pipes will be installed in a common trench where possible and will connect the McLoughlin Point Wastewater Treatment Plant to the Residual Solids Facility at Hartland Landfill. The first pipe will be 200mm wide, 18.5km long, and will transport residual solids from the McLoughlin Point Wastewater Treatment Plant to the Residuals Treatment Facility. The second pipe will be 350mm wide, 11.5km long, and will return the liquid removed from the Residual Solids during the treatment process to the Marigold pumping station which will then be directed to the Wastewater Treatment Plant through the existing collection system.

The Wastewater Treatment Project Team is currently establishing a process for communications and engagement in Saanich that will include working with community associations and/or the Saanich Community Association Network.

The Project Team anticipates holding information meetings in Saanich in the fall of this year. The Project Team plans to coordinate these meetings with staff from the District of Saanich and the Saanich Community Advisory Network as well as Willis Point, Todd Creek and Peninsula Streams. The purpose of these meetings will be to share the indicative design for the Residual Solids Conveyance Line pipe alignment (including the anticipated location of the pump stations) and to seek public input that could be considered, along with technical and financial considerations, in finalizing the design.

Before and during the construction phase of the Residual Solids Conveyance Line the Project Team will engage with nearby communities as we plan communications activities and develop plans to mitigate construction impacts. The team will also provide information about communications tools and seek feedback about the most effective ways to communicate with Saanich communities during construction.

The Project Team has discussed with District of Saanich staff the establishment of a Saanich Community Liaison Committee. It is anticipated that a Saanich Liaison Committee would be made up of members of Saanich community associations, and/or the Saanich Community Association Network. The Project Team anticipates establishing this committee by the end of this year prior to construction in the spring of 2018.

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.



Preliminary field study work anticipated to start August 21

The Wastewater Treatment Project Team is currently working with the municipalities of Saanich, Esquimalt, and Victoria on the route of the Residual Solids Conveyance Line. Preliminary geophysical and geotechnical work will provide additional information about the subsurface conditions along the proposed route. This information will assist in developing the indicative design and alignment of the Residual Solids Conveyance Line. You will find a map on the last page of this notice that outlines the locations for the geophysical and geotechnical work.

Subject to receiving the necessary permits, the geotechnical work is anticipated to begin on the week of August 21 and will take approximately six weeks to complete depending on the weather. A truck mounted drilling rig will be used to drill approximately 70 boreholes along the proposed route of the Residual Solids Conveyance Line. The estimated duration for drilling each borehole is approximately 2-3 hours. The actual duration could extend longer depending on the soil conditions encountered during the drilling operation.

Concurrently, the Wastewater Treatment Project Team will also be conducting geophysical work along certain sections of the proposed route. This work is part of the preliminary planning work and will be used to identify the bedrock profile along areas on Interurban Road, Interurban Trail, and Willis Point Road where shallow bedrock may be encountered.

Hours of work

- 8 a.m. to 6 p.m. seven days a week
- Hours will be reduced on weekdays in higher traffic volume areas

Traffic impacts

- Temporary single lane closures*
- Flaggers will be on site for traffic control

* Labour Day weekend - no work be conducted on Labour Day weekend

Construction of the Residual Solids Conveyance Line is anticipated to begin in the second quarter of 2018.

For more information on the Wastewater Treatment Project you can go online to wastewaterproject.ca or contact us through email at wastewater@crd.bc.ca or phone our 24-7 Project Information Line 1.844.815.6132.

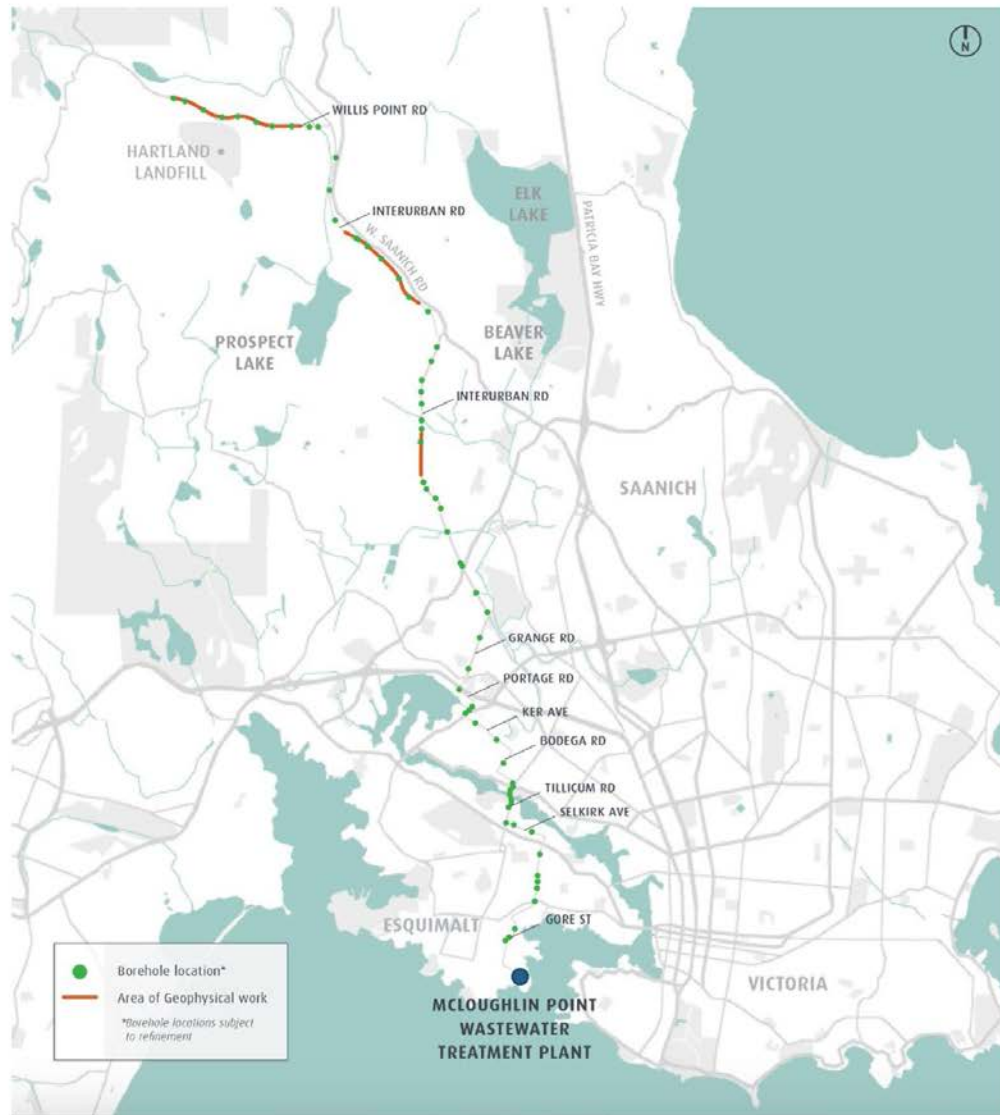
About the Wastewater Treatment Project

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 First 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.

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.

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

Map of proposed areas of geotechnical and geophysical work:



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.

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Appendix B: Construction Notice – Esquimalt, August 9, 2017


Wastewater
Treatment Project
 Treated for a cleaner future

Construction Notice

August 09, 2017

Wastewater Treatment Project: Residual Solids Conveyance Line

The Residual Solids Conveyance Line is part of the Wastewater Treatment Project and will include the construction of two pipes along with four or five pumping stations. The two pipes will be installed in a common trench where possible and will connect the McLoughlin Point Wastewater Treatment Plant to the Residual Treatment Facility at Hartland Landfill. The first pipe will be 200mm in diameter, 18.5km long, and will transport residual solids from the McLoughlin Point Wastewater Treatment Plant to the Residuals Treatment Facility. The second pipe will be 350mm in diameter, 11.5km long, and will return the liquid removed from the residual solids during the treatment process to the Marigold pump station, from where it will be returned to the McLoughlin Point Wastewater Treatment Plant through the existing conveyance system.

Preliminary field study work anticipated to start August 21

The Wastewater Treatment Project Team is currently working with the municipalities of Saanich, Esquimalt, and Victoria on the route of the Residual Solids Conveyance Line. Preliminary geophysical and geotechnical work will provide additional information about the subsurface conditions along the proposed route. This information will assist in developing the indicative design and alignment of the Residual Solids Conveyance Line. You will find a map on the last page of this notice that outlines the locations for the geophysical and geotechnical work.

Subject to receiving the necessary permits, the geotechnical work is anticipated to begin on the week of August 21 and will take approximately six weeks to complete depending on the weather. A truck mounted drilling rig will be used to drill approximately 70 boreholes along the proposed route of the Residual Solids Conveyance Line. The estimated duration for drilling each borehole is approximately 2-3 hours. The actual duration could extend longer depending on the soil conditions encountered during the drilling operation.

Concurrently, the Wastewater Treatment Project Team will also be conducting geophysical work along certain sections of the proposed route. This work is part of the preliminary planning work and will be used to identify the bedrock profile along areas of Interurban Road, Interurban Trail, and Willis Point Road where shallow bedrock may be encountered.

Hours of work

- 8 a.m. to 6 p.m. seven days a week*
- Hours will be reduced on weekdays in higher traffic volume areas

Traffic Impacts

- Temporary single lane closures*
- Flaggers will be on site for traffic control

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.

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

* Labour Day weekend - no work be conducted on Labour Day weekend

Construction of the Residual Solids Conveyance Line is anticipated to begin in the second quarter of 2018.

For more information on the Wastewater Treatment Project you can go online to wastewaterproject.ca or contact us through email at wastewater@crd.bc.ca or phone our 24-7 Project Information Line 1.844.815.6132.

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 First 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.

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.

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

Map of proposed areas of geotechnical and geophysical work:



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: Blasting Schedule- week commencing August 8th 2017

August 8, 2017

McLoughlin Point: Blasting Schedule

Site preparation for the McLoughlin Point Wastewater Treatment Plant is underway. The contractor, Harbour Resource Partners, will conduct controlled blasting and excavation as a part of this work.

Blasting Schedule for the week of August 8*:

Tuesday, August 8	4-6 blasts per day
Wednesday, August 9	4-6 blasts per day
Thursday, August 10	4-6 blasts per day
Friday, August 11	4-6 blasts per day

*Blasting Schedule is subject to change.

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

Blasting Hours: Monday to Friday, 8:00 a.m. to 4:30 p.m.

About the Wastewater Treatment Project

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

Harbour Resource Partners is the contractor selected by the CRD to build the McLoughlin Point Wastewater Treatment Plant, cross-harbour undersea pipe, and marine outfall for treated wastewater at McLoughlin Point.

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: Media Release August 25, 2017

Macaulay Point Pump Station and Forcemain Proponents Shortlisted

Aug 25, 2017

Victoria, BC– The Wastewater Treatment Project has issued a Request for Proposals (RFP) to three qualified proponents as part of the competitive selection process for the contract to design and build the Macaulay Point Pump Station and Forcemain.

Five submissions were received in response to the Request for Qualifications (RFQ) which closed on July 05, 2017. The following three teams have been selected to move forward to the RFP stage:

- AECOM Canada Ltd/Graham Infrastructure LP Joint Venture
- Aecon Water Infrastructure Inc.; and
- Kenaidan Contracting Ltd.

Proponents are scheduled to submit their proposals in the late fall and the Wastewater Treatment Project Team expects to award a contract in early 2018. Construction on the Macaulay Point Pump Station and Forcemain will start in 2018 and is anticipated to be complete by spring 2020.

As part of the overall conveyance system, the new Macaulay Point Pump Station will pump wastewater it receives from Colwood, Langford, View Royal, Esquimalt, Saanich and Victoria to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment, and the forcemain will connect the Macaulay Point Pump Station to the McLoughlin Point Wastewater Treatment Plant.

The new pump station will be constructed adjacent to the existing pump station at Macaulay Point. The existing pump station will continue to provide bypass pumping to the Macaulay Point outfall during storm events. Upgrades will be made to the existing pump station, including to the site, and the design of the new pump station will consider its location on the waterfront.

The Wastewater Treatment Project, including the conveyance system components, is being funded by the Government of Canada, the Government of British Columbia and the Capital Regional District (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 Wastewater Treatment Project will be built to comply with



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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 treatment plant, and residual solids to the Residuals Treatment Facility. For more information, please visit www.wastewaterproject.ca.

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Wastewater Treatment Project
Treated for a cleaner future

Appendix E: Monthly Cost Report

ASSET MANAGEMENT COST REPORT as at August 31, 2017													
Project Component	Control Budget	COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
		Expended to July 31, 2017	Expended over reporting period (August 2017)	Expended to August 31, 2017	Expended to August 31, 2017 as a % of Control Budget	Remaining (Unexpended) Budget at August 31, 2017	Total Commitment at August 31, 2017	Unexpended Commitment at August 31, 2017	Uncommitted Budget at August 31, 2017	Forecast to Complete	Forecast at Completion	Variance at Completion \$	Variance at Completion as a % of Control Budget
McLoughlin Point Wastewater Treatment Plant ^A	378	48	6.0	54	14%	324	334	280	44	325	378	-	0%
Residuals Treatment Facility ^A	195	10	0.3	11	6%	184	17	6	178	185	195	-	0%
Conveyance System ^A	192	25	0.8	25	13%	167	36	10	156	166	192	-	0%
Total Costs	765	83	7	90	12%	675	387	297	378	675	765	-	0%

^A - Including PMO and Common Costs
* Values presented in \$millions, results in minor rounding differences