



Wastewater Treatment Project

Treated for a cleaner future

CRD Wastewater Treatment Project

Quarterly Report

Reporting Period: January – March 2018

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1. Executive Summary

1.1. Introduction

This quarterly report covers the reporting period of January – March 2018, and outlines the progress made on the Wastewater Treatment Project over this time.

The Wastewater Treatment Project (the “Project” or the “WTP”) 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 with no changes to the construction/commissioning start and completion dates.

Construction was underway during the reporting period at McLoughlin Point and Ogden Point; and pre-construction activities, including mobilization and temporary works relating to the contractor laydown areas, was undertaken for the Clover Point Pump Station and the Residuals Treatment Facility.

The WWTP continued in the construction phase during the reporting period. The design and construction of the WWTP progressed in line with the schedule, with Harbour Resource Partners (“HRP”, as the Design-Build Contractor for the WWTP furthering design and construction). The two tower cranes were erected and construction of the planter and tsunami walls continued, including installation of the foundation piles and continuing concrete pours. The 34” and 42” reaming passes of the Victoria Harbour Crossing horizontal directional drilling (HDD) hole were completed and 54” reaming passes progressed over the reporting period.

The RTF Project Component transitioned from the procurement phase to the implementation phase through the reporting period and progressed as planned. Financial Close was achieved on February 6, 2018, and pre-construction activities were undertaken including completion of geotechnical investigations and tree removal along the access road to the site. Planning activities, including preparation of work plans, submittals and design deliverables progressed as planned. The 30% design deliverable and workshop were completed during the reporting period.

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

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

- Clover Point Pump Station:
 - Kenaidan Contracting Ltd. Was awarded the Design-Build Contract in January; Kenaidan advanced the design, submitted the 50% design deliverable, and held the 50% design workshop in January, and the 50% Hazard and Operability Workshop in February. Representatives from the

- Project Team, the Owner's Engineer, and the CRD's Integrated Water Services ("IWS") group participated in both workshops; and
- in February, Kenaidan and the Project Team held the 50% design workshop with City of Victoria staff and Lekwungen representatives for the Clover Point Pump Station Public Realm Improvements.
- Macaulay Point Pump Station and Forcemain:
 - Kenaidan was awarded the Design-Build Contract in January;
 - Kenaidan advanced the design, submitted the 30% design deliverable, and held the 30% design workshop in March 2018. Representatives from the Project Team, the Owner's Engineer, and the CRD's IWS group participated in the workshop; and
 - In January, Kenaidan submitted the Development Permit Application to the Township of Esquimalt for the Macaulay Point Pump Station. The pre-application meeting was held with the Township in January. Kenaidan (as the Design-Build Contractor for the Macaulay Point Pump Station and Forcemain) presented the design to the Township of Esquimalt's Advisory Design Review Committee (DRC) in February 2018, and the DRC unanimously passed a resolution that the application for a development permit for the Macaulay Point Pump Station be forwarded to Council with a recommendation for approval. In March 2018, Kenaidan (as the Design-Build Contractor for the Macaulay Point Pump Station and Forcemain) presented the design to Township Council, who unanimously passed a resolution to authorize the development as illustrated on the architectural drawing and the landscape plan be approved. The permit will be issued by Township staff once Kenaidan (as the Design-Build Contractor for the Macaulay Point Pump Station and Forcemain) provides the landscaping security deposit to the Township.

The five design-bid-build Conveyance System contracts are in the engineering phase. Progress over the reporting period included:

- Clover Forcemain:
 - Kerr Wood Leidal ("KWL") (as the Design Consultant for the Clover Forcemain) advanced the design, and in January held a 50% design review meeting. Representatives from the Project Team, the Owner's Engineer, and the CRD's IWS group participated in the workshop;
 - in February, KWL and the Project Team held the 50% design workshop with City of Victoria staff and Lekwungen representatives for the Clover Forcemain alignment and Cycle Path alignment along Dallas Road; and
 - the Project Team prepared a Request for Qualifications (RFQ) to shortlist contractors for the construction of the Clover Forcemain and issued the RFQ in February. Responses to the RFQ were received by the Project Team in March.
- Residual Solids Conveyance Line ("RSCL"):
 - Parsons (as the Design Consultant for the RSCL) advanced the design and submitted the 30% design deliverable and 50% design deliverable in February;
 - in March, Parsons held the 50% design workshop. Representatives from the Project Team, the Owner's Engineer, and the CRD's IWS group participated in the workshop;

- the Project Team prepared the Request for Qualifications (RFQ) to shortlist contractors for the construction of the RSCL, and issued the RFQ in February. Responses to the RFQ were received by the Project Team in March;
- the District of Saanich reviewed the indicative design, and provided comments to the Project Team for consideration in developing the design; and
- Parsons advanced the detail design for work in the vicinity of the McKenzie Interchange, to enable coordination of works with the Ministry of Transportation and Infrastructure (MOTI)'s construction of the McKenzie Interchange project.
- Arbutus Attenuation Tank:
 - KWL (as the Design Consultant for the Clover Forcemain) continued development of the final (100%) design deliverable. The final design is scheduled to be completed in Q3 2018.
- East Coast Interceptor/Trent Siphon and Currie Pump Station and Forcemain:
 - The Project Team has developed a draft Request for Proposals (RFP) for Design Consultant Services. The RFP is scheduled to be issued in Q3 2018.

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 System	Comments
Safety	Deliver the Project safely with zero fatalities and a total recordable incident frequency (TRIF) of no more than 1*.					No recordable incidents; 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 with four community meetings held in Victoria. 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 but cost pressures identified. Corrective action has been identified and is being implemented (see section 2.8 for details).

* 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.

HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) continued construction at the WWTP work sites over the reporting period. At the end of the reporting period there were a total of 116 full time equivalents on the Project, including 30 Project Team employees and 86 contractors comprising HRP, Kenaidan, Hartland Resource Management Group (“HRMG”, as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) and subcontractors.

Over the reporting period there were two safety-related incidents that did not result in recordable incidents: one near-miss incident and one high-potential near-miss incident.

The near-miss incident occurred at the Hartland site and involved a subcontractor to Stantec. Stantec (as the Owner's Engineer providing technical support for the CRD WTP) was investigating the proposed alignment of the water line, which, once it is constructed, will service the RTF. While an excavator operator was digging a test pit, an underground low voltage utility line was struck. The strike broke only the conduit and did not break the actual electrical line. The local utility company was contacted and the conduit repaired.

The utility line was not listed on any drawings that had been provided at the time of the locate. A Geo-Scan of the area had also been performed which did not identify any underground lines. Stantec was on-site providing supervision and the subcontractor had completed their safety orientation prior to undertaking the work.

Corrective actions were taken as follows:

- the line was repaired and noted on the Hartland site drawings for any future work in the area;
- these drawings are retained by both the Hartland site staff and District of Saanich; and
- before more testing was performed, alternate locations for the next test pit were determined and additional Geo-Scan of each was undertaken.

The work continued and is now completed.

On February 15th 2018, a high-potential near-miss incident occurred at the McLoughlin site and involved a subcontractor to HRP (as the Design-Build Contractor for the McLoughlin Point WWTP). A drill rig company that was engaged in contamination monitoring activities contacted and damaged an underground conduit that was protecting the 600 voltage feeder cable which supplies a tower crane. The wires within the conduit were not damaged. Immediately HRP isolated and locked out the electrical service. The area was then roped off in order to allow for a comprehensive investigation.

Due to the severity of this incident HRP notified the CRD immediately and informed them a preliminary investigation was being initiated. A High Potential for Harm Incident Meeting was called by CRD at the McLoughlin site with HRP and its subcontractor involved in the contact with the 600 volt conduit. The CRD WTP Safety Manager and the CRD Corporate Manager attended the incident site to discuss the immediate corrective actions that were put into place by HRP's management team. These actions included:

- suspension of all ground alteration activities until a comprehensive investigation of the incident was completed;
- removal of the ground disturbance permit; and
- discussion of the incident during the following day's toolbox talks with all employees and subcontractors.

Once the investigation was completed, HRP hosted an Executive Incident Summary Meeting with the CRD Project Team. The meeting identified a weakness in HRP's internal process utilized to monitor subcontractor work performed outside of regular working hours. HRP has initiated procedures to have a more stringent hazard assessment review, have a more comprehensive permit system and is providing retraining to all subcontractors, employees, and supervisors.

Site safety tours and weekly safety inspections were carried out by Project Team construction and safety personnel over the reporting period. With ongoing construction activities on the Project these inspections continued and documented site inspections were performed weekly. Office and site orientations were delivered as required.

In January, key safety activities included:

- winter driving booklets were distributed to PMO members required to drive in winter months and competency tests were completed by the participants;
- the PMO's Emergency Response Plan was updated to include a more specific Emergency Plan in the event of a tsunami;
- a review of Kenaidan's health and safety manual, safe work practices, and job procedures for the Clover Point Pump Station and Macaulay Point Pump Station and Forcemain;
- a review of an incident report detailing the high-pressure hose leak reported in the Project's Quarterly October – December 2017 Report that a small amount of drilling fluid (bentonite slurry) was released from a drilling rig at Ogden Point to ensure that appropriate mitigation measures were adopted;
- a safety review of HRP's 50% Detailed Design Report;
- attendance of weekly prime contractor progress meetings;
- the WTP Safety Manager and CRD Corporate Safety Representative participated in a monthly coordination meeting to review Project status and incident report corrective actions;
- Project Team construction and safety personnel conducted site safety tours of the Ogden Point and McLoughlin Point work sites;
- monthly office inspection was completed with the WTP Safety Manager and Worker Representative; and
- completion of the 2018 Annual HRP site orientation with Project staff.

In February, key safety activities included:

- new RTF contractor Project safety orientation for HRMG (as the Design-Build-Finance-Operate-Maintain Contractor for the RTF);
- updated the WWTP Safety Management Plan;
- completed the CRD WWTP Emergency Response Plan, describing procedures for Working Alone and Tsunami Emergency;
- procurement of an Emergency Response Kit for PMO;
- review of an incident report involving release of drilling fluid (bentonite slurry) at the McLoughlin Point end of the Cross-Harbour Forcemain;
- attendance at weekly prime contractors progress meetings;
- WTP Safety Manager and CRD Corporate Safety Representative participated in monthly coordination meeting to review Project status and site activities;
- orientation of CRD WWTP personnel at Hartland site;
- review of the pipe assembly and execution plan for the Niagara Street pipe pull;
- participation in HRP risk review safety walk at Niagara Street; and
- completed a monthly office inspection with the Worker Representative.

In March, key safety activities included:

- the WTP Safety Manager performed the following document reviews:
 - Niagara Street Pipe Assembly Hazard Assessments;
 - Kenaidan Site Management Plan for Macaulay Pump Station;
 - Kenaidan hazard assessment and safety meeting review at Clover Point;
 - HRMG Rock Blasting Plan;
 - HRP provided an Executive Summary on the high-potential near-miss incident in February 2018 involving a tower crane cable strike;
- WWTP contractor orientation was performed for Parsons and Ryzuk for their work on the RSCL; and
- an Emergency Response Kit for CRD WTP was received and set up in the PMO.

The Project Team continues to take a proactive approach to safety. Key initiatives taken over the periods include:

- close coordination between Project and CRD Corporate Safety teams (Rob Ingraham, Manager, Corporate Occupational Health and Safety);
- close integration/collaboration with CRD and Contractors' Safety teams;
- formalized weekly Senior Management Site Safety Inspections;
- standardized near-miss/high potential safety investigation protocols;
- attendance by CRD Construction Manager at key site safety meetings;
- review and approval of contractors' safety plans;
- review and approval of individual safety plans per construction activity (crane erection);
- ongoing site safety document review to ensure compliance with written plans;
- review of contractors' weekly Health, Safety and Environmental Summary reports;
- monthly site safety tour performed at all active worksites;
- monthly office inspection completed with WTP Safety Manager;
- participation in HRP Risk Review safety walk at Niagara Street for pending work; and
- Project Team construction and safety personnel conducted documented safety inspections of prime contractor sites.

Table 2 – WTP Safety Information

	Reporting Period (Q1 2018)	Project Total to-Date (from January 1, 2017)
Person Hours		
PMO	13,130	46,005
Project Contractor	36,824	129,076
Total Person Hours	49,954	175,081
Employees		
PMO	30	
Project Contractors working on Project site	86	
Total Number Of Employees	116	
Incidents		
Near Miss Reports	1	4
High Potential near Miss Reports	1	2
Report Only	0	0
First Aid	0	1
Medical Aid	0	0
Medical Aid (Modified Duty)	0	0
Lost Time	0	0
Total Recordable Incidents	0	0
Frequencies		
First Aid Frequency	0	1
Medical Aid Frequency	0	0
Lost Time Frequency	0	0
Total Recordable Incident Rate	0	0

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 archaeological studies, environmental studies and reviewing environment-related submittals.

Key environmental management activities undertaken over the reporting period included:

- in January, the Project Team, City of Victoria and Kenaidan (as the Design-Build Contractor for Clover Point Pump Station) had an on-site meeting at Clover Point to discuss the management of rare plants;
- in February, the Project Team, HRMG (as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) and the BC Ministry of Environment and Climate Change Strategy (ENV) met to discuss the permitting process and EIS requirements for the RTF;
- Parsons (as the Design Consultant for the RSCL) continued work on an EIS for the RSCL;
- Kerr Wood Leidal (as the Design Consultant for the Clover Forcemain) continued work on an Environmental Assessment Report that includes management of invasive species and rare plants in the City of Victoria parks along the Clover Forcemain route; and
- HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) continued preparing an updated Marine EIS.

HRP (as the Design-Build Contractor for the McLoughlin Point WWTP), experienced an environmental incident during the reporting period. On February 7th 2018, there was a release of drilling fluid (bentonite slurry) at the McLoughlin Point end of the Victoria Harbour Crossing Forcemain. Bentonite slurry is utilized in the Horizontal Directional Drill (HDD) process to lubricate the drill head and carry rock cuttings from the hole. The volume of drilling fluid released to the foreshore and Victoria Harbour was approximately one cubic metre (1,000 litres). Crews worked immediately to stop and contain the release, and cleanup of the ocean floor took place that day after the tide went out. HRP determined that the release resulted in Provincial Water Quality standards for turbidity and total suspended solids being exceeded for a period of less than 24 hours. Following the incident, HRP completed an internal review of their response to the release and, while the immediate actions taken in response to the release were appropriate and sufficient, HRP identified a number of areas for improvement in their communications and reporting procedures. HRP are now implementing the improvements.

2.2.2. Regulatory Management

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 Clover Point Pump Station), Kerr Wood Leidal (as the Design Consultant for the Clover Forcemain) and Parsons (as the Design Consultant for the RSCL) in the development of permit applications; engaging with the federal and

provincial governments in support of obtaining key permits (summarized in Table 3); and continuing to advance the MWR Registration and planning for future permit applications.

A key regulatory activity over the reporting period included the CRD, Stantec (as the Owner's Engineer providing technical support for the CRD WTP), HRP (as the Design-Build Contractor for the McLoughlin Point WWTP), and Kenaidan (as the Design-Build Contractor) continuing to advance the MWR Registration application. This included holding bi-weekly coordination meetings with ENV.

In January, key regulatory activities included:

- HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) amended and re-submitted an application to the BC Ministry of Environment and Climate Change Strategy (ENV) to allow the discharge of treated excavation water to Victoria Harbour;
- Kenaidan (as the Design-Build Contractor for the Clover Point Pump Station) received a Delegated Development Permit from the City of Victoria, authorizing the construction of a lay-down area at Clover Point;
- Kenaidan (as the Design-Build Contractor for the Macaulay Point Pump Station and Forcemain) submitted a Development Permit Application to the Township of Esquimalt for the Macaulay Point Pump Station;
- HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) continued to work on an application for a *Fisheries Act* Authorization. The Authorization is required for McLoughlin outfall construction.

In February, key regulatory activities included:

- the Archaeology Branch of the BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNR) issued a Site Alteration Permit (SAP) to the Project, permitting the disturbance of archaeological materials at a Registered Archaeological Site at Clover Point. The location of the Registered Archaeological Site overlaps with Kenaidan's lay-down area and part of the Clover Forcemain, meaning that excavation in those areas could not occur without the SAP;
- HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) received a Licence of Occupation from FLNR for the portion of the McLoughlin Point outfall on Provincial Crown Land (this is the area beyond the limits of Victoria Harbour, which is Federal Crown Land); and
- HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) submitted an application for a Fisheries Act Authorization to Fisheries and Oceans Canada (DFO). The Authorization is required for McLoughlin outfall construction.

In March, key regulatory activities included:

- the Project received an SAP from the Archaeology Branch of FLNR, allowing construction in known archaeological sites that are crossed by the Project. This is a separate SAP from the one issued for Clover Point; and
- the Project Team met with the Coast Guard to discuss the Victoria Harbour Crossing and the Coast Guard's proposed construction at their base in Victoria Harbour.

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 Q4 2017 Quarterly Report are bolded in Table 3 and are as follows:

- i) related to all project components:
 - o Removal of permits/licences that have been obtained;
 - o Addition of Notice from the Director to Construct under Section 40 (b) of the MWR.
 - This addition does not apply to McLoughlin Point WWTP (already obtained), McLoughlin Point Harbour Crossing (not required), and Residuals Treatment Facility (not required).
- ii) related to the Macaulay Point Pump Station:
 - o Township of Esquimalt council approved Kenaidan's Development Permit application (the issuing of the Permit is subject to Kenaidan (as the Design-Build Contractor for the Macaulay Point Pump Station and Forcemain) providing a landscaping security deposit to the Township).
- iii) related to the RSCL:
 - The Project Team negotiated an agreement with the BC Ministry of Transportation and Infrastructure (MOTI) to install a casing under Highway 1 for the RSCL. This negates the need for the Project to obtain a Works Access permit and so this permit has been removed from the table.
- iv) related to the Arbutus Attenuation Tank:
 Removal of the Vancouver Island Health Authority Licence (works laydown). Alternative laydown areas are being considered and if a permit/licence is required to authorize the laydown area, it will be added to the table.

Table 3- Key Permits Status

Permit / Licence	Anticipated Date	Status	Party Responsible for Obtaining Permit
<i>McLoughlin Point WWTP</i>			
Township of Esquimalt Development Permit Amendment	Q1 2018	Received	HRP
Township of Esquimalt Phased Building Permits (Phase 1 obtained - Future phases to be determined with Township of Esquimalt)	TBD	TBD	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) <i>Fisheries Act</i> Authorization	Q2 2018	On track	HRP
Transport Canada Facility Alteration Permit	Q2 2018	Submitted: under review by Transport Canada	HRP
Transport Canada Licence (works access)	Q2 2018	Submitted: under review by Transport Canada	HRP
Provincial Tenure Crown Grant	Q2 2018	Received	HRP

Permit / Licence	Anticipated Date	Status	Party Responsible for Obtaining Permit
Transport Canada Lease	Following completion of construction	On track	HRP
Notice from the Director to Construct under Section 40 (b) of the MWR	Q2 2018	On track	HRP
<i>Macaulay Point Pump Station Upgrade</i>			
Township of Esquimalt Development Permit	Q1 2018	Pending	Kenaidan
Notice from the Director to Construct under Section 40 (b) of the MWR	Q2 2018	On track	Kenaidan
<i>Clover Forcemain</i>			
Notice from the Director to Construct under Section 40 (b) of the MWR	Q2 2018	On track	Kerr Wood Leidal
<i>Clover Point Pump Station</i>			
Notice from the Director to Construct under Section 40 (b) of the MWR	Q1 2018	Received	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
<i>Residual Solids Conveyance Line</i>			
Ministry of Transportation and Infrastructure permits (works access)	Q1 2018	No longer required	Parsons
Notice from the Director to Construct under Section 40 (b) of the MWR	Q2 2018	On track	Parsons
<i>Residuals Treatment Facility</i>			
Operational Certificate	Prior to start of RTF operations	On track	RTF Project Co.
District of Saanich Development and Building Permits	Q2 2018	On track	RTF Project Co.

2.3. First Nations

First Nations communication and engagement were ongoing and progressed as planned over the reporting period. The CRD First Nations Relations Division worked with the Environmental, First Nations and Regulatory Manager to advance consultation and reporting in support of federal and provincial permit applications. Additionally, members of the Songhees and Esquimalt First Nations supported Millennia staff during archaeological field investigations throughout the reporting period.

In January, the Songhees Nation Liaison attended the 50% Design Workshop for the Clover Forcemain. The purpose of attendance was to provide input on the final design of the Public Realm Improvements.

In February, the Project Team and the Liaisons continued to develop a process for recognizing and celebrating Lekwungen Heritage and Culture through design of public realm improvements and provision of public art (Clover Point Pump Station and Clover Forcemain).

In March, the Chair of the Project Board, members of the Project Team and Project contractors attended a Burning Ceremony at the Songhees reserve. The ceremony was led by the Esquimalt and Songhees Nations, and is an important and powerful ritual that the Project Team was honoured to participate in.

2.4. Stakeholder Engagement

The Project maintained its ongoing two-way Communications and Engagement Plan to provide Project information to stakeholders, communities and the public and to respond to public inquiries. The key focus of the communications and engagement activities over the 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 community information meetings, stakeholder meetings, Project website updates, notifications of construction through notices, and a public inquiry program, among other methods.

January Overview

In January, the Project Team held two community meetings (January 10th and January 11th) in James Bay and Fairfield Gonzales, as part of licence agreements with the City of Victoria. The purpose of the meetings was to provide information and seek input for incorporation into the final design of the following:

- alignment of the Clover Forcemain (pipe) within the Dallas Road right-of-way;
- design and alignment of the Cycle Path along Dallas Road;
- design for the exterior of the Clover Point Pump Station building; and
- design of the public realm improvements.

The community meetings were formatted as a presentation from the Project Team followed by a facilitated Q & A session for members of the public to ask questions of team members. The meetings were attended by approximately 300 residents. The presentations were distributed at each meeting and were posted to the Project website so that members of the public that were unable to attend the events could see the information presented. As part of the community consultation, a feedback form was available at the community meetings and was posted on the Project website. The Project received 350 submissions over the month of January. The input received was compiled and considered by the Project Team, along with technical, financial, and environmental considerations. The revised design will be presented to the City of Victoria Council for review in April 2018.

The following items were posted to the website: one construction notice (Appendix A), five blasting notifications (example shown as Appendix B), one information sheet (Appendix C), invitations for the James Bay and Fairfield Gonzales community meetings (Appendices D and E, respectively), community consultation presentations from both meetings and the feedback form for community input.

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

- two community information meetings in James Bay and Fairfield Gonzales;
- City of Victoria Mayor;
- City of Victoria staff;
- District of Saanich staff;
- District of Saanich Technical Working Group;
- Township of Esquimalt Liaison Committee; and
- Township of Esquimalt staff.

In addition, the Project Team provided the Honourable Judith Guichon, Lieutenant Governor of British Columbia, a tour of the Wastewater Treatment Project sites.

February Overview

In February, the Project Team held two Niagara Street Information Meetings on February 21st and February 24th at the Victoria Edelweiss Club in James Bay. The purpose of the meetings was to provide information about the upcoming pipe assembly and pipe pull on Niagara Street. The same information was provided at both meetings to provide flexibility for busy schedules. The first two hours of each meeting was a drop-in format where residents could view information boards and ask questions of the Project Team. It was followed by a presentation and a facilitated Q & A session. The two meetings were attended by approximately 135 residents in total. The key themes of questions included: parking, noise, transit and the post-construction resurfacing of Niagara Street. The local community was notified about these meetings through the hand delivery of invitations (see Appendix F) to almost 1,000 residents on Niagara and side streets intersecting Niagara, emails to over 40 people who signed up for Project updates, and on the Project website. The display boards were also posted to the website and a new Niagara-specific information section was created.

In February there were five construction notices issued to stakeholders: Residuals Treatment Facility - Early Works (Appendix G), Niagara Street: Pipe Assembly and Pipe Pull (Appendix H), Niagara Street - Notice of Road Closure (Appendix I), McLoughlin Point: Blasting Schedule, weekly (Appendix J), and Upgrade and Expansion of the Clover Point Pump Station (Appendix K). This notice was posted as a signage board along fencing on site.

There were two information sheets posted to the website during February: Macaulay Point Pump Station and Forcemain Contractor Selected (Appendix L) and the Residuals Treatment Facility Contract Award (Appendix M). The invitation for the March 13th Community Information Meeting regarding the Macaulay Point Pump Station and Forcemain was also distributed to stakeholders and posted on the Project website (Appendix N).

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

- Two community information meetings regarding Niagara Street;
- City of Victoria staff;
- Department of National Defence;
- District of Saanich Technical Working Group;
- James Bay Neighbourhood Association;

- Township of Esquimalt Council;
- Township of Esquimalt Liaison Committee; and
- Township of Esquimalt staff; and Township of Esquimalt Technical Working Group.

March Overview

The month of March marked the start of the pipe assembly on Niagara Street in James Bay. The Project Team worked in the community to notify residents about what to expect from construction and any resulting impacts in the neighbourhood. As part of informing residents, the Team hand delivered notices to residents to continually update them about road closures and construction updates. Residents also received ongoing notifications about any upcoming residential impacts, including construction notices, website updates, and emails to stakeholders. The Project Team, in collaboration with the contractor, HRP, (as the Design-Build Contractor for the McLoughlin Point WWTP) also had an on-site presence for the public at a “Help Tent” located at Niagara and Oswego Streets. The “Help Tent” was set up as a front-line, staffed service to residents to provide information, answer questions and to listen to feedback from the public. Reception to the Tent was positive and provided the Project Team opportunities to respond to feedback received, such as signage suggestions and building two staircases for pedestrian connectivity. The Project website also featured a dedicated section on Niagara Street and was updated regularly, including a weekly Construction Update that outlined previous weeks’ work undertaken and upcoming construction.

In March the following information documents were posted to the Project website: three construction notices: Clover Forcemain: Archaeological Work (Appendix O), Residual Solids Conveyance Line: Geotechnical Work (Appendix P), and McLoughlin Point: Blasting Schedule (Appendix Q); two information sheets: Macaulay Point Pump Station and Forcemain (Appendix R) and an updated Construction Schedule (Appendix S).

Federal-Provincial-CRD joint signs were placed at the Clover Point Pump Station and at the McLoughlin Point Wastewater Treatment Plant sites outlining the Project timeline and funding amount for the Project.

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

- City of Victoria Mayor;
- City of Victoria staff;
- community information meeting regarding the Macaulay Point Pump Station and Forcemain;
- District of Saanich Technical Working Group;
- Greater Victoria Harbour Authority;
- Township of Esquimalt Council;
- Township of Esquimalt Liaison Committee; and
- Township of Esquimalt staff.

There were also two presentations by the Project Team within the community: Vancouver Island Branch Engineering Institute of Canada / Canadian Society of Senior Engineers and Amica at Somerset House.

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 January - March, 2018

Inquiry Source	Contacts for January - March
Information phone line inquiries	146
Email inquiries responded to	37

Key themes of the public inquiries were as follows:

- construction of the pipe assembly and pipe pull along Niagara Street:
 - questions about the temporary bus route and bus stops;
 - questions about the timing of the pipe pull;
 - concerns about finding parking and receiving parking tickets;
 - questions about timing of closures of the cross streets (Montreal, Oswego, and Menzies) and routes to get around the pipe;
 - suggestions for traffic signage during construction activities; and
 - questions and concerns about fencing, safety, noise and dust during construction.
- accessibility parking along Dallas Road;
- questions about the following:
 - construction at Clover Point and access to the seawall;
 - RSCL conveyance line route (near Conway-Hector Loop in Saanich);
 - feedback about parking spaces and cycle path along Dallas Road;
 - construction timing of Clover Forcemain;
 - archaeological sites along the route of the Clover Forcemain;
 - steps being taken to protect sea thrift at Clover Point during construction; and
 - construction activity at McLoughlin Point.
- requesting to be added to the distribution list; and
- seeking general Project information.

2.5. Resolutions from Other Governments

2.5.1. Motions from the CRD Board meeting, January 10, 2018

At its January 10, 2018 meeting, the CRD Board passed the following motions:

That the Environmental Services Committee recommend to the Capital Regional District (CRD) Board:

That the CRD modify the Integrated Resource Management (IRM) work plan by:

1. Concluding the current IRM procurement process.
2. Issuing a Request for Proposals for the beneficial use of dried Class A biosolids produced by the Residuals Treatment Facility as a stand-alone

- procurement, according to the CRD's restriction of land application of any product using CRD biosolids as a feedstock.
3. Pursuing an in-region or near in-region organics, (kitchen scraps, yard and garden) processing facility by initiating a new procurement process.
 4. Informing the Project Board of the new direction and requesting that any Core Area Wastewater Treatment Project implications be included in the upcoming update report to the Core Area Liquid Waste Management Committee in February.
 5. Submitting a revised project plan for the beneficial use of biosolids and the IRM initiative to the province.

At its January 25, 2018 meeting, the Project Board discussed motion 4 and requested that the Chair of the Project Board respond to the Core Area Liquid Waste Management Committee (CALWMC) through a letter confirming that there are no implications of the new direction to the Wastewater Treatment Project. The letter is attached as Appendix T.

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 2.10.

Figure 1 shows the high-level Project schedule. This schedule includes one change from the schedule shown in the Project's October to December 2017 quarterly report but remains the same as shown in the February 2018 monthly report.

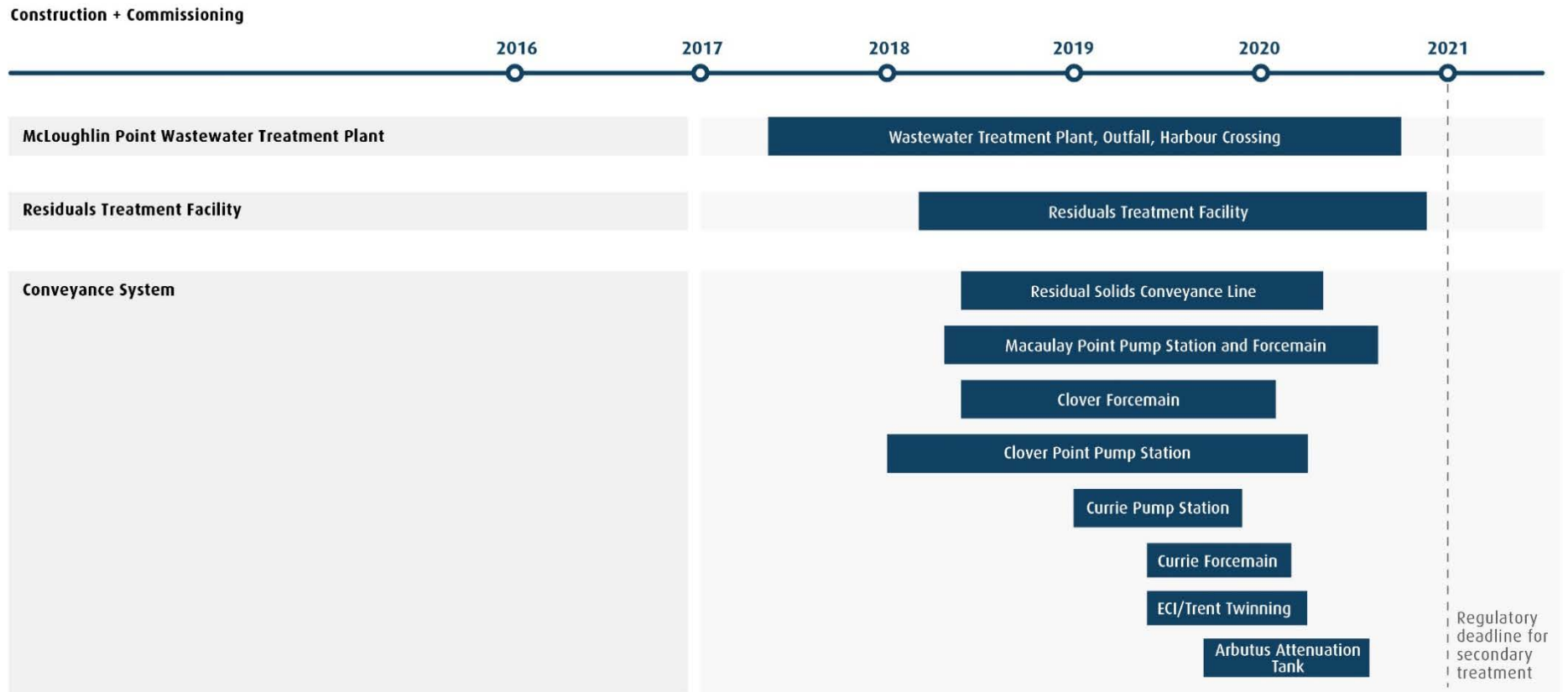
The change made from the schedule included in the Project's October to December 2017 Quarterly report is to the anticipated duration of construction of the Macaulay Point Pump Station and Forcemain. The construction schedule has been extended by six months as the existing pump station will be demolished once the new pump station is operational. This has no impact on the Project's overall schedule or on ability to meet the regulatory deadline, and was not previously included in the schedule as it was anticipated that the existing pump station would be upgraded rather than replaced.

However, the current Macaulay Point Pump Station was built in 1972 and would have required significant upgrades to allow it to continue to be safely operated as well as a significant expansion to allow it to pump wastewater to the McLoughlin Point WWTP. Replacing the existing pump station with a new pump station will provide better operating efficiency than the current pump station, providing lower operating and maintenance costs, and lower lifecycle costs.

This schedule remains subject to optimization as the Project and planning progress.



Figure 1-High-Level Project Schedule



*Schedule subject to updates as project planning progresses.

2.7. 30 day and 60 day lookahead

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

Safety

- review safety document submissions from prime contractors;
- review any incident investigations;
- development of any required safety forms;
- site tours performed at all active sites;
- 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;
- weekly HRP/CRD management site safety tours;
- review of any high risk tasks;
- hazard assessment review for pipe pull on Niagara Street;
- Critical Lift Plan review for pipe pull on Niagara Street; and
- traffic management reviews for Dallas Road and Niagara Street traffic.

Environment and Regulatory Management

- Parsons (as the Design Consultant for the RSCL) to submit the EIS for the RSCL and an application to ENV for a Notice from the Director to Construct under Section 40 (b) of the MWR; and
- Kerr Wood Leidal (as the Design Consultant for the Clover Forcemain) to submit the Environmental Assessment Report for the Clover Forcemain and an application to ENV for a Notice from the Director to Construct under Section 40 (b) of the MWR.

First Nations

- First Nations cultural monitors will be in the field, supporting Millennia archaeologists as they complete field work for the Project-wide Archaeological Impact Assessment; and
- continue bi-weekly meetings with First Nations liaisons.

Stakeholder Engagement

- ongoing engagement with Niagara Street residents during the pipe assembly and pipe pull;
- preparation of communications materials for the next Project Update;
- ongoing construction communications with stakeholders;
- ongoing community liaison meetings; and
- presentation to the City of Victoria Council of the:
 - design proposal for the exterior of the Clover Point Pump Station and the Public Realm Improvements associated with the Clover Point Pump Station;
 - alignment of the Clover Forcemain;
 - alignment and design of the Cycle Path (connecting Clover Point to Dock Street) associated with the Clover Forcemain; and
 - feedback heard through community engagement, and how that feedback has been considered in the design.

Cost Management and Forecast

- assign WBS codes to the new contracts;
- prepare cost reports;
- prepare for financial year-end audit;
- monitor schedule; and
- submit funding claims to Infrastructure Canada (under the Building Canada Fund).

Construction

Ogden Point

- complete 54" reaming pass for the Victoria Harbour Crossing;
- prepare pipe for Niagara Street pipe pull;
- pull pipe across the harbour;
- perform hydrostatic test on Victoria Harbour Crossing pipe;
- cap Victoria Harbour Crossing pipe; and
- demobilize equipment from Niagara Street.

McLoughlin Point

- install piles in Biological Aerated Filters (BAF) area;
- install piles in odour control area;
- continue form, install rebar and place concrete of tsunami walls; and
- continue form, install rebar and shotcrete of planter walls.

Clover Point Pump Station

- excavate and install temporary and permanent duct;
- install temporary diesel generator to power existing pump station;
- receive loads of king pile steel; and
- align and weld king pile steel wall;

Macaulay Point Pump Station

- set up perimeter fencing;
- install project signage; and
- mobilize site offices and equipment.

Engineering

McLoughlin WWTP

- advance the 90% design for the McLoughlin Point WWTP.

Clover Point Pump Station:

- 90% design workshop;
- 90% Hazard and Operability workshop; and
- Public Realm Improvements: 90% design workshop with City of Victoria staff and Lekwungen representatives.

Macaulay Point Pump Station and Forcemain:

- 50% design workshop; and
- 50% Hazard and Operability Workshop.

Clover Forcemain:

- Cycle Path and Forcemain Alignment: 90% design workshop with City of Victoria staff and Lekwungen representatives.

Residual Solids Conveyance Line:

- 50% design workshop with District of Saanich;
- 50% design workshop with Township of Esquimalt; and
- advance 90% design.

Procurement

- Clover Forcemain: evaluate responses to the Request for Qualifications, select shortlist, and issue the Request for Proposals for construction to the shortlist contractors; and
- Residuals Solids Conveyance Line: evaluate responses to the RFQ to select a shortlist.

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

Safety

- continuation of activities listed in the next 30 days section; and
- review of Kenaidan's Macaulay Point and HRMG's RTF site specific plans.

Environment and Regulatory Management

- HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) to submit an application to ENV for a Notice from the Director to Construct under Section 40 (b) of the MWR to construct the McLoughlin Point Outfall; and
- Parsons (as the Design Consultant for the RSCL) to submit an application to the Ministry of Forests, Lands, Natural Resource Operations and Rural Development for an authorization of works 'in and about a stream' to replace three culverts along the RSCL.

First Nations

- continue working with Songhees and Esquimalt Liaisons on topics of shared interest, including the development of plans for the installation of signage, artwork and use of native plants in landscaping for Clover Forcemain, Clover Point Pump Station, Macaulay Point Pump Station and McLoughlin Point WWTP; and
- ongoing consultation and engagement with the WSÁNEĆ Nations.

Stakeholder Engagement

- ongoing construction communications with stakeholders;
- ongoing community liaison meetings; and
- distribution of Project Update #5.

Cost Management and Forecast

- assign WBS codes to the new contracts;
- prepare cost reports;
- prepare finance modelling;

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

Construction

Ogden Point

- backfill HDD area; and
- demobilise office and crew facilities.

McLoughlin Point

- install piles in the following areas: odour control; plate settlers; west DensaDegs; dirty backwash; and the north apron.
- place mud slab and gravel mattress at Biological Aerated Filters; and
- install underground process piping in secondary treatment area.

Clover Point Pump Station

- prepare secant guide wall;
- commence secant drilling; and
- connect and energize primary service.

Macaulay Point Pump Station

- set up erosion and sediment control;
- establish construction power and connect offices; and
- commence demolition of workshops.

Engineering

McLoughlin WWTP:

- Construction Package 4 Yard Pipe: Final (100%) Design Deliverable;
- Construction Package 5 BAF Slabs: Final (100%) Design Deliverable;
- Construction Package 6 O&M Building and Utilities: Final (100%) Design Deliverable;
- Construction Package 7 Tertiary Area Foundation: Final (100%) Design Deliverable;
- advance 100% design;
- 90% Design Workshop; and
- 90% Hazard and Operability Workshop.

Clover Point Pump Station:

- advance 100% design.

Macaulay Point Pump Station and Forcemain:

- advance 90% design.

Residual Solids Conveyance Line:

- 90% design workshop; and
- advance 100% design.

Procurement

Residuals Solids Conveyance Line: issue Request for Proposals for construction to the shortlisted contractors.

2.8. Cost Management and Forecast

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

We have held constant the status of the cost key performance indicator as yellow, as a result of cost pressures identified in the Project's Q4 2017 Quarterly Report. In order to address these pressures the Project team in concert with Stantec (as the Owner's Engineer providing technical support for the CRD WTP), are reviewing the scope and construction cost estimates for the remainder of the contracts and identifying opportunities where savings could be realized. With this corrective action our confidence level is still high that we will be able to deliver the project within the Control Budget.

2.8.1. 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 \$171 million. The significant commitments made in the reporting period were:

- Macaulay Point Pump Station and Forcemain contract; and
- Residuals Treatment Facility award of contract

2.8.2. 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; conveyance systems and PMO-related costs.

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.

2.8.3. Contingency

Contingency funds were drawn during the reporting period:

- \$27k was drawn from the WWTP contingency over the reporting period for site remediation and disposal of contaminated soil; and
- \$5.7M was drawn from the Conveyance contingency over the reporting period for the Macaulay Point Pump Station Design-Build Contract. The Contract price was greater than the budget on account of: cost escalation due to inflationary pressures in the Victoria area construction market; and the inclusion of elements that exceed the minimum requirements (as specified in the procurement) and are of value to the CRD considering whole lifecycle costs.

Over the reporting period the Project Team sought the Project Board's approval to reallocate portions of the budget and contingency between the Project components in accordance with the

procurement risks that have been extinguished and the outstanding Project risks. The proposed budget and contingency reallocations were approved and are itemized in Table 5.

The contingency and program reserve draws and reallocations over the reporting period are itemized in Table 5. 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
Total Contingency and Program Reserve Draw as at Dec. 31, 2017		\$ (6,356,454)
Supervening Event #6 (Chloride Impacted Soil) - 2nd payment	Mar-18	\$ (27,111)
WWTP Total Draw		\$ (27,111)
RTF Contingency Reallocation (from RTF to Conveyance)	Feb-18	\$ (5,750,000)
RTF Total Draw		\$ (5,750,000)
Macaulay Point Pump Station Design-Build Contract – proposal price greater than budget on account of: cost escalation due to inflationary pressures in the Victoria area construction market; and the inclusion of elements that exceed the minimum requirements (as specified in the procurement) and are of value to the CRD considering whole lifecycle costs.	Jan-18	\$ (5,618,000)
RTF Contingency Reallocation (from RTF Contingency to Conveyance Contingency)	Feb-18	\$ 5,750,000
BC Hydro budget Reallocation (from BC Hydro budget to Conveyance contingency)	Feb-18	\$ 5,100,000
RTF budget Reallocation (from RTF to Conveyance)	Feb-18	\$ 8,805,021
Conveyance Total (Draw)/Reallocation		\$ 14,037,021
PMO Total Draw		\$ -
BC Hydro Total Draw		\$ -
WTP Program Reserve Draw		\$ -
Total Contingency and Program Reserve Draw/Reallocation as at Mar. 31, 2018		\$ 1,903,456
Total Contingency and Program Reserve Remaining		\$ 71,221,507

2.9.4 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	\$10,761,074	\$10,761,074
Government of Canada (Green Infrastructure Fund)	\$50,000,000	-	-
Government of Canada (P3 Canada Fund)	\$41,000,000	-	-
Government of British Columbia	\$248,000,000	-	-
TOTAL	\$459,000,000	\$10,761,074	\$10,761,074

2.9. 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 generally remained unchanged from the Project's October to December 2017 Quarterly Report. The following additions to the risk register were made since the Project's October to December 2017 Quarterly Report:

- Change in Law was added with an assessed risk level of medium in consideration of the possibility that a change in provincial or federal law could impact the scope, cost or schedule of the Project; and
- Change in Labour Law - Availability and/or cost escalation was added with an assessed a risk level of medium in consideration of the possibility that there is insufficient labour available to construct the Project, and/or there is significant labour cost escalation.

Table 7- 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 on-going over the reporting period with community meetings held in Victoria.	M	No change
Senior government funds issue delayed	The assessed risk level reflects the Project Team's priority of ensuring Project funding commitments are honoured.	Responsibility for meeting funding commitments 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 agreement will include terms that require the contractor to recover schedule delays and/or allow for CRD acceleration.	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
Downstream works delays	Delay of 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
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 maintain a centralized permit compliance register to monitor and manage Project permit condition compliance by Project contractors. Meetings held with Federal and Provincial agencies to fully understand and meet requirements in a timely fashion.	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.	M	Added
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	Added

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
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
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.	M	No change
Due to high cost escalation (inflation) Conveyance works contracts' amount higher than budgeted	Cost of conveyance contracts higher than estimated and 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

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
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.	H	No change
Residuals Treatment Facility				

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

2.10. Status (Engineering, Procurement and Construction)

A Project Charter was prepared by the Project Team and approved by the Project Board on April 4, 2017. The Project Charter 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 has reviewed the Project Charter that was approved by the Project Board on April 4, 2017 and updated it to account for progress made on the Project in the twelve months since the Project Charter was approved. The Project's vision, mission, goals, key performance indicators, budget, schedule and scope remain the same as in the version originally-approved by the Project Board in April 2017; the Project Charter has been updated only as required to account for progress made in planning, procuring and implementing the Project.

2.10.1. WWTP

The WWTP continued with design and construction during the reporting period. Workshops were held on the 50% detailed design report and the design progressed towards 90% detailed design. Construction progressed at Ogden Point with drilling of the Victoria Harbour Crossing and assembly of the pipe on Niagara Street, and McLoughlin Point with continued construction of the planter and tsunami walls, blasting in the outfall area, and crushing and stockpiling of the blast rock.

In January, the primary site activities at McLoughlin Point were construction of the tsunami and planter walls, blasting, excavation, crushing and stockpiling of crushed aggregate for use as fill. At Ogden Point the HDD 42" reaming pass was progressed to 749 meters and the Victoria Harbour Crossing pipe was sent to Jewel Coatings for the internal lining.

At McLoughlin Point in February, construction of the tsunami and planter walls continued, blasting, excavation, crushing and stockpiling of crushed aggregates was completed and installation of foundation piles began. The first tower crane was erected and drilling of the HDD 54" reaming pass was progressed to 281 meters.

In March, HRP (as the Design-Build Contractor for the McLoughlin Point WWTP), submitted the design report (90%) for the foundation piles. At Ogden Point, HRP continued drilling of the Victoria Harbour Crossing and started the pipe assembly along Niagara Street. At McLoughlin Point, HRP continued Tsunami and Planter Wall construction, continued drilling of the foundation piles, continued delineation of vapour and groundwater contamination, and erected the second tower crane.

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



Figure 2 - Fabrication of rebar cages for piling



Figure 3 – Completed drilling, blasting and excavation of outfall shaft.



Figure 4 – Installing piles in the BAF area



Figure 5 – Received Hobas pipe for BAF drainage



Figure 6 – Placing concrete in completed piles



Figure 7 – Welding on Victoria Harbour Crossing pipe on Niagara Street



Figure 8 – Fusing of HDPE buoyancy pipe on Niagara Street

2.10.2. RTF

HRMG (as the Design-Build-Finance-Operate-Manage Contractor for the RTF) and CRD achieved Financial Close for the RTF on February 6, 2018. HRMG is comprised of a consortium of experienced firms including:

- Bird Design-Build Construction Inc.;
- Maple Reinders Constructors Ltd.; and
- Synagro Technologies Inc.

The contract includes the design, build and finance of the RTF as well as the operation and maintenance of the facility over a 20-year term.

Engineering

HRMG progressed planning and design activities in February, including:

- Participating in the following key meetings:
 - Project kickoff meeting;
 - CRD safety orientation meeting;
 - Prolog training;
 - landfill safety orientations;
 - preliminary design kick-off meeting;
 - development permit and building permit meeting with District of Saanich;
 - permit overview meeting with Ministry of Environment; and
 - weekly progress meetings.
- commenced design activities and submitted the Preliminary Design Report (30% Design) for the RTF.

Construction

Photographs of construction progress at the RTF are shown in Figures 9-10, Key activities in progress or completed by HRMG in February included:

- HRMG mobilization to site;
- geotechnical drilling investigation;
- site delineation including temporary construction fencing;
- delivery of site trailer; and
- initial topographic site survey.

A design review workshop was held in March. CRD's and Stantec's comments have been returned to the Contractor for review and incorporation into the 60% submission.

HRMG has completed geotechnical investigation on site and have since left the site while the design progresses. Blasting and excavation work are anticipated to commence in Q2 of 2018.

2.10.3. Conveyance System

The Conveyance System Project Component was in the engineering and procurement phase throughout the reporting period and progressed as planned.

Pre-construction activities for the two design-build Conveyance System contracts progressed over the reporting period, and the five design-bid-build Conveyance System contracts were in the engineering phase, with the majority of the work focused on the contracts summarised in the following sub-sections.

2.10.3.1. Clover Point Pump Station

The Clover Point Pump Station continued with design and pre-construction activities during the reporting period. Kenaidan has prepared the laydown area for construction of the works, and installed temporary construction fencing around the laydown area and work site around the existing pumping station as shown in Figures 9-12.

In January, the contract between Kenaidan Contracting Ltd. and the CRD was executed (a Letter of Intent had been issued previously to allow design to progress). Workshops were also held for the 50% Design Deliverable (January), and the 50% Hazard and Operability Review (February). The workshops were attended by members of the Project Team, the Owner's Engineer, and the CRD's IWS group.

In February, Kenaidan, and the Project Team held the 50% design workshop with the City of Victoria and Lekwungen representatives for the Public Realm Improvements. Based on feedback received during the workshop, Kenaidan, amended elements of their design in preparation for presenting the 50% Design Proposal to Victoria City Council.

In March, Kenaidan submitted the 90% design. The 90% Design Workshop, and 90% Hazard and Operability Review Workshop are scheduled to be held in April.



Figure 9 – General view looking north is the work area for the secant pile contractor.



Figure 10 – Scansa progressing at future caisson mat – is the construction of the secant pile contractor work area.



Figure 11 – View of pedestrian walkway – is the temporary walkway built for the public to walk beside the construction site.



Figure 12 – View of west compound – Kenaidan's office compound and laydown area.

2.10.3.1. Macaulay Point Pump Station and Forcemain

The contract between Kenaidan Contracting Ltd. and the CRD, for construction of the Macaulay Point Pump Station, was executed in January, and Kenaidan immediately commenced with pre-construction activities, including design and permitting/approvals.

Kenaidan, with support from the Project Team, initiated the development permit process with the Township of Esquimalt. In January, a pre-application meeting was held with Township staff. Kenaidan amended the design based on feedback received at the meeting and submitted the application to the Township. In February, Kenaidan presented the design to the Township's Advisory Design Review Committee (DRC), and the DRC unanimously passed a resolution that the application for a development permit for the Macaulay Point Pump Station be forwarded to Council with a recommendation for approval.

The development permit application was considered by Township Council at their meeting on March 19, 2018. Kenaidan presented the design at the meeting, and Council unanimously passed a resolution to authorize the development as illustrated on the architectural drawing and the landscape plan be approved. The permit will be issued by Township staff once Kenaidan (as the Design-Build Contractor for the Macaulay Point Pump Station and Forcemain) provides the landscaping security deposit to the Township.

With respect to design development, Kenaidan (as the Design-Build Contractor for the Macaulay Point Pump Station and Forcemain), submitted the 30% Design Deliverable to the Project Team in February, and the 30% Design Workshop was held in March. The workshop was well attended by members of the Project Team, the Owner's Engineer, and the CRD's IWS group.

Kenaidan also submitted an application to the Township to demolish the existing pump station. It is anticipated that the permit will be received in early Q3 2018, with demolition to follow.

2.10.3.2. Clover Forcemain

Detailed design of the Clover Forcemain advanced as planned throughout the reporting period.

A 50% Design Workshop was held early January. The workshop was attended by members of the Project Team, the Owner's Engineer, and the CRD's IWS group.

Also, in January, the Clover Forcemain alignment and Dallas Road Cycle Path was presented to the public at meetings in James Bay and Fairfield Gonzales. Comments from the public consultation process were received in January.

On February 26, 2018 a 50% Design Workshop was held with City of Victoria staff and Lekwungen representatives. The purpose of the workshop was to review and refine the forcemain and cycle path alignments.

Based on feedback from the workshops, and public consultation process, the design was amended and comments were incorporated into a 50% Design Proposal, which was prepared for presentation to City of Victoria Council.

The Project Team also prepared a Request for Qualifications (RFQ) to shortlist general contractors for construction of the Clover Forcemain. The RFQ was issued in March. The Project Team expects to evaluate the responses, and establish the shortlist by the end of April.

2.10.3.3. Residual Solids Conveyance Line (RSCL)

The RSCL continues to progress through the detailed design phase. In February, both the 30% Design Deliverable and the 50% Design Deliverable were submitted to the Project Team. In March, Parsons held the 50% Design Workshop, which was attended by members of the Project Team, the Owner's Engineer, and the CRD's IWS group.

The Project Team prepared a Request for Qualifications (RFQ) to shortlist general contractors for construction of the RSCL. The RFQ was issued in February, and the Project Team received the responses from proponents in March.

During the reporting period, the District of Saanich reviewed the indicative design deliverable, and provided comments to the Project Team. The comments were provided to Parsons (as the Design Consultant for the RSCL) for consideration in developing the design. The Project Team subsequently issued a draft Design Submission to the District of Saanich for their review and approval. A design workshop will be held to facilitate Saanich's feedback and approval of the draft Design Submission.

Discussions with the Ministry of Transportation and Infrastructure (MOTI) resulted in negotiation of an agreement with MOTI to install a casing under Highway 1 for the RSCL. Parsons is advancing detailed design for the work within the contract limits for the McKenzie Interchange construction to enable coordination of the work with MOTI.

2.10.3.4. 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.

To date, the Project Team has had meetings with KWL (as the Design Consultant for the Clover Forcemain) to discuss/consider the following:

- tree removal and replacement on the Project site with the arborists;
- possible locations for construction laydown areas, with a portion of the laydown area located within the proposed site for the Arbutus Attenuation Tank;
- additional geotechnical investigation program due to design changes; and
- road frontage improvements with the District of Saanich.

2.10.3.5. East Coast Intercept/Trent Siphon and Currie Pump Station and Forcemain

The Project Team has developed a draft Request for Proposal (RFP) to retain a design consultant to provide preliminary and detailed design services for the ECI/Trent Siphon and Currie Pump Station and Forcemain. The scope of the RFP also includes engineer of record services during construction. The RFP is scheduled to be issued in Q3 2018.

Appendix A: January 22, 2018 Construction Notice – Clover Point Pump Station



Wastewater
Treatment Project
Treated for a cleaner future

Construction Notice

January 22, 2018

Clover Point Pump Station: Preliminary Early Works

The Clover Point Pump Station will be upgraded and expanded as part of the Wastewater Treatment Project. The current pump station 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.

The contractor for this part of the Project, Kenaidan Contracting Ltd., will begin to construct a laydown area at Clover Point, southwest of the current pump station. They will also begin fencing the pump station for the expansion to the adjacent areas. The work includes:

Starting Week of January 22:

- Commence installation of temporary chain link construction fencing and screening around the perimeter of the work area.
- Locate and connect to existing utilities within the work area.
- Construction of temporary laydown area:
 - Geotextile cloth will be installed to protect the area.
 - Installation of site office trailers and facilities.
 - Install temporary power feed to laydown area.
 - Earthworks equipment will be used to supply and install clean gravel to construct the laydown area.

Traffic Impacts:

- No street closures will be required; however, there may be traffic control flagging at times.
- Truck traffic bringing equipment and materials to the site.
- The shoreline walkway will remain open throughout construction.

Work Hours: 7:00 a.m. to 7:00 p.m. Monday to Friday

Location: The laydown area will be constructed to the south of Dallas Road and to the west of Clover Point Road. The laydown area will be returned to its pre-construction state upon completion of the project.

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 and will be complete by the end of 2020.

Kenaidan Contracting Ltd. is the contractor selected by the CRD to design, build and expand the current Clover Point Pump Station. Construction on the expanded Clover Point Pump Station will begin in early

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: January 15, 2018 Blasting Schedule – McLoughlin Point



Wastewater
Treatment Project
Treated for a cleaner future

Construction Notice

January 15, 2018

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 January 15*:

Monday, January 15	No blasting
Tuesday, January 16	4-6 blasts per day
Wednesday, January 17	4-6 blasts per day
Thursday, January 18	4-6 blasts per day
Friday, January 19	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 C: January 2018 Information Sheet – Clover Point Pump Station & Forcemain



Clover Point Pump Station and Clover Forcemain

The Clover Point Pump Station will be upgraded and expanded as part of the Wastewater Treatment Project. The current pump station 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.

The Clover Forcemain is the pipe that will transport wastewater from the Clover Point Pump Station to the McLoughlin Point Wastewater Treatment Plant. Construction of the Clover Point Pump Station expansion and Clover Forcemain will begin in early 2018 and be complete in early 2020. There will be public realm improvements as part of this component of the project. The City of Victoria defined the scope and design guidelines for these public realm improvements.

PROJECT DESCRIPTION

The Clover Point Pump Station expansion will be below the grade of the adjacent section of Dallas Road. Similar materials to those on the current pump station will be used to blend the expanded facility with the existing facility and surrounding area. The expansion will increase the internal pump station area from approximately 500m² to approximately 1500m². As part of the pump station expansion, the existing split rock wall facing the waterfront will be extended to enable access to the pump station and maintain the seaside walkway.

The pump station will have state-of-the-art odour control systems so there will be no discernible odour in the community. Noise will not exceed the current level of noise from the existing pump station.



Conceptual Image.

Clover Point Public Realm Improvements

- Public plaza accessible to pedestrians and cyclists, to replace the existing parking lot above the pump station
- Street furniture and bicycle facilities (e.g. benches, bike racks, a bike rack for bicycle maintenance and repair, and a drinking fountain) on the plaza
- Bike node (pathway intersection for bike and pedestrian traffic)
- Interpretive signage and wayfinding signs at the public plaza
- Two replanted grassed open spaces to the west and east of the public plaza
- One public washroom with two gender neutral, universally-accessible stalls
- Clover Point Road and Dallas Road intersection improvements
- New connecting walkway and bike path across Clover Point Road to the Dallas Road/Ross Bay Seawalk
- Pedestrian path from Dallas Road alongside Clover Point Road and connecting to the existing Clover Point path

(Continued on next page)



Wastewater Treatment Project
Treated for a cleaner future

Information Sheet

Dallas Road Public Realm Improvements

- Cycle track extending from Dock Street at the Ogden Point breakwater to Clover Point
- Gathering/dismount area for the cycle track incorporated on the west side of Clover Point Road at Dallas Road
- Site furnishings (bike rack and a bench at a minimum of six locations at key intersections)
- Barrier fencing between dog off-leash areas
- Wayfinding signage
- One-time payment for the construction of additional capital improvements by the City of Victoria

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.

Next Steps: Design Finalization

Public Input:

- Presentation to James Bay Neighbourhood Association (on the design and alignment of the cycle track and alignment of the Clover Forcemain) at 50% design finalization
- Presentation to Fairfield Gonzales Community Association (on the design for the exterior of the Clover Point Pump Station and the public realm improvements, as well as the design and alignment of the cycle track and alignment of the Clover Forcemain) at 50% design finalization

City of Victoria Input:

- 3 Design Workshops between CRD and City of Victoria regarding pump station exterior and public realm improvements (at 30%, 50% and 90% design finalization)
- Presentation to the City Council at a public meeting at 50% design finalization
- Final design of the exterior of the pump station, public realm improvements, conveyance pipeline alignment subject to City of Victoria approval in accordance with the criteria set out in the licences

First Nation Engagement:

- Representatives from the Songhees and Esquimalt Nations are participating in the final design of the pump station exterior and public realm improvements

For More Information

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

Appendix D: January 10, 2018 James Bay Meeting Invitation

Wastewater Treatment Project
Treated for a cleaner future

WASTEWATER TREATMENT PROJECT

James Bay Meeting: Clover Forcemain and Cycle Track on Dallas Road

Wednesday, January 10, 2018

You're invited to find out more and provide input on the alignment of the Clover Forcemain (pipe) within the Dallas Road right-of-way and the design and alignment of the cycle track along Dallas Road.

JAMES BAY NEIGHBOURHOOD ASSOCIATION MEETING

January 10, 2018, 7:00pm

James Bay New Horizons,
234 Menzies Street

The Wastewater Treatment Project team will provide information and seek your input for incorporation into the final design on the following:

- Design and alignment of the cycle track along Dallas Road
- Alignment of the Clover Forcemain (pipe) within the Dallas Road right-of-way



Alignment of the Clover Forcemain within Dallas Road right-of-way

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.

As part of the Project, the Clover Point Pump Station will be upgraded and expanded. A new pipe, the Clover Forcemain, will transport wastewater from the Clover Point Pump Station to Ogden Point, where it will connect to the cross-harbour undersea pipe to the McLoughlin Point Wastewater Treatment Plant.

Information to be presented at the meeting and an online feedback form will be available online on January 10, 2018.

For more information about the Wastewater Treatment Project, please visit wastewaterproject.ca, e-mail wastewater@crd.bc.ca or call **1.844.815.6132**.

Appendix E: January 11, 2018 Fairfield Gonzales Meeting Invitation

Wastewater Treatment Project
Treated for a cleaner future

WASTEWATER TREATMENT PROJECT

Fairfield Gonzales Meeting: Clover Point Pump Station, Clover Forcemain and Cycle Track on Dallas Road

Thursday, January 11, 2018

You're invited to find out more and provide input on the design of the public realm improvements, the design of the exterior of the Clover Point Pump Station, the alignment of the Clover Forcemain (pipe) within the Dallas Road right-of-way and the design and alignment of the cycle track along Dallas Road.

FAIRFIELD GONZALES COMMUNITY MEETING

January 11, 2018, 7:30pm

Cook Street Village Activity Centre, Auditorium, 380 Cook Street

The Wastewater Treatment Project team will provide information and seek your input for incorporation into the final design on the following:

- Alignment of the Clover Forcemain (pipe) within the Dallas Road right-of-way
- Design and alignment of the cycle track along Dallas Road
- Design for the exterior of the Clover Point Pump Station building
- Design of the public realm improvements



Alignment of the Clover Forcemain within Dallas Road right of way

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.

As part of the Project, the Clover Point Pump Station will be upgraded and expanded. A new pipe, the Clover Forcemain, will transport wastewater from the Clover Point Pump Station to Ogden Point, where it will connect to the cross-harbour undersea pipe to the McLoughlin Point Wastewater Treatment Plant.

Information to be presented at the meeting and an online feedback form will be available online on January 10, 2018.

For more information about the Wastewater Treatment Project, please visit wastewaterproject.ca, e-mail wastewater@crd.bc.ca or call **1.844.815.6132**.

Appendix F: February 2018 Niagara Street Meeting Invitation



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

WASTEWATER TREATMENT PROJECT

Niagara Street Information Meetings

You're invited to find out more about the pipe assembly and pipe pull that will take place on Niagara Street. This work is anticipated to begin in early March 2018. The Wastewater Treatment Project Team, along with representatives from the contractor, Harbour Resource Partners, will provide information and answer questions about the work.

NIAGARA STREET INFORMATION MEETINGS

Wednesday, February 21, 2018
5:00 p.m. – 8:00 p.m.

OR

Saturday, February 24, 2018
10:00 a.m. – 1:00 p.m.

Victoria Edelweiss Club
 108 Niagara Street

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 is being funded by the Government of Canada, the Government of British Columbia and the CRD.

MEETING FORMAT

Two meetings will be held to provide information about the pipe assembly and pipe pull on Niagara Street. The same information will be provided at both meetings to provide flexibility for busy schedules. The first two hours of each meeting will be a drop-in format where residents can view information boards and ask questions of the Project team. The presentation will begin at 7:00 p.m. for the Wednesday meeting and at noon for the Saturday meeting, and will be followed by a Q&A session.

BACKGROUND

The McLoughlin Point Wastewater Treatment Plant includes the construction of a cross-harbour undersea pipe from Ogden Point to McLoughlin Point, using a process called horizontal directional drilling. This work is underway at Ogden Point behind the sound wall.

The pipe will be assembled above ground along Niagara Street. Once the drilling is complete, the pipe will be pulled through the directional drill passage between Ogden Point and McLoughlin Point.

Assembling the pipe involves delivery of the pipe segments, and welding the pipe together. Niagara Street between Dallas Road and Menzies Street will be temporarily closed to general traffic while this work is underway.

This work is expected to take about six weeks, and is anticipated to begin in early March 2018. The exact timing of this work will be determined based on construction operations. More information on construction work and timing will be available at the meetings and online.

Some BC Hydro work in the 100 block of Niagara Street will be required in advance of construction. BC Hydro will notify residents about this work.

For more information about the Wastewater Treatment Project, please visit wastewaterproject.ca, e-mail wastewater@crd.bc.ca or call **1.844.815.6132**.

Appendix G: February 7, 2018 Construction Notice – Early Works RTF**Wastewater
Treatment Project**
Treated for a cleaner future**Construction Notice**

February 7, 2018

Residuals Treatment Facility: Early Works

The Residuals Treatment Facility (RTF) is being built as part of the Wastewater Treatment Project. Residual solids from the McLoughlin Point Wastewater Treatment Plant will be piped to the Residuals Treatment Facility at the Hartland Landfill, where they will be treated and turned into what are known as Class A biosolids. These biosolids are a high quality by-product safe for beneficial reuse.

What to Expect

Early works are anticipated to commence starting the week of February 12. Early work activities will be intermittent and will generally include:

- Site survey and layout.
- Installation of site office trailers and facilities.
- On-site geotechnical investigations.
- Coordination with utility agencies.

Location

- Work is within the footprint of the Hartland Landfill site.

Work Hours

- 8:00 a.m. to 5:00 p.m. Monday to Friday.

Traffic Impacts

- Traffic impacts are expected to be minimal as work will be contained within the footprint of the Hartland Landfill site.
- Truck traffic and work vehicles will access the site from the north access on Willis Point Road.

About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees Nations and will be complete 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 H: February 27, 2018 Construction Notice - Niagara Street Pipe Assembly/Pull



February 27, 2018

Niagara Street: Pipe Assembly and Pipe Pull

The pipe assembly and pipe pull work along the surface of Niagara Street will start the first week of March and will take approximately six weeks to complete.

Here is some information on what to expect:

Hours of Work

- Monday - Friday 7:00 a.m. - 7:00 p.m. Saturdays from 10:00 a.m. - 7:00 p.m. (first five weeks).
- During the pipe pull, work will take place 24 hours a day for approximately three days (final week).
- Work may occur outside of these hours as allowed under the City of Victoria bylaw.
- Best efforts will be made to mitigate construction noise as this work is completed.

Traffic / Access

- There will be pedestrian access to all residences and businesses at all times.
- Niagara will be closed to vehicle traffic between St. Lawrence and Menzies. One-way residential traffic will be maintained on the south side of Niagara between Menzies and South Turner.
- Montreal, Oswego and Menzies will be intermittently closed (road signage will indicate the timing).
- Side streets intersecting Niagara will have resident loading zones to assist with deliveries and pick-up/drop-off.
- Access route information will be provided for the James Bay Community School.

Parking

- There will be no parking on Niagara and no access to residential driveways between St. Lawrence and South Turner for the duration of the construction.
- Niagara residents will be able to park on side streets during construction.
- Hand-delivered notification will be provided to residents 48 hours in advance of parking relocation.
- Alternative parking arrangements have been made for residents of high-density buildings.

Key Services / Safety

- Emergency services will have access at all times.
- Active construction work areas will be fenced.
- Garbage and recycling will be picked up as usual.
- Bus numbers 2, 3 and 10 will be rerouted. More information can be found at bctransit.com/victoria.
- A Help Tent will be set up at the 200 block of Niagara during working hours each day to provide information and answer questions.

(Continued on next page)

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

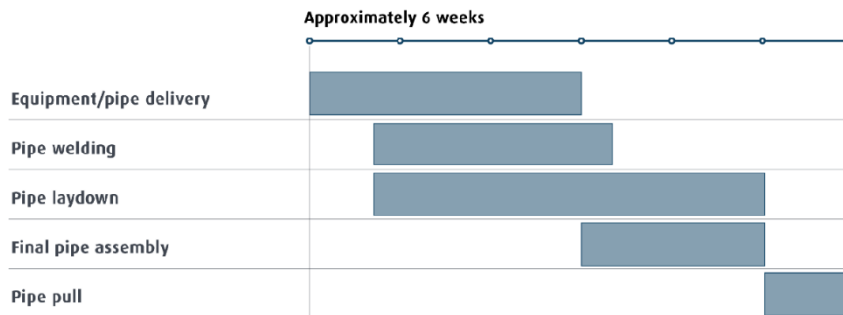
Niagara Street Construction Overview

The McLoughlin Point Wastewater Treatment Plant includes the construction of a cross-harbour undersea pipe from Ogden Point to McLoughlin Point, using a process called horizontal directional drilling. The pipe will transport wastewater from the Clover Point Pump Station to the treatment plant for tertiary treatment.

The cross-harbour pipe will be assembled above ground along Niagara Street. Once the drilling is complete, the pipe will be pulled through the drill passage between Ogden Point and McLoughlin Point.

The pipe assembly and pipe pull are anticipated to take about six weeks.

There are five main activities you will see along Niagara Street as the work is completed. The exact timing of these activities is subject to updates as construction progresses.



Thank you for your patience as this work is completed. Here's how you can get more information about this work.



Help Tent

A Help Tent will be located in the 200 block of Niagara, by the school. A Project representative will be available during working hours each day to provide information and answer questions.



Niagara Street Web Page

wastewaterproject.ca
Will be updated regularly with construction and traffic information.



Email and 24-7 Phone Line

Residents can email and call to receive information or report a concern.
wastewater@crd.bc.ca
1.844.815.6132.

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 I: February 27, 2018 Construction Notice - Niagara Street - Road Closure



Feb 27, 2018

Notice of Road Closure

The McLoughlin Point Wastewater Treatment Plant includes the construction of a cross-harbour undersea pipe from Ogden Point to McLoughlin Point, using a process called horizontal directional drilling. The cross-harbour pipe will be assembled above ground along Niagara Street. Niagara Street will be closed to vehicles for the duration of this work.

Niagara Street from Dock Street to Montreal Street

- Will be closed to vehicles at 7:00 a.m. on Thursday, March 1, 2018
- Motorists are asked to please ensure all vehicles are removed from Niagara Street prior to this date

Access

- Pedestrian and emergency access will be maintained at all times
- Dock Street will have a turnaround area and a resident loading zone to assist with deliveries and pick-up/drop-off

Parking

- No parking along Niagara Street
- Niagara Street residents will be able to park on side streets during construction

Here's how you can get more information:

 <p>Help Tent A Help Tent will be located in the 200 block of Niagara, by the school. A Project representative will be available during working hours each day to provide information and answer questions.</p>	 <p>Niagara Street Web Page wastewaterproject.ca Will be updated regularly with construction and traffic information.</p>	 <p>Email and 24-7 Phone Line Residents can email and call to receive information or report a concern. wastewater@crd.bc.ca 1.844.815.6132.</p>
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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 J: February 2, 2018 - Blasting Schedule for the Week of February 5, 2018



Wastewater
Treatment Project
Treated for a cleaner future

Construction Notice

February 2, 2018

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 February 5*:

Monday, February 5	4-6 blasts per day
Tuesday, February 6	4-6 blasts per day
Wednesday, February 7	4-6 blasts per day
Thursday, February 8	4-6 blasts per day
Friday, February 9	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 K: February 7, 2018 Construction Notice - Clover Point - Early Works



Wastewater
Treatment Project
Treated for a cleaner future

Construction Notice

Upgrade and Expansion of the Clover Point Pump Station

The Clover Point Pump Station will be upgraded and expanded as part of the Wastewater Treatment Project. The current pump station pumps sewage directly into the ocean. The expanded pump station will pump wastewater to McLoughlin Point Wastewater Treatment Plant where it will undergo tertiary treatment, and the pump station will also provide bypass pumping through the existing outfall during extreme storm events.

The Clover Point Pump Station expansion will be below the grade of the adjacent section of Dallas Road and will blend into the existing facility and surrounding area.

Work to be completed under this Project includes:

- Concrete works to expand the existing underground structure.
- Upgrades to process mechanical equipment in the pump station.
- Excavation for the foundation of the pump station.
- Connection to the new Clover Forcemain (pipe) which will convey wastewater to the McLoughlin Point Wastewater Treatment Plant.
- Public space improvements, including a new public washroom, bike and pedestrian amenities, public viewing plaza and improved green space.

Work Hours

- Weekdays from 7:00 a.m. to 7:00 p.m.
- Saturdays from 10:00 a.m. to 7:00 p.m.

Traffic Impacts

- There will be minimal traffic impacts on Dallas Road associated with the upgrade and expansion of the Clover Point Pump Station. Brief lane closures on Clover Point Road will be required when material and equipment are brought to site.

Access to the seawall and the parking at Clover Point will remain open during construction.

Construction is scheduled to be completed by mid-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. 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.

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 L: February 1, 2018 Information Sheet – Macaulay Pump Station/Forcemain Contractor**Information Bulletin**

For Immediate Release
February 1, 2018

Macaulay Point Pump Station and Forcemain Contractor Selected

Victoria, BC—The contractor for the Macaulay Point Pump Station and Forcemain has been selected and is Kenaidan Contracting Ltd. The Macaulay Point Pump Station is being upgraded as part of the Wastewater Treatment Project, and the Capital Regional District (CRD) has entered into a \$35.9 million contract with Kenaidan to design and build a new pump station and forcemain.

Kenaidan Contracting Ltd. (Kenaidan) was selected by the CRD through a competitive selection process. Kenaidan has more than 30 years of experience building, modernizing, and expanding waterworks facilities within British Columbia and southern Ontario. Kenaidan is also the contractor recently selected to design, build and expand the Clover Point Pump Station.

The new Macaulay Point Pump Station will pump wastewater from western core area municipalities and the Esquimalt and Songhees Nations to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment. The Macaulay Forcemain is the pipe that will connect the Macaulay Point Pump Station to the McLoughlin Point Wastewater Treatment Plant.

The design for the new pump station considers its location on the waterfront and will have similar standards of design, material and quality of construction as the CRD's recently built Craigflower Pump Station.

Construction of the Macaulay Point Pump Station and Forcemain is anticipated to start in March 2018 and will take approximately two years to complete. To minimize impacts to residents and all road users, the forcemain will be installed in segments. All work will be completed within the existing Macaulay Point Pump Station site and existing road right-of-ways.

The waterfront trail will remain open to the public during construction and operation of the Macaulay Point Pump Station and Forcemain.

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 to 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 M: February 7, 2018 Construction Notice - Clover Point Pump Station – Early Works**Wastewater
Treatment Project****Information Bulletin**

For Immediate Release

February 6, 2018

Residuals Treatment Facility Contract Award

Victoria, BC– The Capital Regional District (CRD) has entered into a contract with Hartland Resource Management Group to design, build, finance, operate and maintain the Residuals Treatment Facility over a 20-year term. The contract is performance-based, with payment tied to the quantity of residual solids treated. The capital cost of the Residuals Treatment Facility is \$126.8 million.

Hartland Resource Management Group was selected by the CRD through a competitive selection process and is a consortium of experienced firms including:

- Bird Construction Inc.;
- Maple Reinders PPP Ltd.; and
- Synagro Capital

The Residuals Treatment Facility is being built as part of the Wastewater Treatment Project. Residual solids from the McLoughlin Point Wastewater Treatment Plant will be piped to the Residuals Treatment Facility at Hartland Landfill, where they will be treated and turned into what are known as Class A biosolids.

The biosolids produced at the facility will be a high quality dried product that will look similar to granules of dark ash and will be suitable for several beneficial reuses, including as an alternative energy source. The beneficial reuse will be determined by the CRD through a separate competitive selection process.

Located within the footprint of the Hartland Landfill in Saanich, the facility site was selected in 2013, after an assessment of potential locations that included technical, environmental, social and economic considerations. All treatment processing tanks will be covered and odour control systems will ensure there is no discernible odour in the community from the facility. Noise from the facility will be minimal and will comply with District of Saanich bylaws.

A community engagement plan will ensure the surrounding community have advance notice of construction activity. Communication tools will include: project information line phone number, email, social media, website, community updates, construction bulletins, traffic media updates, door-to-door advisories where appropriate and community information meetings.

The Residuals Treatment Facility is being funded by P3 Canada, the Province of British Columbia and the CRD. Construction is anticipated to begin Spring 2018 and take approximately 2.5 years to complete.

About the Wastewater Treatment Project

The Residuals Treatment Facility is being built as part of 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 to comply with federal regulations for treatment by December 31, 2020.


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 N: March 13, 2018 - Macaulay Pump Station/Forcemain Meeting Invitation



Wastewater Treatment Project
Treated for a cleaner future

WASTEWATER TREATMENT PROJECT

Macaulay Point Pump Station and Forcemain Community Information Meeting

You're invited to find out more about construction of the Macaulay Point Pump Station and Forcemain. This work is anticipated to begin in March 2018. The Wastewater Treatment Project Team, along with representatives from the contractor, Kenaidan Contracting Ltd., will provide information and answer questions about the work.

MACAULAY POINT PUMP STATION AND FORCEMAIN COMMUNITY INFORMATION MEETING

Tuesday, March 13, 2018
5:00 p.m. - 7:00 p.m.

Royal Canadian Legion
Esquimalt Branch
622 Admirals Road

FOR MORE INFORMATION ABOUT THE WASTEWATER TREATMENT PROJECT:

Visit wastewaterproject.ca

E-mail wastewater@crd.bc.ca

Call **1.844.815.6132**

MEETING FORMAT
The Wastewater Treatment Project Team will provide an update on the Macaulay Point Pump Station and Forcemain. The format will be drop-in to provide flexibility for busy schedules. Come by any time during the meeting to review updated project information, find out about upcoming construction activities and timing, meet Project Team members and ask questions about the Project.

MACAULAY POINT PUMP STATION AND FORCEMAIN
The new Macaulay Point Pump Station will pump wastewater from the western core area municipalities and the Esquimalt and Songhees Nations to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment. The Macaulay Forcemain is the pipe that will connect the Macaulay Point Pump Station to the McLoughlin Point Wastewater Treatment Plant.

The new pump station will be aesthetically appealing and will be further set back from the waterfront than the existing pump station, providing landscaped public space adjacent to the existing walkway. The waterfront trail will remain open to the public during the construction and operation of the Macaulay Point Pump Station and Forcemain.

TIMING
Construction of the Macaulay Point Pump Station and Forcemain is anticipated to start in March 2018 and will take approximately two years to complete. To minimize impacts to residents and all road users, the pipe will be installed in segments. All work will be completed within the existing Macaulay Point Pump Station site and existing roadways.

Appendix O: March 20, 2018 Clover Forcemain – Archaeological Work**Wastewater
Treatment Project**
Treated for a cleaner future**Construction Notice**

March 20, 2018

Clover Forcemain: Archaeological Work

The Wastewater Treatment Project includes construction of a pipe which will transport wastewater from the expanded Clover Point Pump Station to the McLoughlin Point Wastewater Treatment Plant. This pipe, the Clover Forcemain, is a 3.3 km long pipe that will run along Dallas Road from Clover Point to Ogden Point, where it will connect to the cross-harbour undersea pipe.

The Wastewater Treatment Project is conducting further archaeological investigations to inform the final design and alignment of the Clover Forcemain.

What to Expect

A backhoe will be used to dig three test holes in Clover Point Park, south of the Dallas Road and Moss Street intersection. There will be some noise associated with the machine operation. Work is anticipated to take one day and will take place during the week of April 2, 2018.

Construction of the Clover Forcemain is anticipated to begin in summer 2018. A key focus of the Project will be to ensure people have as much information as possible in advance so they can plan for construction activities. More information will be available in spring 2018, including traffic management and construction plans.

Work Hours

- 8:00 a.m. to 5:00 p.m.
- Work is anticipated to take one day.

Traffic Impacts

- Work will be conducted off the roadway and is not anticipated to impact traffic, except for very short periods during loading and unloading of equipment.
- There will be no impact to accessing the seawall and parking.

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 will be complete 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 P: March 14, 2018 – Residual Solids Conveyance Line – Geotechnical Work**Wastewater
Treatment Project**
Treated for a cleaner future**Construction Notice**

March 14, 2018

Residual Solids Conveyance Line: Geotechnical Work

The Residual Solids Conveyance Line is being built as part of the Wastewater Treatment Project and will include two pipes and four pumping stations. The two pipes will connect the McLoughlin Point Wastewater Treatment Plant to the Residuals Treatment Facility at Hartland Landfill. The first pipe will be 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 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 Wastewater Treatment Plant through the existing conveyance system.

Further geotechnical investigations will be conducted to inform the final design and alignment of the second pipe.

What to Expect

A truck mounted drilling rig will be used to create two boreholes located adjacent to Marigold Bridge near the northwest and southeast abutments along the Colquitz River. There will be some noise associated with the drilling work. Preparation work will begin on March 21, 2018. Drilling of the two boreholes is anticipated to take one day within the week of March 22.

Construction of the Residual Solids Conveyance Line is anticipated to begin in summer 2018. More information on the work to be completed will be available in summer 2018, including traffic management and construction plans.

Work Hours

- 8:00 a.m. to 5:00 p.m.
- Work is anticipated to take one day.

Traffic Impacts

- Traffic control areas will be delineated by cones and signs and controlled by flaggers.
- Traffic control will be provided for the drilling investigation.

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 will be complete 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 Q: March 19, 2018 – Blasting Schedule – McLoughlin Point



March 19, 2018

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 March 19th*:

Monday, March 19	4-6 blasts per day
Tuesday, March 20	4-6 blasts per day
Wednesday, March 21	4-6 blasts per day
Thursday, March 22	4-6 blasts per day
Friday, March 23	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 R: March 2018 Information Sheet – Macaulay Point Pump Station Design



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

Macaulay Point Pump Station Design

The new pump station design reflects its location on the waterfront, greatly improving the visual impact of the building and creating a park amenity for the community to enjoy.

The new pump station will be constructed of wood and will be mostly below-grade, increasing green space for the community. There will be one storey above ground, with a pitched roof that slopes toward the ocean. This building shape will complement the slope of the site, minimizing its impact on the landscape.

Landscaping will be used to integrate the building with the surrounding area. The design maximizes vegetation opportunities and landscape functionality: it transforms an almost entirely impermeable lot into an environmentally-rich, park-like setting with public amenities.

The pump station design applies Leadership in Energy and Environmental Design (LEED) principles. Sustainable design elements include:

- Rainwater run-off control using a rain garden and storm water management system
- Native plants to reduce irrigation requirements
- Low-level lighting to minimize light pollution
- Green roof
- Increased open space
- Durable materials with the above grade structure made entirely of B.C. wood



Artist rendering of the Macaulay Point Pump Station

For More Information

Website: wastewaterproject.ca

Email: wastewater@crd.bc.ca

24-7 Project Information Line: 1.844.815.6132

Wastewater Treatment Project
Treated for a cleaner future

Information Sheet

The Macaulay Point Pump Station and Forcemain

The Macaulay Point Pump Station will pump 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 Macaulay Point outfall during heavy rainfall.

The Macaulay Forcemain is the pipe that will connect the Macaulay Point Pump Station to the McLoughlin Point Wastewater Treatment Plant.



Macaulay Forcemain route

CONSTRUCTION

Construction will begin in March 2018 and is anticipated to be complete in summer 2020. Kenaidan Contracting Ltd. is the contractor that has been selected to complete this work.

Construction activities will comply with the local noise bylaw for hours of work and noise levels. Anticipated work hours are Monday to Friday from 7:00 a.m. to 6:00 p.m. with limited work anticipated on Saturdays.

NOISE AND ODOUR

Noise from the new pump station will not exceed the current level of noise from the existing pump station. The pump station will be designed with state-of-the-art odour control systems so there will be no discernible odour in the community.

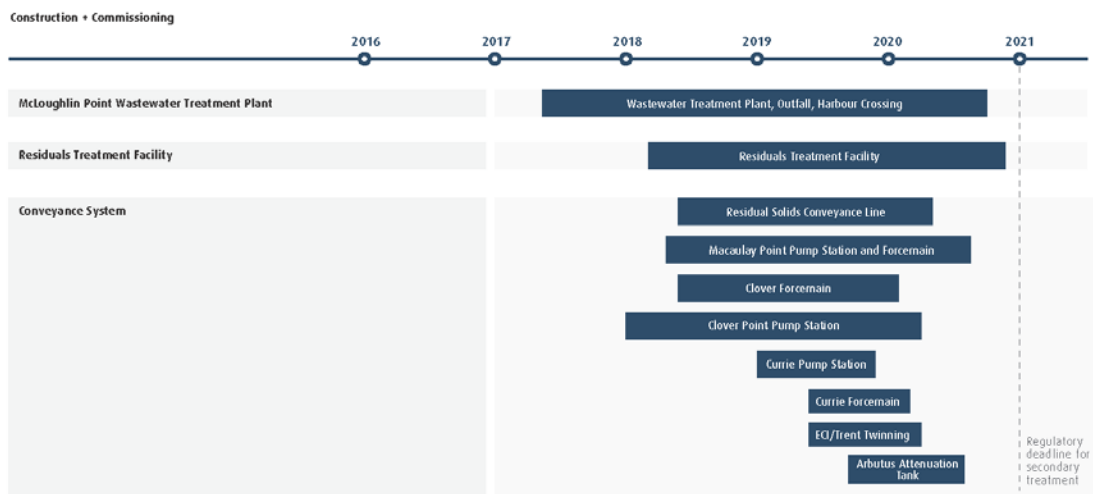
ABOUT THE WASTEWATER TREATMENT PROJECT

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.

Appendix S: March 2018 Information Sheet – Wastewater Treatment Project Schedule

Wastewater Treatment Project Schedule*

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



*Schedule subject to updates as project planning progresses.

About the Wastewater Treatment Project

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

For More Information

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

Appendix T: February 9, 2018 – Letter to CALWMC

Wastewater Treatment Project T: 250.360.3002
510-1675 Douglas Street F: 250.360.3071
Victoria, BC, V8W 2G5 www.wastewaterproject.c



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

February 9, 2018

Core Area Liquid Waste Management Committee
625 Fisgard Street
Victoria, BC V8W 1R7

Attention: Director Helps, Chair, Core Area Liquid Waste Management Committee
lhelps@crd.bc.ca

Dear Core Area Liquid Waste Management Committee,

RE: Integrated Resource Management: Implications for the Core Area Wastewater Treatment Project

The Core Area Wastewater Treatment Project Board (Project Board) has been advised that the Capital Regional District (CRD) Board passed the following motions at its meeting on January 10, 2018:

3 – 18-022 Integrated Resource Management – Next Steps

Recommendation:

That the Environmental Services Committee recommend to the Capital Regional District (CRD) Board:

That the CRD modify the Integrated Resource Management (IRM) work plan by:

1. Concluding the current IRM procurement process.
2. Issuing a Request for Proposals for the beneficial use of dried Class A biosolids produced by the Residuals Treatment Facility as a stand-alone procurement, according to the CRD's restriction of land application of any product using CRD biosolids as a feedstock.
3. Pursuing an in-region or near in-region organics, (kitchen scraps, yard and garden) processing facility by initiating a new procurement process.
4. Informing the Project Board of the new direction and requesting that any Core Area Wastewater Treatment project implications be included in the upcoming update report to the Core Area Liquid Waste Management Committee in February.
5. Submitting a revised project plan for the beneficial use of biosolids and the IRM initiative to the province.

The Project Board discussed motion 4 at its January 25, 2018 meeting, and requested that I respond to the Core Area Liquid Waste Management Committee (CALWMC) through a letter



Core Area Liquid Waste Management Committee (CALWMC) - January 31, 2018
Integrated Resource Management: Implications for the Core Area Wastewater Treatment Project **2**

confirming that there are no implications of the new direction to the Core Area Wastewater Treatment Project.

Furthermore, I am pleased to report that the procurement of the Residuals Treatment Facility was successfully concluded on February 6, 2018, with the execution of a long-term agreement with Hartland Resource Management Group, a consortium of experienced firms. The execution of the agreement means that Class A Biosolids will be available for beneficial uses; and consequently supports the CRD's commencement of a procurement for the beneficial use of Class A Biosolids.

The Core Area Wastewater Treatment Project Team continues its comprehensive collaboration with CRD personnel and, specifically continues to provide information regarding the Residuals Treatment Facility in support of CRD planning and procurement efforts.

Sincerely,



Donald Fairbairn
Chair, Core Area Wastewater Treatment Project Board
CRD Wastewater Treatment Project

cc: CRD Executive Office



**WTP QUARTERLY COST REPORT
as at March 31, 2018**

Project Component	COST EXPENDED							COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to December 31, 2017	Expended over reporting period (Q1 2018 Jan - Mar)	Expended to March 31, 2018	Expended to March 31, 2018 as a % of Budget	Remaining (Unexpended) Budget at March 31, 2018	Total Commitment at March 31, 2018	Unexpended Commitment at March 31, 2018	Uncommitted Budget at March 31, 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	319.4	68.8	17.3	86.1	27%	233.2	309.3	223.2	10.0	233.2	319.4	-	0%
Residuals Treatment Facility ¹	147.1	138.3	7.4	0.7	8.1	6%	130.3	135.0	126.9	3.3	130.3	138.3	-	0%
Conveyance System ¹	141.2	150.4	20.7	3.6	24.3	16%	126.1	82.0	57.7	68.4	126.1	150.4	-	0%
Project Management Office														
Project Management Office ("PMO")	71.1	73.6	19.1	3.6	22.7	31%	50.9	57.8	35.1	15.8	50.9	73.6	-	0%
Common Costs														
BC Hydro	11.6	4.0	0.6	0.2	0.8	19%	3.2	2.6	1.8	1.4	3.2	4.0	-	0%
Third Party Commitments	8.1	8.1	1.8	0.3	2.1	26%	6.0	6.1	4.0	2.0	6.0	8.1	-	0%
Program Reserve and contingencies	69.3	71.2	-	-	-	0%	71.2	-	-	71.2	71.2	71.2	-	0%
Total Costs	765.0	765.0	118.4	25.7	144.1	19%	620.9	592.8	448.7	172.1	620.9	765.0	-	0%

¹ - Excluding PMO, Common Costs and

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

** Cost report presents approved expenditures



Appendix V: Asset Management Cost Report

ASSET MANAGEMENT COST REPORT as at March 31, 2018														
Project Component	COST EXPENDED							COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to February 28, 2018	Expended over reporting period (March 2018)	Expended to March 31, 2018	Expended to March 31, 2018 as a % of Budget	Remaining (Unexpended) Budget at March 31, 2018	Total Commitment at March 31, 2018	Unexpended Commitment at March 31, 2018	Uncommitted Budget at March 31, 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	375.3	90.4	6.1	96.5	26%	278.8	339.3	242.8	36.0	278.8	375.3	-	0%
Residuals Treatment Facility ^A	195.0	176.8	12.9	0.7	13.6	8%	163.2	149.2	135.6	27.4	163.2	176.8	-	0%
Conveyance System ^A	192.0	212.9	31.0	3.0	34.0	16%	178.9	104.3	70.3	108.7	178.9	212.9	-	0%
Total Costs	765.0	765.0	134.3	9.8	144.1	19%	620.9	592.8	448.7	172.1	620.9	765.0	-	0%

^A - including PMO and Common Costs
^{*} Values presented in Millions, results in minor rounding differences
^{**} Cost report presents approved expenditures