



**REPORT TO CORE AREA WASTEWATER TREATMENT PROJECT BOARD  
MEETING OF FRIDAY, APRIL 12, 2019**

---

**SUBJECT      CRD Board Approval to Increase the Project's Budget**

**ISSUE**

Significant progress has been made on the Wastewater Treatment Project: the vast majority of the Project is under construction, with only one contract remaining to be procured. The Project is on schedule to provide tertiary treatment for wastewater from the core area municipalities (of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood) and the Esquimalt and Songhees Nations, by the regulatory deadline of December 31, 2020.

The Project has experienced cost pressures on every conveyance contract awarded, primarily as a result of escalation in the Vancouver Island construction market. The Project Team has awarded seven conveyance contracts to-date. Each contract has been subject to a competitive procurement, with qualified and experienced contractors submitting competitive proposals for the work. However, due primarily to escalation in the price of materials and labour the total cost of the conveyance contracts awarded to-date has exceeded the amount within the Project's control budget by \$56.5M. Each contract award has therefore required a draw to be made from the Project's contingency, to offset the overages.

Given the cost pressures to-date the Project Team engaged Kerr Wood Leidal to refresh the cost estimate for the four conveyance components remaining to be procured. Based on the value of the contracts awarded to-date and the refreshed cost estimate, the Project Team has estimated the cost to complete the Project. The Project Team forecasts that, if the Project were to be constructed with the scope as defined in the Project Board's September 2016 business case, the total cost of the Project would be \$795M, or \$30M (3.9%) over the Project's budget.

The Project Team also engaged Kerr Wood Leidal to develop an updated model of the core area's wastewater system in order to allow the CRD to make informed decisions regarding capital investments required to meet future demands.

As a result of that work, in a separate report the Project team are seeking the Project Board's approval to refine the Project's scope and remove three components of the conveyance system as they do not provide a benefit to the CRD's residents and businesses, and are not required to meet the Project's goals.

If the Project Board approve the Project Team's recommendation to refine the scope of the Project, the Project Team forecast that the Project could be completed at a total cost of \$775M, or \$10M (1.3%) over the Project's control budget.

The Project Board have engaged Ernst & Young to make an independent assessment of the sufficiency of the control budget to complete the Project. Ernst & Young will report their findings directly to the Project Board.

The Project Team have undertaken value engineering from the start of the Project, and will continue with that approach for the remainder of the Project, with the aim of minimising costs to

CRD's residents and businesses (life cycle costs) and providing value for money. The Project Team will also continue to work with CRD staff to review and appropriately-allocate costs between the capital and operating budgets.

As the Project Team forecast that the Project's cost will exceed the budget available, the Project Team are recommending that the Project Board seek the CRD Board's approval to increase the Project's budget.

## **BACKGROUND**

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

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

Schedule A of the CRD Core Area Wastewater Treatment Project Board Bylaw No. 1, 2016 defined four goals for the Project Board (the Project's Goals):

- i) Meet or exceed federal regulations for secondary treatment by December 31, 2020;
- ii) Minimize costs to residents and businesses (life cycle costs) and provide value for money;
- iii) Optimize opportunities for resource recovery and greenhouse gas reduction; and
- iv) Deliver a solution that adds value to the surrounding community and enhances the livability of neighbourhoods.

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

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

The Business Case established the WTP control budget (the Control Budget) of \$765M, and defined the scope of the 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 is being built to meet the provincial and federal regulations for treatment by December 31, 2020. The Project consists of three main elements:

- McLoughlin Point Wastewater Treatment Plant: located at McLoughlin Point in Esquimalt, the treatment plant will provide tertiary treatment to the core area's wastewater.

- Residuals Treatment Facility: residual solids from the wastewater treatment plant will be piped to a Residuals Treatment Facility at Hartland Landfill, where they will be turned into what are known as Class A biosolids. These biosolids are a high quality by-product treated such that it is safe for further use.
- Conveyance System: the conveyance system refers to the 'pumps and pipes' of the Wastewater Treatment Project. This system will carry wastewater from across the core area to the treatment plant, and residual solids to the Residuals Treatment Facility at Hartland Landfill.

## **DISCUSSION**

Significant progress has been made on the Wastewater Treatment Project: the vast majority of the Project is under construction, with only one contract remaining to be procured.

Appendix A outlines how the completed Project will meet the goals defined by the CRD Board, as well as the progress made to-date on delivering those goals. The Project is on schedule to provide tertiary treatment for wastewater from the core area municipalities and the Esquimalt and Songhees Nations, by the regulatory deadline of December 31, 2020.

The Project Team has been reporting budget pressures through its monthly reports to the Project Board (and CRD Board) since September 2017, and these pressures have steadily increased as each conveyance contract has been awarded.

The cost pressures have been primarily as a result of escalation in the Vancouver Island construction market. The Project Team has awarded seven conveyance contracts to-date. Each contract has been subject to a competitive procurement, with qualified and experienced contractors submitting competitive proposals for the work. However, the total cost of the conveyance contracts awarded to-date has exceeded the amount within the Project's control budget by \$56.5M. Each contract award has therefore required a draw to be made from the Project's contingency, to offset the overages.

The primary reason for the overages is that escalation in the BC construction market has exceeded expectations: there has been a significant increase in the cost of both labour and materials, including high-density polyethylene piping, steel and aluminum. Other factors that have contributed to budget pressures include:

- Design development to incorporate stakeholder input;
- Geotechnical considerations, including removal and disposal of contaminated material; and
- Schedule constraints associated with the requirement to provide wastewater treatment by the regulatory deadline of December 31, 2020.

While the need to treat wastewater by the regulatory deadline of December 31, 2020 has always been known, it has constrained management's ability to mitigate cost pressures. The Project is on-track to meet the regulatory deadline, but additional costs have been incurred in order to maintain progress against schedule.

Given the cost pressures to-date the Project Team engaged Kerr Wood Leidal to refresh the cost estimate for the four conveyance components remaining to be procured. In line with the escalation

evident on the other components, the cost estimate for the remaining scope is greater than that included in the Control Budget.

Based on the value of the contracts awarded to-date and the refreshed cost estimate as well as a forecast of the risks remaining to be managed, the Project Team has forecasted the cost to complete the Project. The Project Team forecasts that, if the Project were to be constructed with the scope as defined in the Project Board's September 2016 business case, the total cost of the Project would be \$795M, or \$30M over the Project's budget.

The Project Team also engaged Kerr Wood Leidal to develop an updated model of the core area's wastewater system in order to allow the CRD to make informed decisions regarding capital investments required to meet future demands.

As a result of that work, in a separate report the Project team are seeking the Project Board's approval to refine the Project's scope and remove three components of the conveyance system as they do not provide a benefit to the CRD's residents and businesses, and are not required to meet the Project's goals.

If the Project Board approve the Project Team's recommendation to refine the scope of the Project, the Project Team forecast that the Project could be completed at a total cost of \$775M, or \$10M over the Project's control budget.

The Project Team's confidence in the forecast cost to complete the Project is high as:

- the vast majority of the Project is under contract, with only one contract remaining to be procured;
- construction is underway on all key components of the Project; and
- the foundation work is close to completion at all of the Project's pumping and treatment facilities.

The Project Board have engaged Ernst & Young to make an independent assessment of the sufficiency of the control budget to complete the Project. Ernst & Young will report their findings directly to the Project Board.

The Project Team have undertaken value engineering from the start of the Project, and will continue with that approach for the remainder of the Project, with the aim of minimising costs to CRD's residents and businesses (life cycle costs) and providing value for money. The Project Team will also continue to work with CRD staff, including the CRD's Chief Financial Officer and Chief Administrative Officer, to review and appropriately-allocate costs between the capital and operating budgets, as outlined in the budget implications section of this report.

The CRD Board established the Project Board through the CRD Core Area Wastewater Treatment Board Bylaw No. 1, 2016, and delegated certain of its powers, duties and functions to the Project Board under the CRD Core Area Wastewater Treatment Project Board Delegation Bylaw No. 1, 2016. Notwithstanding the delegation of authority from the CRD Board to the Project Board, approval from the CRD Board is required for any alteration to the scope, schedule or budget of the Project that would result in the Project:

- not meeting provincial and federal regulations governing the Project;
- exceeding approved funding for the Project; or
- increasing costs to taxpayers from those stated in the Business Case.

As the Project Team forecast that the Project's cost will exceed the budget available, the Project Team are recommending that the Project Board seek the CRD Board's approval to increase the Project's budget by \$30M, or \$10M if the Project Board approve a refinement to the Project's scope.

The Project Team will continue to diligently manage risks and safely-deliver the Project to meet the Project's goals, including minimizing life cycle costs to residents and businesses and providing value for money, and meeting federal regulations for wastewater treatment by December 31, 2020.

## **FINANCIAL IMPLICATIONS**

The federal and provincial governments are funding 60% of the Project's Control Budget, through four funding agreements:

- 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; and
- The Government of British Columbia will provide up to \$248 million towards the three components of the project.

The Project Team provide regular updates to the provincial and federal funding partners, in accordance with the funding agreements. The funding partners are therefore aware of the Project's cost pressures, and any increase to the Project's budget will not impact the federal and provincial funding contributions to the Project.

The federal and provincial governments' funding contributions are capped and therefore if the CRD Board approve an increase to the Project's budget, it would increase the CRD's share of the Project costs by the same amount. The allocation between the core area municipalities of the CRD's portion of the Project's capital costs were defined and agreed based on each municipality's allotted design capacity, and would not be expected to change if an increase to the Project's budget is approved.

The requested increase to the Project's budget is to accommodate the total forecast cost to complete the Project, and is not anticipated to impact this year's capital expenditures. An increase to the Project's budget would therefore not require a change to the 2019 capital expenditures included in the 5-year 2019-2023 Capital Plan, approved by the CRD Board on March 20, 2019.

If the CRD Board approve an increase to the Project's budget, staff would bring an amendment of the 5-year 2019-2023 Capital Plan (for year 2), through the Governance and Finance Committee for approval. An increase to the Project budget will impact the CRD Board approved WTP Financing Strategy by amending the forecasted balance to be financed. Under the current strategy, there would be an anticipated end of project balance of \$3M to be financed following commissioning, which is currently anticipated to be repaid by 2031.

If the Project's budget were increased by \$10M or \$30M, the forecasted end-of-project balance would be increased to either \$13M or \$33M. A high-level preliminary estimate results in an incremental 1.5 or 4.5 years of debt servicing costs, holding all other assumptions constant.

The Project Team will continue to work with CRD staff to review and refine cost allocations of the project budget between capital and operating funding streams. This review includes assessing ongoing or operating costs versus construction or one-time impacts. This review may result in costs that are currently forecasted within the Project's capital budget being funded through CRD service operating budgets.

### **RECOMMENDATION**

That the Core Area Wastewater Treatment Project Board (the Project Board) approve either resolution 1 (if the Project Board pass the resolution in agenda item 6.3 'Refinement of Project Scope' of the Project Board's April 12, 2019 meeting) or resolution 2.

#### **RESOLUTION 1:**

##### **RESOLVED that:**

1. The Project Board seek the CRD Board's approval to increase the capital budget for the Wastewater Treatment Project from \$765M (as set out in original business case for the Project), to \$775M.
2. This report be forwarded to the Core Area Liquid Waste Management Committee for information.
3. This report be forwarded to the CRD Board seeking their approval of the following resolution:

##### **RESOLVED that:**

The Board of the Capital Regional District approve an increase to the Wastewater Treatment Project's budget from \$765M (as set out in the original business case for the Project) to \$775M.

#### **RESOLUTION 2:**

##### **RESOLVED that:**

1. The Project Board seek the CRD Board's approval to increase the capital budget for the Wastewater Treatment Project from \$765M (as set out in original business case for the Project), to \$795M.
2. This report be forwarded to the Core Area Liquid Waste Management Committee for information.
3. This report be forwarded to the CRD Board seeking their approval of the following resolution:

**RESOLVED that:**

The Board of the Capital Regional District approve an increase to the Wastewater Treatment Project's budget from \$765M (as set out in the original business case for the Project) to \$795M.

---

Dave Clancy, Project Director  
Wastewater Treatment Project

---

Elizabeth Scott, Deputy Project Director  
Wastewater Treatment Project  
Concurrence

Appendix A: Progress against Project Goals