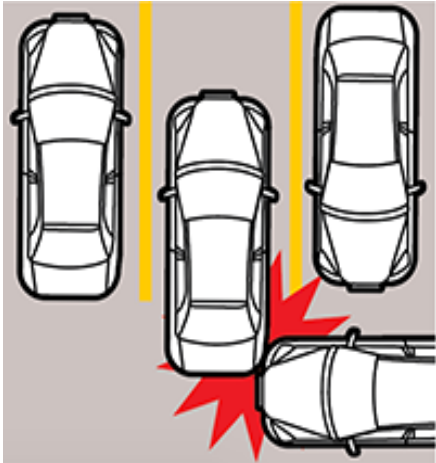
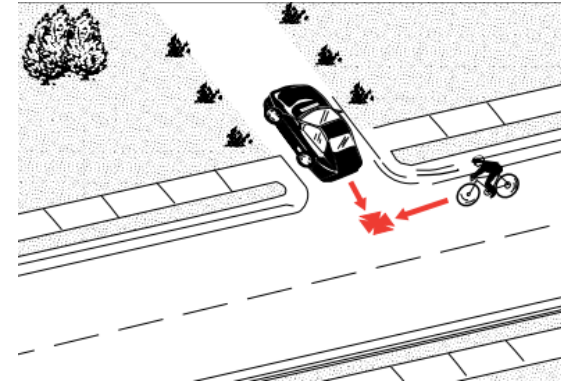


Core Area Wastewater Treatment Project Board



May 19, 2021

Safety Moment “Backing in to Parking Spots”



Project Completion Report: May 2016 – May 2021



Wastewater
Treatment Project
Lead by a better idea



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

CRD Wastewater Treatment Project

Project Completion Report

Reporting Period: May 2016 to May 2021

Purpose of Project Completion Report

Mark the completion of the Wastewater Treatment Project, through:

- an assessment of the Project's performance against the goals established by the CRD Board and the key performance indicators approved by the Project Board;
- the identification of variances from the baseline plans prepared by the Project Board and/or Project Team, in terms of the Project's scope, schedule and cost;
- the identification of Project successes and challenges; and
- an outline of the Project-related commitments and activities that extend beyond May 2021.

Achievement of Project Goals

The CRD Board established the following four goals for the Wastewater Treatment Project:

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

The Wastewater Treatment Project met all four of these goals.

Status of Key Performance Indicators at Project Completion

Key Performance Indicator		
Safety	Deliver the Project safely with zero fatalities and a total recordable incident frequency (TRIF) of no more than 1*.	
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.	
Regulatory Requirements	Deliver the Project such that the Core Area complies with provincial and federal wastewater regulations.	
Stakeholders	Continue to build and maintain positive relationships with First Nations, local governments, communities, and other stakeholders.	
Schedule	Deliver the Project by December 31, 2020.	
Cost	Deliver the Project within the Control Budget (\$765 million)	

* 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
	Significant adverse effect of KPI not being met
	KPI not met but outcome managed
	KPI achieved

Project Cost

- While the total Project cost will not be known until total completion of all contracts, which is anticipated to occur in the last quarter of 2021, **it is forecast that the total Project cost will be approximately \$766.7M, which is within the approved budget of \$775M**
- The total Project cost is therefore:
 - forecast to exceed the Project's Control Budget (of \$765M) by 0.2%; but
 - be well within the budget subsequently-approved by the CRD Board (of \$775M).

Total Forecast Project Cost

- Total forecast cost (of \$766.7M) is the forecast cost at completion, and comprises:
 - \$617.2M of costs expended at April 30, 2021;
 - \$157.8M of funds to cover:
 - work completed but not yet invoiced at April 30, 2021; and
 - the work required to complete the Project-related commitments and activities that extend beyond May 2021;
 - \$2.74M of contingency to manage the risks associated with completing the Project-related commitments and activities that extend beyond May 2021.
- At April 30, 2021 \$8.3 million remains in program reserve.

Scope Variances

(Compared to Business Case)

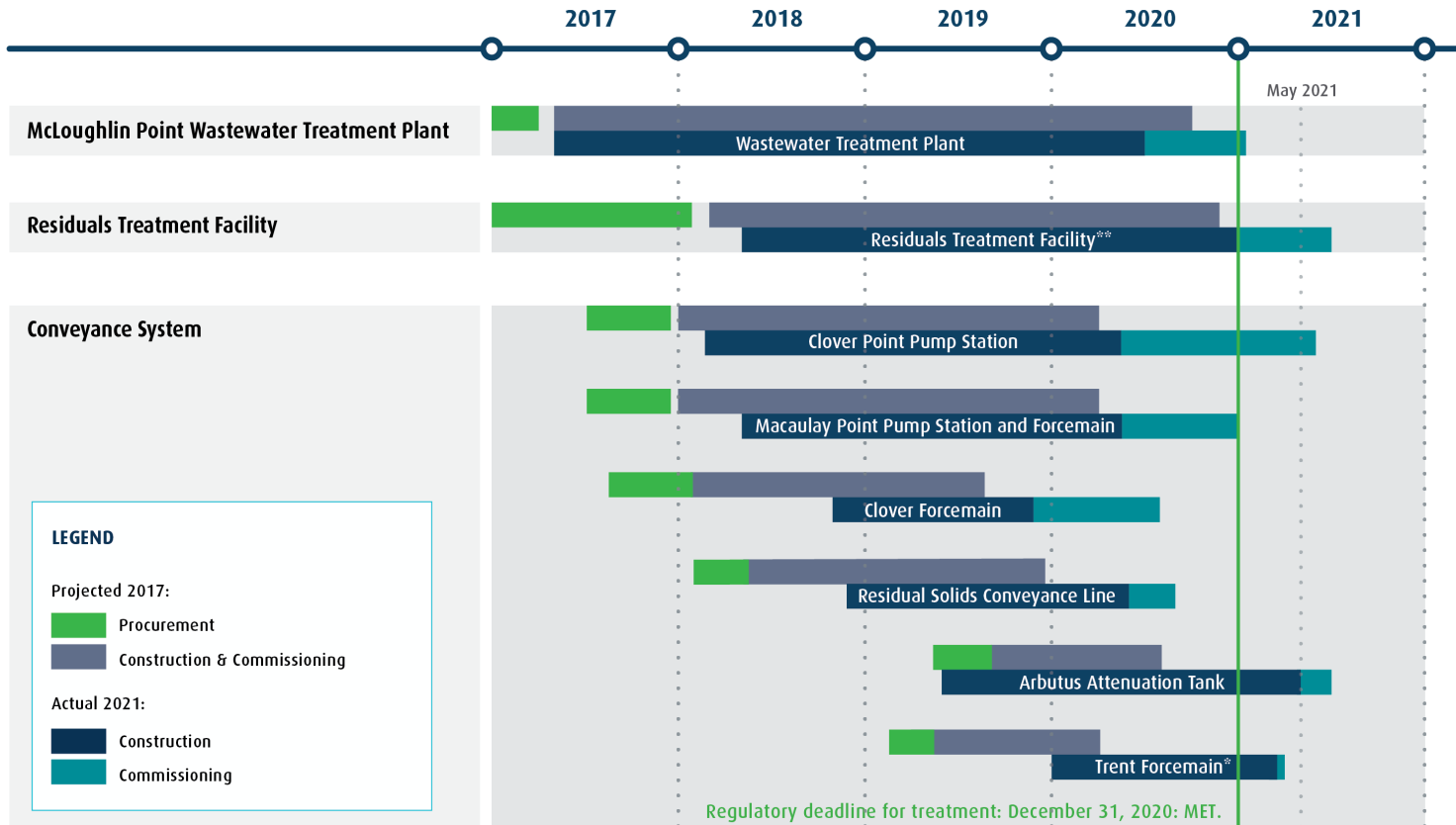
- In furtherance of the Project's goal to minimize costs to residents and businesses, the Project Team undertook value engineering and reviewed the scope of each Project component
- Value engineering led to, in some cases, the delivered scope:
 - exceeding that defined in the Business Case:
 - e.g. the replacement of the Macaulay Point Pump Station;
 - being reduced from that defined in the Business Case:
 - e.g. the removal from scope of three components (capacity expansion of the Currie Pump Station, twinning of the Currie Forcemain, and twinning of the East Coast Interceptor) that, based on extensive flow monitoring data and future wastewater flow estimates, would not provide any benefit now, or in the future.

Schedule Variance

(March 2017 Forecast to May 2021 Actual)

Wastewater Treatment Project Schedule

Construction + Commissioning



Cost Variance

(Total Forecast Cost compared to Allocated Control Budget)

Project Component	Control Budget Approved June 6, 2017	Total Forecast Cost ¹	Variance
McLoughlin Point Wastewater Treatment Plant	\$331.4	\$336.3	(\$4.9)
Residuals Treatment Facility	\$159.4	\$140.2	\$19.2
Conveyance System	\$158.2	\$206.5	(\$48.3)
Project Management Office	\$75.8	\$72.5	\$3.3
BC Hydro	\$12.9	\$2.7	\$10.2
Third Party Commitments	\$8.1	\$8.5	(\$0.4)
Sub-Total	\$745.9	\$766.7²	(\$20.8)
Program Reserve	\$19.2	\$8.3	\$10.9
Total	\$765.0	\$775.0	(\$10.0)

Project Successes and Challenges

- Safety;
- Schedule: Project Delivery to Meet the Regulatory Deadline;
- Delivering a Major Infrastructure Project in an Urban setting;
- Cost;
- Interfaces between Project Components;
- Construction Challenges;
- Integration of the Project Components into the Existing Core Area Wastewater System; and
- Establishment of Project Office.

Project Handover

- Project Completion Report includes a section that outlines the Project-related commitments and activities that extend beyond May 2021 and that are transitioning from the Project to the CRD.
- The Project budget includes committed funds to fulfil the outstanding obligations, and the Governance Transition Report summarises both the fulfilled and the outstanding commitments.
- In addition there are organizational/corporate leadership, administrative and support function responsibilities that the CRD will need to fulfill as a result of the addition of the Project components to the core area wastewater system.



Wastewater Treatment Project

Treated for a cleaner future

CRD Wastewater Treatment Project

Governance Transition Report

Report Date: May 17, 2021

Purpose of Governance Transition Report

Facilitate a comprehensive Project closeout and successful transition by:

- Identifying the source of the various commitments made, and for each outlining the commitments that remain beyond the Project Board's term;
- Summarising the budget transfers and/or committed funds associated with fulfilling any remaining responsibilities; and
- Outlining the location and organisation of Project documentation.

Content of Governance Transition Report

Outlines the Project-related commitments and activities that extend beyond May 2021, associated with:

- Activities related to closing-out the Project's construction contracts;
- Obligations remaining to be fulfilled in the Project's funding, First Nation and land access agreements;
- Committed funds for the resources required to oversee the completion of the remaining obligations and close-out the construction contracts; and
- Operating and maintenance obligations related to the infrastructure built by the Project; and
- First Nations artwork and signage that is to be installed.

Close-Out of the Project's Construction Contracts

Project Component	Contract Type	Summary of Works Remaining at May 2021
McLoughlin Point Wastewater Treatment Plant	DBF	Providing advice and guidance to optimize plant performance over the remainder of the two-year performance period (to January 12, 2023) and complete warm weather odour test.
Residuals Treatment Facility	DBFOM	Complete activities required to achieve Completion; minor deficiency items and record drawing submission.
Macaulay Point Pump Station and Forcemain	DB	Landscaping, minor deficiency items and record drawing submission
Clover Point Pump Station	DB	Generator ventilation rectification; inlet channel debris removal; final acceptance testing; minor deficiency items and record drawing submission
Clover Forcemain	DBB	Quarterly post-construction stability surveys over the warranty period
Residual Solids Pump Stations	DBB	Removal of low floats and upgrade programming; landscaping, minor deficiency items and record drawing submission
Trent Forcemain	DBB	Restoration, minor deficiency items and record drawing submission
Arbutus Attenuation Tank	DBB	Final commissioning activities, site grading and landscaping, minor deficiency items and record drawing submission

Macaulay Point Pump Station





Macaulay Point Pump Station



Residual Solids Pump Stations



Obligations Remaining to be Fulfilled in the Project's Funding, First Nation and Land Access Agreements

- In addition to the Project's nine construction contracts, approximately 20 funding, First Nation and land access agreements were entered into in order to deliver the Project
- There are a relatively small number of obligations remaining to be fulfilled in the Project's funding, First Nation and land access agreements.
- The Project budget includes committed funds to fulfil the outstanding obligations, and the Governance Transition Report summarises both the fulfilled and the outstanding commitments.

Operation and Maintenance of Infrastructure Built by the Project

CRD's operating and maintenance responsibilities include:

- Managing the optimisation of the operation and maintenance of each Project component upon handover, and any resultant impacts on the operation of the other components of the core area wastewater system;
- Managing the contractual warranties for each of the Project components; and
- Administering the two-year performance period for the McLoughlin Point Wastewater Treatment Plant.