



**Residuals  
Treatment  
Facility**

Value for Money Report  
**Capital Regional District**

May 1, 2018



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Residuals Treatment Facility Value for Money Report**

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# 1. Introduction

## 1.1 Purpose

The Capital Regional District has entered into a contract with Hartland Resource Management Group (HRMG) to design, build, finance, operate, and maintain (DBFOM) the Residuals Treatment Facility over a 20-year term. This report outlines the rationale, objectives, and processes that led to the use of the DBFOM procurement model and presents the final “value for money” analysis for the signed contract.

## 1.2 Project description

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 Class A 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.

## 1.3 Limitations

This report was prepared for the exclusive use of the Capital Regional District, and is not to be reproduced or used without written permission of Deloitte with the exception of its use with regard to the procurement process for the Residuals Treatment Facility. No third party is entitled to rely, in any manner or for any purpose, on this report. Deloitte’s services may include advice or recommendations, but all decisions in connection with the implementation of such advice and recommendations shall be the responsibility of, and be made by, the Capital Regional District.

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## 2. Selection of procurement model

### 2.1 Selection timeline

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

- 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);
- 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
- Delegated certain of its powers, duties and functions to the Project Board under Bylaw 4110 (the CRD Core Area Wastewater Treatment Project Board Delegation Bylaw No. 1, 2016).

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

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

The Business Case recommended<sup>2</sup> that:

*The CRD start a new procurement for a new facility at Hartland landfill using a Design-Build-Finance-Operate<sup>3</sup> (DBFO) model, such facility to be in place to receive residual solids by December 2020; the contract will be performance based, with payment tied to the production of treated biosolids that meet regulatory thresholds for Class A biosolids.*

### 2.2 Selection of DBFOM procurement model

The Business Case recommendation of DBFOM was based on an assessment that indicated that DBFOM had the potential to generate value and could be successfully structured to deliver value for money to taxpayers. Features of the Residuals Treatment Facility<sup>4</sup> that supported a DBFOM procurement approach were cited as follows:

- On time delivery and operational readiness, especially with regards to the Wastewater Treatment Plant being operational, is very important to the success of the Program (i.e. the Wastewater Treatment Project);

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<sup>1</sup> Capital Regional District Core Area Wastewater Treatment Program Business Case, September 7, 2016, Capital Regional District and Partnerships BC

<sup>2</sup> Recommendation No. 9

<sup>3</sup> "Operate" as used in the Business Case includes maintenance of the facility; thus the recommendation, in effect, was for a Design-Build-Finance-Operate-Maintain procurement model.

<sup>4</sup> referred to as the "Biosolids Treatment Facility" in the Business Case

- The CRD is legally able to enter into a DBFOM contract with a private partner;
- The estimated capital cost of the Residuals Treatment Facility is sufficiently large to encourage market participation;
- The characteristics of the Residuals Treatment Facility support a longer term contract (e.g. 20 years);
- The Residuals Treatment Facility can be specified with a focus on performance requirements and outputs; and
- The Residuals Treatment Facility will be owned by the CRD and sited on public land (i.e. Hartland Landfill).

Prior to launching the DBFOM procurement process request for proposals, the CRD validated the potential for DBFOM to generate value through financial modelling<sup>5</sup> which compared the risk-adjusted project cost estimates for the traditional design-bid-build procurement model and the DBFOM procurement model. This comparison indicated that a DBFOM would offer value for money.

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<sup>5</sup> Financial modelling conducted by Deloitte and Stantec based on capital, operating and maintenance, lifecycle, planning, procurement, and other program costs provided by CRD. Risk estimates were obtained through workshop with representatives from CRD, Deloitte, Partnerships BC, PPP Canada, and Stantec.

# 3. Procurement process and outcome

## 3.1 Procurement process

The CRD issued a Request for Qualifications for the DBFOM on December 2, 2016. Five consortiums submitted responses. The consortiums were shortlisted to three proponent teams that were invited to respond to the Request for Proposals. The CRD issued a request for Proposals for the DBFOM on April 5, 2017. Technical proposals were received from the three proponent teams on September 28, 2017, and financial proposals were received from the three proponent teams on November 2, 2017. The procurement process was monitored by a fairness advisor who was appointed by the CRD to act as an independent observer to ensure that the competitive selection process was conducted in a fair, open and transparent manner.

## 3.2 Key outcomes

Based on the evaluation of the technical and financial proposals, HRMG was identified as the preferred proponent. The DBFOM contract was entered into by CRD and HRMG on February 6, 2018.

Key features of the contract for the CRD which drive value for the taxpayer include:

- Capital cost certainty: a firm fixed price is in place for the design, construction, and financing of the facility.
- Operations and maintenance cost certainty:
  - firm fixed unit pricing (i.e. price per tonne of residuals processed by the facility) is in place, subject only to inflation by the Consumer Price Index; and
  - CRD is protected by guarantees from any costs of over-consumption of water and electricity.
- The majority of design, construction, operation, maintenance, and handback risk is transferred to HRMG.
- Payments are performance based:
  - no payment is made until the facility is constructed and in-service, providing a strong incentive for construction completion;
  - half of the capital cost is withheld when the construction is complete, and paid out over the 20-year operating period, providing CRD with financial security over the facility performance and the condition of the facility at the end of the operating period;
  - ongoing operations and maintenance payments are dependent on the quantity of solids sent to the facility by CRD; and
  - payments can be withheld to ensure that the facility will meet the handback condition criteria.

### 3.3 Final value for money

The final value for money is a comparison of the risk-adjusted cost for the project as delivered through the signed contract, and the risk-adjusted cost for the traditional design-bid-build procurement model. The comparison in net present value (NPV) terms is as follows:

Category	Traditional Design-Bid-Build		DBFOM as contracted with HRMG	
	Components	\$NPV, millions	Components	\$NPV, millions
Planning and Procurement	CRD estimate, includes design cost	19.4	CRD estimate, design cost is HRMG responsibility and is included in Capital below	9.6
Capital	CRD estimate of construction cost	92.4	Service Commencement Payment and Monthly Capital Payments to HRMG	96.5
CRD Costs During Construction	CRD estimate for PMO, legal, construction oversight	11.4	CRD estimate for PMO, legal, construction oversight	11.4
Operating and Life Cycle	CRD estimate of operation and maintenance costs, contract administration	47.6	O&M Payments and Life Cycle Payments to HRMG, water and electricity cost at guaranteed usage rates	57.6
CRD Retained Risk	CRD estimate	25.9	CRD estimate	0.4
<b>Total</b>		<b>196.7</b>		<b>175.5</b>
<b>"Value for Money", \$NPV, millions</b>				<b>21.2</b>
<b>"Value for Money", percent</b>				<b>10.8%</b>

The contract with HRMG is expected to deliver lower costs to CRD of \$21.2M in net present value terms<sup>6</sup> over the term of the agreement. This represents a 10.8% lower estimated cost of procuring the facility than would be the case through a traditional design-bid-build procurement model.

<sup>6</sup> All net present values are calculated as at November 30, 2016 using a discount rate of 6.64%

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