



# PEACE RIVER REGIONAL DISTRICT

## Solid Waste Committee Meeting Agenda

January 7, 2021, 10:00 a.m.  
1981 Alaska Avenue, Dawson Creek, BC

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	<b>Pages</b>
<b>1. Call to Order</b>	
<b>2. Directors' Notice of New Business</b>	
<b>3. Adoption of Agenda</b>	
<b>4. Gallery Comments or Questions</b>	
<b>5. Adoption of Minutes</b>	
5.1. Solid Waste Committee Draft Meeting Minutes of December 3, 2020	2
<b>6. Business Arising from the Minutes</b>	
<b>7. Delegations</b>	
<b>8. Correspondence</b>	
<b>9. Reports</b>	
9.1. Fall Clean-Up 2020 and Program Year End Review, ENV-SWC-027	7
9.2. 2021 Solid Waste Carry Forward Projects, ENV-SWC-029	18
9.3. RFP 41-2020 NPRLF LFG Monitoring, Reporting, and Field Operations, ENV-SWC-028	21
9.4. CleanBC Organics Infrastructure Grant Applications, ENV-SWC-030	24
9.5. 2021 Solid Waste Supplemental Requests, ENV-SWC-031	74
<b>10. New Business</b>	
<b>11. Diary</b>	
<b>12. Item(s) for Information</b>	
12.1. Solid Waste Terms of Reference	89
<b>13. Adjournment</b>	



## PEACE RIVER REGIONAL DISTRICT

### SOLID WASTE COMMITTEE MEETING MINUTES

THURSDAY, DECEMBER 3, 2020

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**LOCATION** Peace River Regional District Office, Dawson Creek, BC

#### ATTENDANCE

##### Directors

Director Rose, Electoral Area 'E' – Committee Chair  
Director Bumstead, City of Dawson Creek  
Director Zabinsky, City of Fort St. John  
Alternate Director Deck, District of Chetwynd  
Director Sperling, Electoral Area 'C' – ex officio

Director Goodings, Electoral Area 'B'  
(via teleconference)

##### Staff

Shawn Dahlen, Chief Administrative Officer  
Paulo Eichelberger, GM of Environmental Services  
Teri Vetter, Chief Financial Officer  
Gerritt Lacey, Solid Waste Manager  
Loryn Day, Solid Waste Coordinator  
Suzanne Garrett, Recording Secretary

##### Delegations (10:45 am)

8.1 Cleanfarms, Shane Hedderson, Carly Fraser  
(via teleconference)

#### 1. CALL TO ORDER

The Chair called the meeting to order at 10:02 a.m.

#### 2. ELECTION OF CHAIR AND VICE CHAIR

##### Election of Chair

The General Manager of Environmental Services called for nominations for the Office of Committee Chair for 2021.

Director Sperling nominated Director Rose for the Office of Committee Chair for 2021.

Director Zabinsky seconded the nomination.

Director Rose accepted the nomination.

The General Manager of Environmental Services called a second time for nominations for the Office of Committee Chair for 2021.

The General Manager of Environmental Services called a third time for nominations for the Office of Committee Chair for 2021.

Hearing none, the General Manager of Environmental Services declared Director Rose Chair of the Solid Waste Committee for 2021.



## **Election of Vice Chair**

The General Manager of Environmental Services called for nominations for the Office of Committee Vice-Chair for 2021.

Director Sperling nominated Director Zabinsky for the Office of Committee Vice-Chair for 2021. Director Bumstead seconded the nomination.

Director Zabinsky accepted the nomination.

The General Manager of Environmental Services called a second time for nominations for the Office of Committee Vice-Chair for 2021.

The General Manager of Environmental Services called a third time for nominations for the Office of Committee Vice-Chair for 2021.

Hearing none, the General Manager of Environmental Services declared Director Zabinsky Vice-Chair of the Solid Waste Committee for 2021.

Committee Chair Rose assumed the Chair at 10:10 a.m.

## **3. DIRECTORS' NOTICE OF NEW BUSINESS**

3.1 Director Rose Update on the Ultimate Thermal Organics Converter (UTOC).

## **4. ADOPTION OF AGENDA**

4.1 Adoption of Agenda MOVED Director Hiebert, SECONDED Director Sperling,  
That the Solid Waste Committee adopt the December 3, 2021 Meeting Agenda:

1. **Call to Order**
2. **Election of Chair and Vice Chair**
3. **Notice of New Business**
4. **Adoption of Agenda**
5. **Gallery Comments or Questions**
6. **Adoption of Minutes**
  - 6.1 Solid Waste Committee Meeting Minutes of November 5, 2020
7. **Business Arising from the Minutes**
8. **Delegations**
  - 8.1 Overview of the Agricultural Plastics Recycling Pilot, Cleanfarms
  - 8.2 2021 Solid Waste Budget Presentation
9. **Correspondence**
10. **Reports**
  - 10.1 Solid Waste Agreements – Status Update ENV-SWC-025
11. **New Business**
  - 11.1 Ultimate Thermal Organics Converter (Waste to Energy)
12. **Diary**
13. **Item(s) for Information**
  - 13.1 Solid Waste Committee Terms of Reference
14. **Adjournment**

**CARRIED**



## 5. GALLERY COMMENTS OR QUESTIONS

None

## 6. ADOPTION OF MINUTES

6.1 November 5, 2020  
SWC Meeting Minutes

MOVED Director Zabinsky, SECONDED Director Bumstead,  
That the Solid Waste Committee adopt the November 5, 2020 Meeting Minutes  
**CARRIED**

## 7. BUSINESS ARISING FROM THE MINUTES

None

## 8. DELEGATIONS

8.2 2021 Solid Waste  
Budget Presentation

The Committee was provided with an overview of the draft 2021 Solid Waste Budget. Topics included:

- Funding options
- Proposed requisition increase
- Proposed tipping fee increase
- Proposed requisition/tipping fee increase
- Proposed 2021 funding structure
- Proposed 5 year plan

A question and answer period ensued. Topics included:

- Tax rates are not accurate, 2020 rate is 0.28 however on some properties the assessed value is at 0.30.
- Need to provide accurate numbers for taxpayers.
- Solid Waste and Finance staff will investigate with BC Assessment, to determine how the funding formula works to provide more accurate tax rates, using property tax information provided by Directors Goodings, Rose and Bumstead.
- New assessments will be impacted as “dormant wells/pipelines” are removed from the industrial tax base.
- Would like to see tipping fees split into “residential” and “industrial/commercial/institutional” (ICI), with 2% increase for residential and double increase for ICI.
- Investigate a further option – Option 5 - incremental increase in taxes/requisition combined with expansion of tipping fees to reach 6%; reduce recycling 15-20%; decrease use of operational surplus over 3 years; maintain current level of service operationally, reduce new capital expense by \$1,000,000 in 2021.

8.1 Cleanfarms Pilot  
Program

The Committee was provided with an overview of the Agricultural Plastics Recycling pilot program from Cleanfarms. Topics included:

- Cleanfarms is a not-for-profit industry stewardship organization



Cleanfarms pilot program  
(Cont'd)

- Purpose of the pilot program is to deliver and evaluate agricultural plastics collection programs in agricultural-intensive regions with an overarching goal to establish convenient and cost-effective collection programs for the benefit of farmers, the local region and the environment.
- Cleanfarms will work with PRRD to develop and test different collection models to determine the most effective and cost-efficient way to best serve producers.
- Pilot program will develop over a three year period.
- Collection materials being considered include grain bags, bale wrap, silage bags/covers, and twine.

A question and answer period ensued. Topics included:

- Focus is on end use of materials collected, working with other jurisdictions to consolidate, right now some materials can be marketed, others are used for waste-to-energy recovery.
- Pilot identified three locations – collection locations should be expanded to offer more convenience to producers. The Pilot would allow for different locations (consolidation and transportation) to make it more convenient. Budget restrictions are a factor to consider when determining locations.
- End goal is to gather sufficient data to come up with a long term solution for agricultural plastics.

8.2 2021 Solid Waste  
Budget Presentation  
(Cont'd)

MOVED Director Bumstead, SECONDED Director Zabinsky,  
That the Solid Waste Committee recommend to the Regional Board that an additional Solid Waste Committee meeting be scheduled for January 15, 2021 to provide the Committee an opportunity to review the draft 2021 Solid Waste Management budget.

**CARRIED**

**9. CORRESPONDENCE**

**10. REPORTS**

10.1 SWC Agreements –  
Status Update – ENV-  
SWC-025

MOVED Director Bumstead, SECONDED Alternate Director Deck,  
That the Solid Waste Committee receive the report titled “Solid Waste Agreements – ENV-SWC-025” which provides a status report on solid waste service agreements with First Nations, haulers, and municipalities, for information.

**CARRIED**

- Term of the First Nations Communities Agreements is two years
- \$50/household is the rate calculated to match the rate applied to household in the service area, using an average assessed value of \$173,000
- \$50 fee is too low, should be increased to better reflect what other residents pay
- Finance is working with the province to obtain assessed value numbers



SWC Agreements – Status  
Update – ENV-SWC-025  
(Cont'd)

- Draft municipal solid waste management service agreements will be provided for Committee review

## **11. NEW BUSINESS**

11.1 Ultimate Thermal  
Organics Converter -  
Update

At the February 27 Committee of the Whole meeting Directors were provided an overview of a waste system called the Ultimate Thermal Organics Converter (UTOOC). Staff advised that the company has finished construction of its first prototype, testing of the system will begin in early 2021.

## **12. DIARY**

12.1

No changes were made to the Diary

## **13. ITEMS FOR INFORMATION**

13.1 SWS ToR

Further to the Committee resolution that the Regional Board approve a review of the Solid Waste Committee Terms of Reference to identify options and opportunities for expansion to include other Board members and First Nations, staff will forward suggested amendments to the Committee for review. Once approved by the Committee a report and revised Terms of Reference will be forwarded to the Regional Board for approval at its January 14, 2021 meeting.

## **14. ADJOURNMENT**

14.1

The Chair adjourned the Meeting at 11:50 a.m.

**CARRIED**

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Director Rose, Meeting Chair

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S Garrett, Recording Secretary



# REPORT

To: Solid Waste Committee

Report Number: ENV-SWC-027

From: Paulo Eichelberger, General Manager of Environmental Services

Date: January 7, 2021

Subject: **Fall Clean-Up 2020 and Program Year End Review**

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## RECOMMENDATION:

That the Solid Waste Committee received the report titled "Fall Clean-Up 2020 Review – ENV-SWC-027," which outlines the tonnage and customer use during the Clean-Up Campaign, for information.

## BACKGROUND/RATIONALE:

Over the last two years, the Peace River Regional District (PRRD) Spring/Fall Clean-Up Campaigns have evolved. Bulky bins were placed at unmanned and Tier 2 Transfers, tipping fees were waived for sorted waste at the PRRD Landfills and Transfer Stations and the hours of operations were expanded. The expansion of the Clean-Up Campaigns was an effort to prevent illegal dumping and make waste disposal more accessible to residents.

The purpose of this report is to provide a summary on the Spring/Fall Clean-Up Campaigns in 2020 and compare the 2020 Clean-Up Campaigns to 2019. Within this report the following comparisons will be analyzed:

- Compare customer and tonnage statistics for Fall 2020 to Fall 2019; and
- Compare customer and tonnage statistics for 2019 to 2020.

The report will conclude by summarizing the successes and opportunities of the pilot program to date.

### ***Fall 2020 to Fall 2019 Comparison***

#### **Customer Use:**

There was a 71% overall increase in customers at the manned Transfer Stations (TS) and the Landfills (LF) during the Fall 2020 campaign, compared to the Fall 2019 campaign, as shown in chart 1a of Appendix 1. A quick overview of the chart is provided below:

- Landfills saw a total increase of 59% in customers, with the highest being Chetwynd LF (92%);
- Tier 1 TS saw a total increase of 44% in customers, with the highest being Kelly Lake TS (78%); and Wonowon TS saw a decrease of customers (-32%); and
- Tier 2 TS saw a total increase of 206% in customers, with the highest being Goodlow TS (925%).

#### **Tonnage:**

There was an overall decrease of 15% of tonnage brought into the manned TS and the Landfills during the Fall 2020 campaign, compared to the Fall 2019 campaign, as shown in chart 2a of Appendix 1. A quick overview of the chart is provided below:

- Landfills and Tier 1 TS each saw a 12% overall reduction in waste brought into the sites;
- Tier 2 TS saw a 25% overall reduction of tonnage brought in; and
- Unmanned sites saw an overall decrease of 36% in tonnage.

An interesting observation between the Fall 2020 to Fall 2019 campaigns is that while overall customer use increased, overall tonnage decreased. This could indicate that more people are visiting the sites and bringing in small amounts of waste.

### ***2020 to 2019 Clean-Up Comparison***

#### **Customer Use:**

There was a 54% overall increase in customers at the manned TS and the Landfills during the 2020 campaign, compared to the 2019 campaign, as shown in chart 1b of Appendix 2. A quick overview of the chart is provided below:

- Landfills saw a total increase of 54% in customers, with the highest being Chetwynd LF (90%);
- Tier 1 TS saw a total increase of 36% in customers, with the highest being Rose Prairie TS (105%); and
- Tier 2 TS saw a total increase of 187% in customers, with the highest being Goodlow TS (650%), followed by Upper Halfway TS (317%).

#### **Tonnage:**

There was a 113% overall increase in tonnage brought into the manned TS and the Landfills during the 2020 campaign, compared to the 2019 campaign, as shown in chart 2b of Appendix 2. A quick overview of the chart is provided below:

- Landfills saw a total increase of 207% of waste brought in;
- Tier 1 TS saw a total increase of 41% of waste brought in;
- Tier 2 TS saw a total increase of 13% of waste brought in; and
- Unmanned sites saw a total increase of 8% of waste brought in.

#### **Successes:**

1. One of the operational challenges experienced during the 2019 Spring/Fall Clean-Ups was that the Tier 2 Bulky Bins were located outside the Transfer Station site. The result was overfilled bins and disposal of material not accepted at PRRD Landfills. To address this challenge in the 2020 campaign, bins were placed within the Tier 2 sites with tipping fees still waived. Performing this action reduced the amount of unaccepted material deposited in the bins but resulted in bin tonnages increasing compared to the 2019 campaign.
2. For the Spring 2020 Clean-Up campaign, Rural Transfer Stations operating hours were extended to be open 7 days a week (46hours/week<sup>1</sup>). This continued for the Fall 2020 Clean-Up campaign. The extended hours during the Clean-Up weeks proved to be very successful, which was evident in an increase of customers to Tier 1 Transfer Stations (36%) and Tier 2 Transfer Stations (187%). The additional days and hours were utilized at all transfer stations except Pink Mountain and Prespatou. Due to this success, it is recommended that this change be made a standard operating practice for future Spring/Fall Clean-Up Campaigns.

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<sup>1</sup> They are regularly open for 4 days or 26 hours a week, except Moberly Lake which is open 5 days or 26 hours a week.



**Opportunities:**

1. Leading up to the Clean-Up weeks staff received four inquiries regarding bringing in acceptable waste via use of a 3<sup>rd</sup> party. This waste was eligible for the program as the residents were not hauling the waste themselves. No such requests were received for the Fall 2020 Clean-Up campaign.
2. The composition of waste changed between the 2020 and 2019 Clean-Up Campaigns. During the 2020 campaigns more bulky and renovation waste was brought in (demolition of private residents, car hulks etc.). This trend of waste composition will continue to be monitored by staff in case program changes are required.

Overall, the pilot program of waiving tipping fees during the Spring/Fall Clean-Up campaigns was successful. Through the implementation of waived tipping fees during the Spring/Fall campaigns to date, instances of illegal dumping has reduced as customers have used the opportunity to dispose of materials at PRRD SW facilities for free. This provides increased opportunities to educate customers on proper segregation and diversion of waste material as well as location of their nearest available solid waste site. Additionally, based on customer comments, the campaign has been well received.

**ALTERNATIVE OPTIONS:**

1. That the Solid Waste Committee provide further direction.

**STRATEGIC PLAN RELEVANCE:**

- ☒ Responsive Service Delivery

**FINANCIAL CONSIDERATION(S):**

A summary of the actual Fall 2020 costs is shown below:

Operational Cost Items	Fall 2020	Fall 2019
Haulage for Unmanned Bins	\$40,187.00	\$36,466.00
Haulage for Bulky Bins at RTS	\$38,956.21	\$21,301.70
Additional Equipment Costas at Landfills	\$0.00	\$5,804.17
Additional Staff Costs at Manned Transfer Stations	\$38,891.14	\$14,806.95
Additional Staff at Landfills	\$7,995.62	\$8,384.62
Subtotal	\$126,029.97	\$86,763.44
<b>Additions to the Fall 2020 Clean-Up</b>		
Advertising Costs	\$1,160.00	N/A
Subtotal	\$1,160.00	\$0.00
<b>TOTAL</b>	<b>\$127,189.97</b>	<b>\$86,763.44</b>

As shown above, there was an increase in operating costs of \$40,426 to the Fall Campaign pilot in 2020.

The summary of 2020 costs compared to 2019 are shown below:

Operational Cost Items	2020	2019
Haulage for Unmanned Bins	\$95,110.50	\$87,274.10
Haulage for Bulky Bins at RTS	\$75,624.50	\$50,675.22

Additional Equipment Costas at Landfills	\$11,638.00	\$18,413.17
Additional Staff Costs at Manned Transfer Stations	\$74,596.04	\$14,806.95
Additional Staff at Landfills	\$16,380.24	\$8,384.62
Subtotal	\$273,349.28	\$179,554.06
<b>Additions to the 2020 Clean-Up</b>		
Advertising Costs	\$2,320.00	N/A
Subtotal	\$2,320.00	\$0.00
<b>TOTAL</b>	<b>\$275,669.28</b>	<b>\$179,554.06</b>

2020 Clean-Up costs have increased \$96,115 compared to 2019. The increase in costs can be attributed to the high levels of services that were provided in the 2020 Clean-Up, such as extending the hours at the Tier 1 and 2 Transfer Stations and Bessborough Landfill.

### **COMMUNICATIONS CONSIDERATION(S):**

The Fall Clean-Up 2020 was advertised via posters at PRRD Solid Waste Facilities, social media and website posts, and radio ads.

### **OTHER CONSIDERATION(S):**

Levels of service of the 2021 Clean-Up campaign could be reduced by an estimated \$74,500 by not expanding hours at the Tier 1 and 2 Transfer Stations.

#### **Attachments:**

1. Appendix 1 – Clean-Up Data Charts Customer Counts
2. Appendix 2 – Clean-Up Data Charts Tonnage Data
3. Appendix 3 – Comparing Clean-Up Weeks to Adjacent Months

## Appendix 1: Clean-Up Data Charts Customer Counts

Chart 1a: Customer Counts Comparison – Fall 2019 to Fall 2020

Site	Total Number of Customers		% of Eligible Customer Count Increase/Decrease
	Fall - 2019	Fall - 2020	
Landfills			
Bessborough	268	486	81%
Chetwynd	164	315	92%
North Peace Regional	1,184	1,767	49%
Total	1,616	2,568	59%
Transfer Stations - Tier 1			
Dawson Creek	774	1,162	50%
Cecil Lake	73	97	33%
Kelly Lake	32	57	78%
Prespatou	103	97	-6%
Rose Prairie	75	122	63%
Tomslake	134	192	43%
Wonowon	19	13	-32%
Total	1,210	1,740	44%
Transfer Stations - Tier 2*			
Buick Creek	14	62	343%
Goodlow	4	41	925%
Moberly Lake	61	116	90%
Pink Mountain	5	11	120%
Rolla	66	212	221%
Upper Halfway	12	53	342%
Total	162	495	206%
Total Customer	2,988	5,111	71%

Chart 1b: Customer Count Comparison – 2019 and 2020

Total Customers			% of Eligible Customer Count Increase/Decrease
Site	2019	2020	
<b>Landfills</b>			
Bessborough	672	1,201	79%
Chetwynd	418	794	90%
North Peace Regional	2,918	4,185	43%
<b>Total</b>	<b>4,008</b>	<b>6,180</b>	<b>54%</b>
<b>Transfer Stations - Tier 1</b>			
Dawson Creek	1,953	2,490	27%
Cecil Lake	172	239	39%
Kelly Lake	89	113	27%
Prespatou	209	286	37%
Rose Prairie	183	375	105%
Tomslake	319	499	56%
Wonowon	39	35	-10%
<b>Total</b>	<b>2,964</b>	<b>4,037</b>	<b>36%</b>
<b>Transfer Stations - Tier 2*</b>			
Buick Creek	43	118	174%
Goodlow	12	90	650%
Moberly Lake	120	232	93%
Pink Mountain	23	30	30%
Rolla	141	465	230%
Upper Halfway	30	125	317%
<b>Total</b>	<b>369</b>	<b>1,060</b>	<b>187%</b>
<b>Total Customer</b>	<b>7,341</b>	<b>11,277</b>	<b>54%</b>

Chart 1c: Customer Count Comparison – All Seasons 2019 and 2020

Total Number of Customers				
Site	2019		2020	
	Spring	Fall	Spring	Fall
<b>Landfills</b>				
Bessborough	404	268	715	486
Chetwynd	254	164	479	315
North Peace Regional	1,734	1,184	2,418	1,767
<b>Total</b>	<b>2,392</b>	<b>1,616</b>	<b>3,612</b>	<b>2,568</b>
<b>Transfer Stations - Tier 1</b>				
Dawson Creek	1,179	774	1,328	1,162
Cecil Lake	99	73	142	97
Kelly Lake	57	32	56	57
Prespatou	106	103	189	97
Rose Prairie	108	75	253	122
Tomslake	185	134	307	192
Wonowon	20	19	22	13
<b>Total</b>	<b>1,754</b>	<b>1,210</b>	<b>2,297</b>	<b>1,740</b>
<b>Transfer Stations - Tier 2*</b>				
Buick Creek	29	14	56	62
Goodlow	8	4	49	41
Moberly Lake	59	61	116	116
Pink Mountain	18	5	19	11
Rolla	75	66	253	212
Upper Halfway	18	12	72	53
<b>Total</b>	<b>207</b>	<b>162</b>	<b>565</b>	<b>495</b>
<b>Total Customer</b>	<b>4,353</b>	<b>2,988</b>	<b>6,474</b>	<b>4,803</b>

## Appendix 2 – Clean-Up Data Charts Tonnage Data

Chart 2a: Tonnage Comparison – Fall 2019 to Fall 2020

Site	Total Tonnage		% of Tonnage Increase/Decrease
	Fall - 2019	Fall - 2020	
Landfills			
Bessborough	177.36	218.71	23%
Chetwynd	57.93	67.55	17%
North Peace Regional	470.69	337.77	-28%
Total	705.98	624.03	-12%
Transfer Stations - Tier 1			
Dawson Creek	150.04	120.48	-20%
Cecil Lake	103.82	66.34	-36%
Kelly Lake	10.52	7.50	-29%
Prespatou	17.92	11.19	-38%
Rose Prairie	79.21	106.74	35%
Tomslake	68.83	63.27	-8%
Wonowon	4.24	5.10	20%
Total	434.58	380.63	-12%
Transfer Stations - Tier 2			
Buick Creek	6.09	1.51	-75%
Goodlow	1.05	1.96	86%
Moberly Lake	8.66	8.76	1%
Pink Mountain	2.53	0.40	-84%
Rolla	2.75	13.26	383%
Upper Halfway	8.15	6.89	-15%
Total	29.23	32.77	12%
Transfer Stations - Tier 2 - Bulky Bins			
Buick Creek	12.55	10.56	-16%
Goodlow	6.95	3.86	-44%
Moberly Lake	7.61	5.51	-28%
Pink Mountain	4.43	1.47	-67%
Rolla	29.88	12.56	-58%
Upper Halfway	6.5	8.8	35%
Total	67.92	42.76	-37%
Transferstations – Unmanned – Bulky Bins			
East Pine	12.05	7.42	-38%
Fellers Heights	13.55	11.84	-13%
Groundbirch	40.93	12.64	-69%
Hasler Flats	8.51	7.3	-14%
Lebell	17.01	15.78	-7%
Lone Prairie	11.97	3.27	-73%
Mile 62.5	7.28	2.18	-70%
Milligran Creek/PJ	1.67	2.72	63%
Osborn	1.44	0.52	-64%
Progress	18.87	17.11	-9%
Jackfish Community Hall	5.67	8.28	46%
Total	138.95	89.06	-36%
Total Tonnage	1376.66	1169.25	-15%

Chart 2b: Tonnage Comparison – 2019 and 2020

<b>Tonnage Site</b>	<b>2019</b>	<b>2020</b>	<b>% of Eligible Customer Count Increase/Decrease</b>
<b>Landfills</b>			
Bessborough	252.51	565.37	124%
Chetwynd	87.42	204.79	134%
North Peace Regional	658.03	1387.34	111%
<b>Total</b>	<b>997.96</b>	<b>3066.94</b>	<b>207%</b>
<b>Transfer Stations - Tier 1</b>			
Dawson Creek	226.97	291.57	28%
Cecil Lake	182.06	188.02	3%
Kelly Lake	12.25	45.32	270%
Prespatou	36.02	55.13	53%
Rose Prairie	107.42	255.17	138%
Tomslake	108.63	201.85	86%
Wonowon	68.32	8.03	-88%
<b>Total</b>	<b>741.67</b>	<b>1045.09</b>	<b>41%</b>
<b>Transfer Stations - Tier 2</b>			
Buick Creek	8.96	3.43	-62%
Goodlow	2.55	2.96	16%
Moberly Lake	25.64	17.46	-32%
Pink Mountain	3.90	1.61	-59%
Rolla	5.24	27.13	418%
Upper Halfway	9.83	14.84	51%
<b>Total</b>	<b>56.12</b>	<b>67.42</b>	<b>20%</b>
<b>Transfer Stations - Tier 2 - Bulky Bins</b>			
Buick Creek	18.82	21.67	15%
Goodlow	13.05	9.05	-31%
Moberly Lake	12.25	11.64	-5%
Pink Mountain	6.67	2.72	-59%
Rolla	43.36	38.30	-12%
Upper Halfway	18.63	21.60	16%
<b>Total</b>	<b>112.78</b>	<b>104.98</b>	<b>-7%</b>
<b>Transfer Stations – Unmanned – Bulky Bins</b>			
East Pine	17.46	16.12	-8%
Fellers Heights	25.02	34.71	39%
Groundbirch	51.19	39.58	-23%
Hasler Flats	16.03	17.74	11%
Lebell	28.79	28.67	0%
Lone Prairie	15.59	10.75	-31%
Mile 62.5	11.60	8.94	-23%
Milligran Creek/PJ	3.41	3.16	-7%
Osborn	1.74	3.82	120%
Progress	34.37	51.74	51%
Jackfish Community Hall	9.50	17.52	84%
<b>Total</b>	<b>214.70</b>	<b>232.75</b>	<b>8%</b>
<b>Total Tonnage</b>	<b>2123.23</b>	<b>4517.18</b>	<b>113%</b>

Chart 2c: Tonnage Comparison – All Seasons 2019 and 2020

Tonnage				
Site	2019		2020	
	Spring	Fall	Spring	Fall
<b>Landfills</b>				
Bessborough	177.36	75.15	346.66	218.71
Chetwynd	57.93	29.49	137.24	67.55
North Peace Regional	470.69	187.34	1049.57	337.77
<b>Total</b>	<b>705.98</b>	<b>291.98</b>	<b>1533.47</b>	<b>1533.47</b>
<b>Transfer Stations - Tier 1</b>				
Dawson Creek	150.04	76.93	171.09	120.48
Cecil Lake	103.82	78.24	121.68	66.34
Kelly Lake	10.52	1.73	37.82	7.50
Prespatou	17.92	18.10	43.935	11.19
Rose Prairie	79.21	28.21	148.43	106.74
Tomslake	68.83	39.80	138.58	63.27
Wonowon	4.24	64.08	2.93	5.10
<b>Total</b>	<b>434.58</b>	<b>307.09</b>	<b>664.47</b>	<b>380.63</b>
<b>Transfer Stations - Tier 2</b>				
Buick Creek	6.09	2.87	1.92	1.51
Goodlow	1.05	1.50	1.00	1.96
Moberly Lake	8.66	16.98	8.70	8.76
Pink Mountain	2.53	1.37	1.20	0.40
Rolla	2.75	2.49	13.87	13.26
Upper Halfway	8.15	1.68	7.95	6.89
<b>Total</b>	<b>29.23</b>	<b>26.89</b>	<b>34.65</b>	<b>32.77</b>
<b>Transfer Stations - Tier 2 - Bulky Bins</b>				
Buick Creek	12.55	6.27	11.11	10.56
Goodlow	6.95	6.10	5.19	3.86
Moberly Lake	7.61	4.64	6.13	5.51
Pink Mountain	4.43	2.24	1.25	1.47
Rolla	29.88	13.48	25.74	12.56
Upper Halfway	6.5	12.13	12.8	8.80
<b>Total</b>	<b>67.92</b>	<b>44.86</b>	<b>62.22</b>	<b>42.76</b>
<b>Transfer Stations – Unmanned – Bulky Bins</b>				
East Pine	12.05	5.41	8.7	7.42
Fellers Heights	13.55	11.47	22.87	11.84
Groundbirch	40.93	10.26	26.94	12.64
Hasler Flats	8.51	7.52	10.44	7.30
Lebell	17.01	11.78	12.89	15.78
Lone Prairie	11.97	3.62	7.48	3.27
Mile 62.5	7.28	4.32	6.76	2.18
Milligran Creek/PJ	1.67	1.74	0.44	2.72
Osborn	1.44	0.30	3.3	0.52
Progress	18.87	15.50	34.63	17.11
Jackfish Community Hall	5.67	3.83	9.24	8.28
<b>Total</b>	<b>138.95</b>	<b>75.75</b>	<b>143.69</b>	<b>89.06</b>
<b>Total Tonnage</b>	<b>1,376.66</b>	<b>746.57</b>	<b>2,438.49</b>	<b>2,078.69</b>



### Appendix 3 - Comparing Clean-Up Weeks to Adjacent Months

Spring 2020; Comparing the 2-weeks of Spring Clean-Up to the first two weeks of the months prior and after

Site	May 1 to 14	June 1 to 14 Spring Clean-Up	July 1 to 14
<b>Landfills</b>			
Bessborough	624	715	704
Chetwynd	373	479	289
North Peace Regional	2424	2418	1871
<b>Average</b>	<b>1140</b>	<b>1204</b>	<b>955</b>
<b>Transfer Stations - Tier 1</b>			
Dawson Creek	983	1328	761
Cecil Lake	33	142	37
Kelly Lake	35	103	37
Prespatou	52	189	60
Rose Prairie	53	253	46
Tomslake	110	307	109
Wonowon	13	22	12
<b>Average</b>	<b>183</b>	<b>335</b>	<b>152</b>
<b>Transfer Stations - Tier 2</b>			
Buick Creek	17	56	14
Goodlow	11	49	13
Moberly Lake	49	116	81
Pink Mountain	11	19	1
Rolla	81	253	94
Upper Halfway	12	72	11
<b>Average</b>	<b>30</b>	<b>94</b>	<b>36</b>
<b>Total Customer Average</b>	<b>451</b>	<b>544</b>	<b>381</b>

Fall 2020; Comparing the 2-weeks of Fall Clean-Up to the first two weeks of the months prior and after

Site	September 5 to 18	October 5 to 18 Fall Clean-Up	November 5 to 18
<b>Landfills</b>			
Bessborough	282	486	147
Chetwynd	213	315	138
North Peace Regional	1,229	1,767	749
<b>Average</b>	<b>575</b>	<b>856</b>	<b>345</b>
<b>Transfer Stations - Tier 1</b>			
Dawson Creek	705	1,162	388
Cecil Lake	42	97	32
Kelly Lake	29	57	24
Prespatou	41	97	44
Rose Prairie	38	122	35
Tomslake	101	192	86
Wonowon	14	13	7
<b>Average</b>	<b>139</b>	<b>249</b>	<b>88</b>
<b>Transfer Stations - Tier 2</b>			
Buick Creek	22	62	20
Goodlow	12	41	12
Moberly Lake	51	116	47
Pink Mountain	6	11	1
Rolla	91	212	82
Upper Halfway	15	53	12
<b>Average</b>	<b>30</b>	<b>94</b>	<b>36</b>
<b>Total Customer Average</b>	<b>248</b>	<b>400</b>	<b>156</b>



# REPORT

To: Solid Waste Committee

Report Number: ENV-SWC-029

From: Gerritt Lacey, Solid Waste Manager

Date: January 7, 2021

Subject: **2021 Solid Waste Carry Forward Projects**

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## **RECOMMENDATION:**

That the Solid Waste Committee receive the report titled "2021 Solid Waste Carry Forward Projects-ENV-SWC-029," which details outstanding projects from 2020 whose completion dates will extend to 2021, for information.

## **BACKGROUND/RATIONALE:**

Staff wanted to take the opportunity to update the Solid Waste Committee (SWC) on the status of the operational and capital projects that will be carried forward into 2021.

Staff is working with the contractors involved in each of the projects to extend the current contract dates (where required) to reflect the new completion dates. None of the projects that are being carried forward into 2021 have additional costs due the new completion date for the project.

A brief summary of each project is provided below:

### **Operational Carry Forward Projects**

#### **Regional Solid Waste Management Plan Review**

This project was initiated in 2019 and will provide a new Regional Solid Waste Management Plan (RSWMP) that will guide the direction that the Peace River Regional District manages waste for the next 10 years. Initially the project was planned to be completed in 2020; however, due to delays in the finalization of the draft RSWMP, two remaining steps are outstanding: public consultation and the finalization of the RSWMP to be submitted for Ministry approval.

The new tentative date for completion will be July of 2021.

#### **Design, Operating and Closure Plans Updates for the Bessborough and Chetwynd Landfills**

Design, Operating, and Closure Plans (DOCPs) are required by the Ministry of Environment and Climate Control Strategy (MoECCS), to be updated every 5 years under the landfill's operating permit. In 2020, DOCP updates were undertaken for the Bessborough and Chetwynd Landfills. The project was initiated in May of 2020 and was intended to be finished by December 31, 2020. The project took longer than anticipated as a portion of airspace at the Chetwynd Landfill was included in the DOCP and required some third party assistance and correspondence with the MoECCS.

The new completion date is February of 2021.

**Closed Landfill Closure Reports**

Landfill Closure reports are being constructed to satisfy the goal of updating and abandoning any outstanding “active” permits attached to closed landfills throughout the Province. 13 closed landfills in the PRRD fall into this category, as detailed in the April 2, 2020, Solid Waste Committee report (link provided at the end of this report). The project is not yet complete, but the draft reports have been reviewed and staff is awaiting the finalized versions.

The new completion date is February of 2021.

**Capital Carry Forward Projects****2019 Bessborough Landfill – Phase 3A & Storm Pond Construction, Phase 1A & 2 Closure**

The project is complete, no contract extension is required as carry forward dollars are for the 1 year maintenance period which ends June of 2021.

**2019 Chetwynd Landfill – Phase B Closure**

The project is complete, no contract extension is required as carry forward dollars are for 2019 construction costs that have not been paid when the original contractor defaulted the contract.

**2020 North Peace Regional Landfill – Phase 2 Stage 2 Landfill Gas Expansion**

The project is complete, no contract extension is required as carry forward dollars are for the holdback and 1 year maintenance period which ends December of 2021.

**2020 Bessborough Landfill – Phase 3B & Leachate Control Construction, Phase 1B Closure**

Installation of leachate pond infrastructure, electrical kiosk, BC Hydro power upgrades and a portion of the civil works have yet to be done. As a result, the project is approximately 70% complete, with total completion anticipated in August 2021.

**2020 Bulky Waste Tipping Rails (Cecil Lake, Rose Prairie, and Kelly Lake Transfer Stations)**

The project is complete, no contract extension is required as carry forward dollars are for the maintenance period which ends December 2021.

**2020 Chetwynd Landfill – Scale Replacement - Design**

The geotechnical evaluation has been completed and the proposed layout has been determined. The consultant is working on finalizing the design and preparing the tender documents. The project is approximately 60% complete, anticipated completion date is January 2021.

**ALTERNATIVE OPTIONS:**

1. That the Solid Waste Committee provide further direction.

**STRATEGIC PLAN RELEVANCE:**

- ☒ Not Applicable to Strategic Plan.

**FINANCIAL CONSIDERATION(S):**

## Operational Carry Forward Projects

Project	2020 Budget	2021 Carry Forward
RSWMP Review	\$100,000	\$27,541
DOCP updates for the BBLF and CHLF	\$99,781	\$17,971
Closed Landfill Closure Reports	\$118,289	\$35,551
<b>TOTALS</b>	<b>\$318,070</b>	<b>\$81,063</b>

## Capital Carry Forward Projects

Project	2020 Budget	2021 Carry Forward
2019 BBLF – Phase 3A & Storm pond Construction, Phase 1A & 2 Closure	\$641,000	\$62,000
2019 CHLF – Phase B Closure	\$1,479,000	\$442,000
2020 NPRLF - Phase 2 Stage 2 LFG Expansion	\$220,000	\$42,000
2020 BBLF – Phase 3B & Leachate System Construction, Phase 1B Closure	\$2,836,722	\$1,591,000
2020 Bulky Waste Tipping Rails (CLTS,RPTS,KLTS)	\$470,000	\$21,000
2020 CHLF – Scale Replacement - Design	\$250,000	\$35,000
<b>TOTALS</b>	<b>\$5,896,722</b>	<b>\$2,193,000</b>

**COMMUNICATIONS CONSIDERATION(S):**

N/A

**OTHER CONSIDERATION(S):**

N/A

## External Links:

1. [RFP Award 04-2020 PRRD Closed Landfill Closure Reports \(Apr. 2, 2020 SWC\)](#)



# REPORT

To: Solid Waste Committee

Report Number: ENV-SWC-028

From: Gerritt Lacey, Solid Waste Manager

Date: January 7, 2021

**Subject: Award RFP 41-2020 NPRLF LFG Monitoring, Reporting, and Field Operations**

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## **RECOMMENDATION:**

That the Solid Waste Committee recommend that the Regional Board awards RFP 41-2020 'North Peace Regional Landfill Landfill Gas Monitoring, Reporting, and Field Operations' to GHD Limited for a three year contract at a cost of \$182,717 (excl. taxes); further, that the Chair and Chief Administrative Officer be authorized to sign the contract on behalf of the PRRD.

## **BACKGROUND/RATIONALE:**

The North Peace Regional Landfill (NPRLF) is the only Peace River Regional District Landfill that has a Landfill Gas Collection and Control System (LFGCCS). This system was installed in 2014, due to the requirement to manage the Landfill Gas (LFG) generated on the site, as per the Landfill Gas Management Regulation<sup>1</sup>. A report on LFGCCS requirements is attached below in "Other Considerations" as attachment #1.

The LFGCCS has been historically operated by the support of two contractors:

1. Technical Support – GHD Limited (GHD)
2. Field Operations/Maintenance – Epscan Ltd.

These two contractors have been involved in the LFGCCS since the original design and construction in 2014. Their involvement has evolved over time to reflect the needs of the system to present day, where GHD provides technical support, data management and reporting; while Epscan works with GHD to provide field services such as routine maintenance and operation of the gas field.

In February of 2020, staff proposed an extension to the contract GHD held for technical support as staff became aware that the previous contract expired in December 31, 2019. The extension allowed time for a request for proposal (RFP) to be created that would combine the technical and field support contracts into a single document (see attachment #2 in "Other Considerations").

When staff began the amalgamation of the contracts it was found that the contract with GHD has historically been an annually renewed service agreement. Additionally, while the field support work that Epscan has historically provided was captured in this same service agreement with GHD, Epscan itself was not named outright as the 3<sup>rd</sup> party service provider, nor their potential costs or scope of work summarized.

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<sup>1</sup> Environmental Management Act: [https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/391\\_2008](https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/391_2008)

Staff recognized an opportunity to move away from a service agreement to a multiyear contract that would identify all parties involved and include the detailed scope of Epscan's field support that has been previously missing. As a result, developing the new contract scope took longer than anticipated, with considerable discussions with both contractors to clarify work tasks.

Staff has since gone out to market with a RFP to secure best pricing for the next three years. One proposal was received. The proponent was evaluated on Qualifications, Methodology, and Price. The submission met all the mandatory requirements.

### **ALTERNATIVE OPTIONS:**

1. That the Solid Waste Committee provide further direction.

### **STRATEGIC PLAN RELEVANCE:**

☒ Not Applicable to Strategic Plan.

### **FINANCIAL CONSIDERATION(S):**

For the 2020 budget year, staff allocated \$39,774 for the technical support contract based on the proposed 2020 work plan from GHD.

The cost of the work performed by GHD in 2020 totaled approximately \$20,000, the remaining \$19,774 will be carried forward as surplus into 2021.

The yearly cost breakdown of the proposed contract is provided below:

GHD	2021	2022	2023	3 Year Contract Costs	2024 (Optional Extension)
Technical Support	\$39,862	\$40,659	\$41,472	\$121,993	\$42,302
Field Work	\$19,842	\$20,239	\$20,643	\$60,724	\$21,267
Yearly Totals	\$59,704	\$60,898	\$62,115	\$182,717	\$63,569

The costs proposed by GHD increase at a rate of 2% per year for the duration of the contract. The costs provided by GHD is for a full support for the entire year, however only the actual time spent will be billed to the PRRD, similar to what was seen in 2020.

### **COMMUNICATIONS CONSIDERATION(S):**

N/A

### **OTHER CONSIDERATION(S):**

The previous contract expired December 31, 2020. GHD and Epscan continued to provide their services during the first 2 weeks of January until the new contract is signed. This has work is being done through hourly force account rates which is the same method that the 2020 program was billed.

External Links:

1. Landfill Gas Collection and Control Requirements Report [see SWC March 5, 2020 agenda, [Item R-1, pdf pg. 4-8](#)]
2. NPRLF LFGCCS Extension [see SWC Feb 6, 2020 agenda, [Item R-2, pdf pg. 17-18](#)]



# REPORT

To: Solid Waste Committee

Report Number: ENV-SWC-030

From: Gerritt Lacey, Solid Waste Manager

Date: January 7, 2021

Subject: CleanBC Organics Infrastructure Grant Applications

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## RECOMMENDATION #1:

That the Solid Waste Committee recommend that the Regional Board commits to a one-third contribution at an estimated cost of \$1,969,159.91 between 2021 and 2024 for a funding opportunity under the CleanBC Organic Infrastructure and Collection Program at the Bessborough landfill.

## RECOMMENDATION #2:

That the Solid Waste Committee recommend that the Regional Board commits to a one-third contribution at an estimated cost of \$2,016,464.69 between 2021 and 2024 for a funding opportunity under the CleanBC Organic Infrastructure and Collection Program at the Charlie Lake Wastewater site..

## BACKGROUND/RATIONALE:

The purpose of this report is to seek Board Approval for submitting the grant funding applications, outline the application requirements and process, and to provide information on both projects.

During the November 26<sup>th</sup> Regional Board meeting the following two recommendations were made:

	<u>No. 7: Organic Waste Infrastructure &amp; Collection – Bessborough Landfill</u>
RD/20/11/19 (26)	That the Regional Board submit an application for funding under the CleanBC Organic Infrastructure and Collection Program (OICP), for development of organic waste infrastructure and collection at the Bessborough Landfill, to divert organic wastes from the landfill.
	<u>No. 8: Organic Waste Infrastructure &amp; Collection – Charlie Lake Trucked Wastewater Site</u>
RD/20/11/20 (26)	That the Regional Board submit an application for funding under the CleanBC Organic Infrastructure and Collection Program (OICP), for development of organic waste infrastructure and collection at the Charlie Lake Trucked Wastewater Site.

Since then, staff have been working with a consultant, GHD, to gather the required information for the Grant Application.



**Application Process**

The CleanBC Organic Infrastructure and Collection Program (OICP) aims to reduce greenhouse gas (GHG) emissions by diverting organic materials from landfills. OICP will support BC communities in diverting organics by investing money in new or expanded organics processing infrastructure. The Province will contribute up to two-thirds of funding for eligible project costs to facilitate diversion and procession of organic waste. The PRRD would cover the remaining one-third of costs.

Project eligibility requirements include:

- Must divert organic waste from landfills to an organic processing facility.
- Must result in quantifiable GHG emission reductions from organic waste.
- Must create additional organic waste processing capacity in BC, through the construction of new, or the expansion of existing, facilities.
- Must process organic waste for beneficial re-use.
- Must be located in BC.
- Must have secured site location.
- Must have Council / Board / Band Council or other appropriate governing body resolution.
- Must align with applicable regional Solid Waste Management Plan.
- Must commit to one-third of eligible project costs.
- Must commit to having construction completed and systems operational by March 31, 2024.
- Must commit to being operational until at least March 31, 2034.
- Must commit to reporting on GHG emission reductions until at least March 31, 2034.

Under these eligibility requirements, the PRRD has worked with a consultant develop two projects that could be submit through organic processing infrastructure stream:

- Bessborough Landfill New Composting Facility (Appendix A).
- Charlie Lake New Composting Facility (Appendix B).

In additional to the application form, the following supporting documentation is required:

- Board approval of project through a Board resolution.
- Detailed Project Timeline.
- Detailed Cost Estimate.
- BC Biogas & Composting GHG Calculation Tool.
- License, permits, and/or approval (if applicable).
- Evidence of secured funding for applicants portion of the project finances.

As mentioned above, GHD has assisted in the development of detailed project timelines and cost estimates, applicable licenses, permits, and approvals, and GHG Calculation Tool.

**Project Information**

Information developed for the Bessborough Landfill Composting Facility is located in Appendix A. A highlight level of the summary of that information includes:

- Project to be located at the Bessborough Landfill
  - All infrastructure will be located within 6 hectares (15 acres) of the property.
- Project timeline

- 2021 design of the facility will be completed with the consultant and procurement.
- Process for the construction will be initiated.
- 2022 construction of the facility.
- 2022/2023 commissioning of the facility.
- 2023 operation of the facility.

Information developed for the Charlie Lake Composting Facility is located in Appendix B. A highlight level of the summary of that information includes:

- Project to be located at the Charlie Lake Truck Waste Water Facility:
  - All infrastructure would be located within 6 hectares (15 acres) of the property.
- Project Timeline:
  - 2021 design of the facility will be completed with the consultant and procurement process for the construction will be initiated.
  - 2022 construction of the facility.
  - 2022/2023 commissioning of the facility.
  - 2023 operation of the facility.

### ALTERNATIVE OPTIONS:

1. That the Solid Waste Committee provide further direction.

### STRATEGIC PLAN RELEVANCE:

- ☒ Not Applicable to Strategic Plan.

### FINANCIAL CONSIDERATION(S):

The CleanBC OICP Project would span over several years and be operational by 2023. Based on this, GHD cost estimates for the infrastructure program. The Province will contribute up to two-thirds of eligible Project Costs. The PRRD will be responsible for the remaining one-third of eligible costs and any ineligible costs. Eligible and ineligible project costs are in Appendix C.

Below is the cost breakdown over the construction of the project and the estimated portions paid by the PRRD and the Province.

#### BESSBOROUGH LANDFILL COMPOST FACILITY ESTIMATED COSTS:

	PRRD Estimated One-Third Contribution Costs	Provincial Estimated Two-Thirds Contribution Costs	TOTAL Project Cost
<b>2021</b>	\$128,423.47	\$256,846.94	\$385,270.41
<b>2022</b>	\$1,840,736.43	\$3,681,472.81	\$5,522,209.19
<b>2023</b>	Operations to start; operational costs are outside the scope of the grant		
<b>TOTAL</b>	<b>\$1,969,159.91</b>	<b>\$3,938,319.75</b>	<b>\$5,907,479.60</b>

**CHARLIE LAKE COMPOSTER FACILITY ESTIMATED COSTS:**

	PRRD Estimated One-Third Contribution Costs	Provincial Estimated Two-Thirds Contribution Costs	TOTAL Project Cost
<b>2021</b>	\$131,508.57	\$263,017.13	\$394,525.69
<b>2022</b>	\$1,884,956.13	\$3,769,912.20	\$5,654,868.27
<b>2023</b>	Operations to start; operational costs are outside the scope of the grant		
<b>TOTAL</b>	<b>\$2,016,464.69</b>	<b>\$4,032,929.33</b>	<b>\$6,049,393.96</b>

For 2021, the CleanBC OICP Infrastructure projects would be a total of \$259,932.04. The proposed Capital program for the Solid Waste Department in 2021 is \$3,000,000. These two projects would account for 9% of the Capital Program in 2021.

For 2022, the CleanBC OICP Infrastructure projects would be a total of \$3,725,692.56. Based on the Five-Year Capital Plan, the proposed Capital program for the Solid Waste Department in 2022 is \$4,000,000. These two projects would account for 93% of the Capital Program in 2021.

To lower the requisition in 2022 for the projects, it is proposed that funding the total cost of \$3,985,624.60 would be allocated as follows:

2021 \$2,000,000

2022 \$1,985,624.60

If the grant applications were not accepted, the money allotted for the projects would be transferred into the Capital Reserve at the end of 2021.

**COMMUNICATIONS CONSIDERATION(S):**

N/A

**OTHER CONSIDERATION(S):**

Based on the Waste Composition Study that was completed in 2017/2018, it revealed that compostable organics was the largest category that contributed to landfill waste. Compostable organics accounted for 31% over all of waste brought into the landfill. Proceeding with Organics Diversion is the next step the PRRD can do to promote a higher diversion rate in the Region. By adding capacity for organics processing, the PRRD will be able to offer added services for its residents. The added level of service will carry increased operational costs, at approximately \$700,000 and \$1,000,000 per year. That estimate is based on a 50% capture of the potential volume of compostable organics in the region. The operational costs of the facility would commence in 2023.

**Attachments:**

Appendix A – Bessborough – Memo for Organics Grant PRRD

Appendix B – Charlie Lake – Memo for Organics Grant PRRD

Appendix C – Eligible and Ineligible Costs



# Technical Memorandum

**Draft for Review**

This document is in draft form. A final version of this document may differ from this draft. As such, the contents of this draft document shall not be relied upon. GHD disclaims any responsibility or liability arising from decisions made based on this draft document.

To: Gerritt Lacey

Ref. No.: 11220779

From: Rachel Sank & Deacon Liddy

Tel: 604-214-0510

**Subject:** CleanBC Organics Infrastructure and Collection Program Grant – Bessborough Landfill

## 1. Introduction

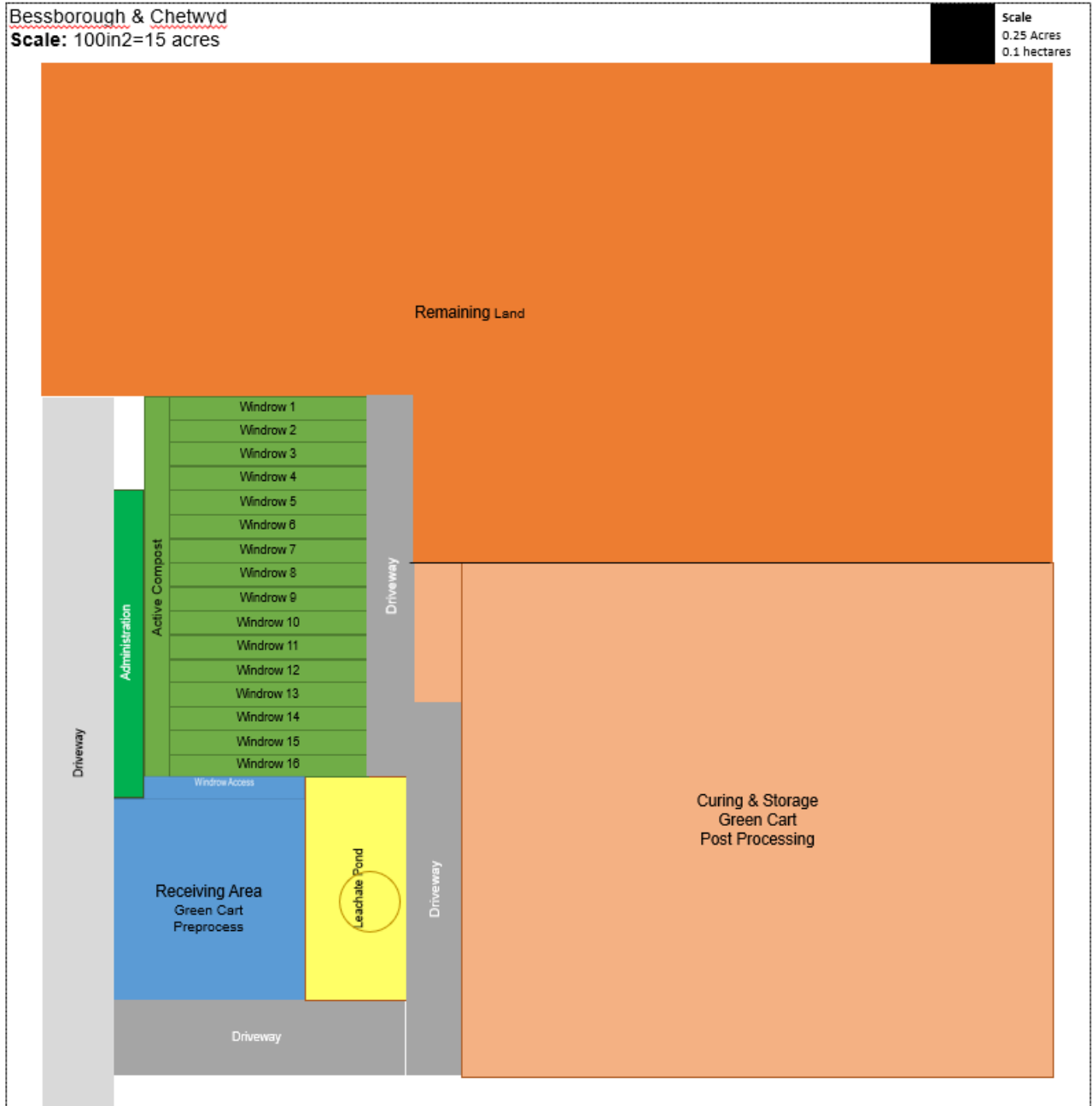
GHD Limited (GHD) was hired to support Peace River Regional District (PRRD) in developing an application for the 2020 CleanBC Organics Infrastructure and Collection Program. PRRD is applying for the organics processing infrastructure grant to help support two-thirds of the project cost for an organic processing facility. The purpose of this memorandum is to provide the necessary supporting documents required for the CleanBC Organics Infrastructure and Collection Program application. The scope of this document includes:

- Project overview;
- Detailed footprint estimates;
- Detailed cost estimates;
- Detailed project timelines;
- GHG reduction emission estimates through BC biogas & composting facility GHG calculation tool; and
- Licenses, permits, and/or approvals.

## 2. Project Overview

The Bessborough Landfill is located near the City of Dawson Creek and District of Chetwynd. A waste composition study was conducted within the PRRD during the spring, summer, and fall of 2017 and the winter of 2018 at all three regional landfills in the PRRD: North Peace, Bessborough, and Chetwynd Regional landfills. The waste composition study revealed that compostable organics are the largest contributor to landfill waste. The proposed project is looking to construct an organics processing facility with all necessary infrastructure on 6 hectares (15 acres) on the same property as the Bessborough Landfill. The facility will be designed to receive organic material from both the City of Dawson Creek, District of Chetwynd and South Peace area. With the support of the organics processing infrastructure grant, the proposed project

will reduce greenhouse gas (GHG) emissions, expand processing capacity for organic waste in British Columbia (BC) and divert organic waste from landfills.



**Figure 1:** Proposed area for organic operations nearby Bessborough Landfill



### 3. Material Quantities

#### 3.1 Estimate of Organic Tonnage

PRRD Four Season Waste Composition Study (2018) reported that the largest contributing tonnage of landfill waste for both Bessborough and Chetwynd landfills were compostable organics, a combined 29% or 7119 tonnes of the total 24,500 tonnes collected in 2018.

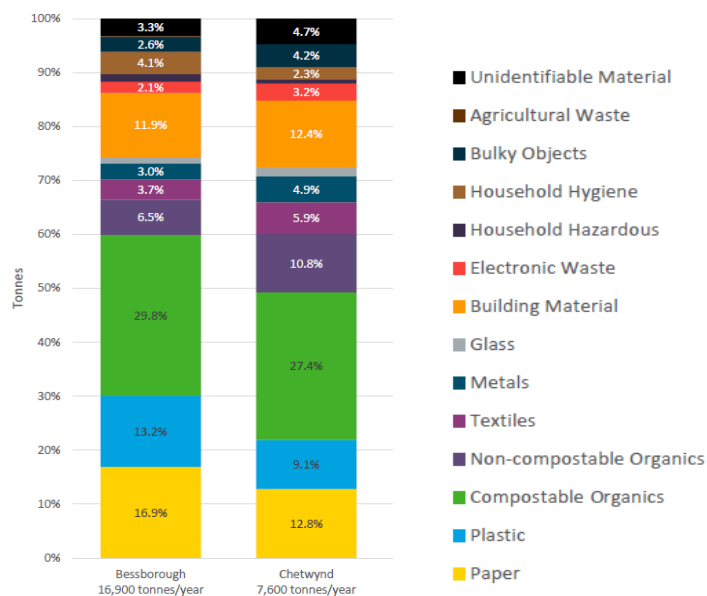


Figure 2: Waste composition comparison of Bessborough and Chetwynd landfills for all combined sectors.

#### 3.2 Design Capacity

The design capacity for the organic processing facility will incorporate the recovered organics including food, leaf and yard wastes that are currently being landfilled. Each stream will be combined to accurately report on reduced GHG emissions from the recovered organics. For the purpose of this memorandum, 50% of landfilled organics are assumed to be recoverable.

#### 3.3 Assumed Technology

The conceptual design assumes a covered aerated static pile. The covers, aeration equipment and piping, and loaders will be provided by the operations contractor and the PRRD will provide the asphalt base and leachate drainage system.

#### 3.4 Proposed Feedstock

The feedstock for the proposed facility would be organics collected from single and multi- residential sources, composed of leaf, yard and food waste, and some commercial organics. Under Schedule 12 of the OMRR (2002), other possible compost material which can be included in local facility to fill capacity include



limited quantities of: animal bedding, biosolids, brewery and winery wastes, domestic septic tank sludge, fish and hatchery wastes, food waste, manure, milk processing waste and whey, plant matter derived from processing plants, poultry carcasses, untreated and unprocessed wood residuals, and yard waste (excluding all SRMs as outlined in Federal Regulations, and Whey).

Biosolids are not included as input feedstock for this organic processing facility. City of Dawson Creek's wastewater facility operates using lagoons and does not produce biosolids.

## **4. Estimate of Footprint**

### **4.1 Organic Processing Facility**

The following section presents GHD's analysis of the forecasted footprint for Bessborough's organic processing facility. Estimates were calculated based on data from the *PRRD Four Season Waste Composition Study* (2018). The estimated quantities are summarized in Table 4.1 (for current design and construction) and Table 4.2 (for future expansion) below.

**Combined Organics** / One singular combined organics stream will consist of residential food scrapes and leaf and yard waste through collaboration with local municipalities, which could implement a green cat program with PRRD receiving the collected organic material. There could be developments in the future to receive organic materials from electoral districts.

The PRRD *Four Season Waste Composition Study* (2018) determined that of the 24,500 tonnes of waste going to landfill in 2018, 29% or 7119 tonnes of that material was considered organic. With an assumed recovery rate of 50%, 3560 tonnes of organic material is anticipated to be diverted from landfilling with the construction of a new organic processing facility. It is assumed that 100% of the recovered tonnage will be food waste. The 3560 tonnes per annum was evenly distributed over 12-months, with an assumed density of 0.6 tonnes/m<sup>3</sup>.

The curbside yard waste was estimated based on half of the recovered organic material at 1780 tonnes annually and evenly distributed over 6-months (May-October), with an assumed density of 0.28 tonnes/m<sup>3</sup>.

**Amendment Material** / This stream may consist of any material approved under Schedule 12 of the OMRR (2002). The estimated amendment quantities are based off a 2:1 wood to food scrap ratio. Amendment will only be added during the months in which residential leaf and yard waste is absent.

The active composting phase is planned for approximately 6-weeks, so the incoming material volumes at the receiving areas must also allow for 6-weeks (or 1.5-months) of material. The material quantities for the **receiving areas** were calculated by considering the highest tonnage month multiplied by 1.5-months.

The **active compost area** quantities were calculated with the same approach of multiplying the highest tonnage month by 1.5-months. A 2:1 amendment ratio is required for food waste; however, since the incoming stream will be a mix of food and yard waste, during May until October, very little, if any,



amendment material will need to be added prior to active composting. An additional row will be constructed for windrow turning operations.

The **curing area** quantities were calculated by taking the highest 6-months (curing duration), and will be designed for an assumed 40 percent volume overall reduction from the active composting phase to the curing phase (i.e. total final volume 40 percent of initial volume).

The **storage area** quantities were calculated by taking the curing area quantities from the curing phase.

All other infrastructure including administration (office and scale), access roads, and leachate pond is assumed to be four acres.

**Table 4.1 Composting Feedstocks – Current Design/Construction**

Stage	Combined Organics (m <sup>2</sup> )
Material Receiving Area Capacity (1.5-months)	1780
Active Compost Area Capacity	2200
Curing Area Capacity (6-months)	3942

**Table 4.2 Composting Feedstocks – Future Design/Construction**

Stage	Combined Organics (m <sup>2</sup> )
Material Receiving Area Capacity (1.5-months)	2670
Active Compost Area Capacity	2920
Curing Area Capacity (6-months)	5875

## 4.2 Compost Location

Fifteen acres of land is available on the Bessborough landfill site to develop all the necessary infrastructure for a composting operation. Table 4.3 below summarizes the area, selected location and capacity for each stage of the composting process and Table 4.4 summarizes the future expansion design.





**Table 4.3 Composting Operations Area Summary – Current Design and Construction**

Area	Location	Combined Organics Capacity (m³/year)
Material receiving and processing (1)	Adjacent to septage pond	-
Active composting	North of septage pond	3072
Compost curing		5339
Finished Compost storage		5339
Total		13,750
Notes: (1) Receiving material includes green cart waste and yard waste.		

**Table 4.3 Composting Operations Area Summary – Current Design and Construction**

House Composting Operations Area Summary - Current Design and Construction		
Area	Location	Combined Organics Capacity (m³/year)
Material receiving and processing (1)	Adjacent to septage pond	-
Active composting	North of septage pond	4096
Compost curing		8008
Finished Compost storage		8008
Total		20,112
Notes: (1) Receiving material includes green cart waste and yard waste.		



## **5. Project Cost Estimate**

The project cost has been estimated to be \$4,725,984 with a 25% contingency cost, bringing it to \$5,907,480. The detailed cost estimate and assumptions can be viewed in appendix A. Included in the estimate was the clearing, grading and filling of land, road costs, aggregate placement, asphalt for each pad, leachate management system, security and vector control, professional services and community engagement. A scale is already located at the Bessborough landfill and will not be included in the costs. Additional exclusions from this cost estimate is equipment such as aeration equipment, aeration pad and mobile equipment such as loaders, mixers, and screeners as this will be contractor supplied. Water is also excluded from the cost estimate.

## **6. Project Development Timeline**

### **6.1 Organic Processing Infrastructure Timeline**

The proposed schedule to complete the organic processing infrastructure is as follows:

- Conceptual Design & OMRR Plans – 2 weeks
- OMRR Registration and Application for OMRR Deviations as Required – 2 weeks
- Detailed Design of Site Works – 4 weeks
- Request for Qualifications – D/B compost equipment & operations – 4 weeks
- Request for Proposals – D/B compost equipment & operations – 4 week
- Construction – 6 month period commencing summer of 2022
- Commissioning – 6 months
- Operations – Summer 2023

For detailed timeline see Appendix B

## 6.2 CleanBC Organics Infrastructure and Collections Grant Timeline

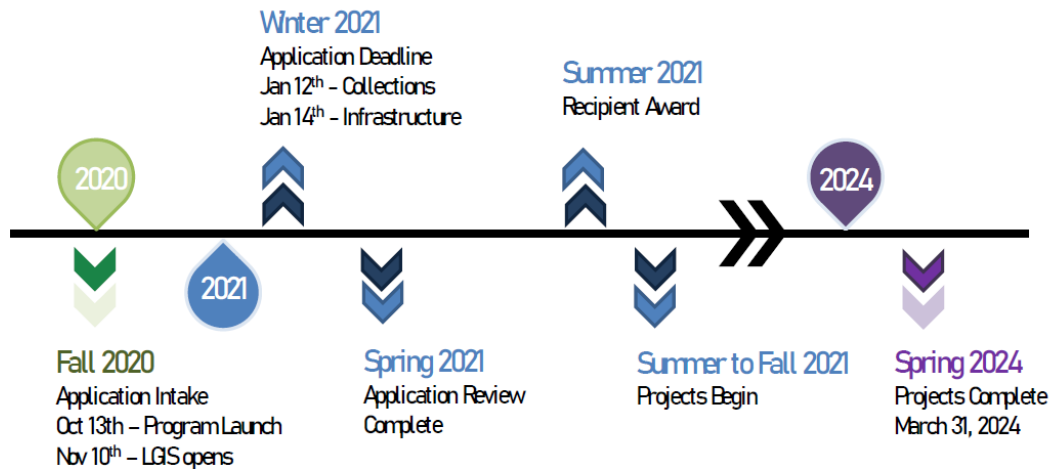


Figure 3: Timeline of CleanBC Organics Infrastructure and Collection program 2020 grant.

## 7. GHG Reduction Estimate

The greenhouse gas (GHG) reduction estimate was calculated using the B.C. Biogas and Composting Facility Greenhouse Gas Tool to determine the quantifiable GHG reductions from diverting food waste and yard waste from the Bessborough and Chetwynd landfills to an organics processing facility. The total GHG reductions results from the project over the project timeframe is an average yearly GHG reduction amount of 16,930 tCO<sub>2</sub>e, for a total of 203,164 tCO<sub>2</sub>e.

For detailed GHG reduction calculation see Appendix C

## 8. Licenses, Permits and Approvals

### 8.1 OMRR

The purpose of this section is to address any requirements set out by the current OMRR (2002) and address any future requirements that may arise from the OMRR Intentions Paper (2020). The CleanBC Organics Infrastructure and Collection Program grant requires all projects, including those on federal land, to comply with the Environmental Management Act and additional regulations for organics in British Columbia. The ENV will be revising the Organic Matter Recycling Regulation (OMRR) made under the Environmental Management Act and the Public Health Act. Licenses, permits and approvals discussed in this section will include the OMRR 2002 regulations and bring forth any mentionable revisal's and/or proposals.

### 8.2 Permit Process



Permits are required for facilities with a design capacity to produce 5,000 tonnes or more of compost (food waste or biosolids) per annum. Current and future projections of Bessborough's organic processing facility produce more than 5,000 tonnes of compost per annum. The ENV is proposing to replace requirements in the OMRR based on the amount of **compost produced** with requirements based on the amount of **feedstock received** by a composting facility.

### **8.3 Registration and Application**

The ENV is proposing a registration process that would incorporate greater information sharing and transparency than currently results from giving notice and compliance with the OMRR. A registration process would include an application for registration with information submission and online posting of submitted information. for more information of the proposed registration changes see Appendix E Part I.

The application process for a new compost facility permit under the OMRR requires the submission of a preliminary application. An EPD-OMR-01.2 form may be used for submission under the preliminary application to discharge waste under the *Environmental Management Act* for a new compost facility permit under the OMRR. **The EPD-OMR-01.2 form can be reviewed in Appendix D**

#### **8.3.1 New Composting Facility Permit Under the OMRR**

A permit application must be submitted for a new compost facility that has the capacity to produce 5,000 tonnes or more of organic material. For more information on the process see Appendix E Part II.

#### **8.3.2 Notification of Changes to Registration**

Information used for registration is required to be kept up to date. Examples of changes to registration can be found in Appendix E Part III.

### **8.4 OMRR Requirements for Registered Facility**

The following sections describes requirements for construction and operation, environmental impact studies, leachate management, and design capacity.

#### **8.4.1 Construction and Operation of Composting Facility**

The construction and operation of a compost facility with a proposed annual production capacity of less than 20,000 tonnes is exempted from Part 5, Division 1, Section 23 of the OMRR. The operation of composting facilities and the products must safeguard human health and the environment. Under Part 5, Division 1, Section 24 of the OMRR, a qualified professional is required to prepare plans and specifications for construction and operation of a new composting facility.

Building permits are required before any construction takes place on the facility site. All provincial and national building codes are required for all proposed site structures and must adhere to WCB worker health and safety regulations.



For more information on plans, specifications, and operational procedures see Appendix E Part IV.

#### **8.4.2 Environmental Impact Studies**

Currently the OMRR requires an environmental impact study (EIS) for any compost facility that produces more than 20,000 tonnes of product per year. However, the ENV is proposing that all composting facilities would be required to prepare a “facility environmental management plan”. Those receiving less than 15,000 tonnes (wet weight) of feedstock per calendar year would be required to prepare a “light” facility environmental management plan that consolidates the odour management plan, operating plan, and leachate management plan.

#### **8.4.3 Leachate Management**

The facility must have a leachate collection system designed, constructed, and maintained to reuse or remove leachate from the facility sites. Proper drainage should be used to divert runoff and minimize the amount of leachate produced. All leachate collected and reused during the composting process must not be discharged into the environment unless otherwise authorized under the Environment Management Act and Health Act. For more information about leachate management, see Appendix E Part V.

#### **8.4.4 Design Capacity**

Under section 27 of the OMRR, during operations the amount of organic matter in the facility must not exceed the total design capacity of the facility. The ENV is proposing to replace requirements in the OMRR based on the amount of **compost produced** with requirements based on the amount of **feedstock received** by a composting facility.

The ENV is proposing future odor management plans that would require all composting facilities to prepare a facility environmental management plan (FEMP). Composting facilities receiving less than 15,000 tonnes (wet weight) of feedstock per calendar year would be required to provide a “light” FEMP

For more information on new tonnage requirements, vector controls and enclosed operations see Appendix E Part VI.

#### **8.5 Land Applications**

The OMRR relies on qualified professionals to prepare land application plans (including to establish beneficial use, suitable application rates and minimized potential for adverse impacts to human health and the environment). The ENV is looking to strengthen requirements for professional reliance in the OMRR.



## **8.6 Substitutions under the OMRR**

The purpose of substitutions is to allow for flexibility in the regulation, while protecting the environment and human health. For information about substitutions go to Appendix E Part VII.

## **8.7 Fee Payments**

Application fees and annual fees are associated with permits, approvals or operational certificates for composting facilities that process food waste or biosolids and have a design production capacity of 5,000 tonnes or greater (dry weight) of finished compost per year.

## **8.8 Best Practices and Engagement with First Nations**

For information regarding OMRR best management practices and First Nations engagement, see Appendix E Part VIII.

## **8.9 Organic Matter Suitable for Composting and Quality Criteria**

The OMRR list of organic matter suitable for composting under the regulation into Class A or Class B compost, includes animal bedding, biosolids, brewery and winery wastes, domestic septic tank sludge, fish and hatchery wastes, food waste, manure, milk processing waste and whey, plant matter derived from processing plants, poultry carcasses, untreated and unprocessed wood residuals, and yard waste (excluding all SRMs as outlined in Federal Regulations, and Whey).

For more information on future proposed feedstock, changes and quality criteria see Appendix E Part IX.

## **8.10 Setbacks**

Currently all setback in the OMRR are referred to as guidance, however the ENV is proposing to replicate the following setbacks as mandatory. This would include:

- A minimum distance of 30 metres to the nearest watercourse; and,
- A minimum distance of 30 metres to the nearest water supply well.

In addition, setbacks currently contained in guidance would be specified in the OMRR for storage of processed organic material:

- A minimum distance of 15 metres to the nearest watercourse; and,
- A minimum distance of 30 metres to source water used for domestic purposes.

The registration would be required to demonstrate how all applicable setbacks are being met. For more information on sampling, monitoring and record keeping see Appendix E Part X.

For any information on technical standards and additional housekeeping see Appendix E Part XI.



## Appendix A – Cost Estimate

Construction / Materials					
	Item	Quantity	Unit	Rate	Cost
Site Prep	Logging	60703	m2	\$ 5.00	\$ 303,515.00
	Clearing/grubbing	60703	m2	\$ 4.00	\$ 242,812
Earthworks	Cut/Fill/Grading	12140.6	m3	\$ 21.00	\$ 254,953
Roads/Access	New Road	702	m3	\$ 93.00	\$ 65,286
	Work/Staging Area Aggregate	21246.1	m3	\$ 93.00	\$ 1,975,883
Receiving Area (Combined Organics)	Asphalt	2669	m2	\$ 70.00	\$ 186,863
	Lock Blocks (supply + install)	312	ea	\$ 500.00	\$ 156,000
Active Compost Area (ASP)	Asphalt	2920	m2	\$ 70.00	\$ 204,400
	Aeration Controls, Blowers, and Piping, Concrete	-	-	-	-
	Controls Shed	-	-	-	-
Leachate Management System	Extension of electrical	4	ea	\$ 10,000.00	\$ 40,000
	Manhole	1	ea	\$ 15,000.00	\$ 15,000
	Leachate Transfer Piping	369	m	\$ 400.00	\$ 147,600
	Excavation	369	m3	\$ 7.00	\$ 2,583
Curing Area	Asphalt	5875	m2	\$ 70.00	\$ 411,257
Security/Vector Control	Scale	-	-	-	-
	Office	-	ea	\$ 54,000.00	-
	Fencing and Gates	984	m	\$ 100.00	\$ 98,400
Equipment	-	-	-	-	-
	-	-	-	-	-
Construction & Material Costs		\$	4,109,551.02		
Professional Services 2022		\$	308,216.33		
2022 Subtotal		\$	4,417,767.35		
Contingency Cost			25%		
2022/2023 Total:		\$	5,522,209.19		
Other Eligible Costs					
Professional Services	Item	Quantity	Unit	Rate	Cost
	2021/2022				
	Public Consultation and Communications Plan				\$ 308,216
	Leachate Management Plan				
	Detailed Design (1)				
	Curbside Organics Collection Memo				
	Household Education Program				
	End Product Marketing Plan				
	Community Engagement/Education				
	2022/2023				
	Allowance for Updated Odour Modelling of Proposed Concept				\$ 308,216
	Tender				
	Construction Contract Administration (2)				
	Construction Inspections (2)				
	Commissioning Support				
	Construction Report (3)				
Operation and Maintenance Manual					
Subtotal				\$ 4,725,983.68	
Contingency Co				25%	
Total				\$ 5,907,479.60	



## Appendix B: Timeframe

			2020	2021					2022					2023					2024					→ 2034
			Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1				
Task No.	Milestone	Weeks																						
1 Application and Data Compilation																								
1.1: Prepare Application																								
: Prepare Application	9																							
1.3: Application Deadline																								
: Application Deadline- Infrastructure	1																							
1.4: Recipient Award																								
: Recipient Award	1																							
2 Construction Design and Approval																								
2.1: Design																								
: Conceptual Design	2																							
: Organic Matter Recycling Regulations and Guidance (OMRR) Plans	2																							
: OMRR Registration and Application for OMRR Deviations as Required	2																							
3 Facility Approval																								
3.1: Pre-Construction																								
: Detailed design of site work	4																							
3.2: Procurement																								
: Request for Qualifications – D/B compost equipment & operations	4																							
: Request for Proposals – D/B compost equipment & operations	4																							
3.3: Construction																								
: Construction	26																							
3.4: Commissioning																								
: Commissioning	26																							
3.5: Operations																								
: Operations																								
4 CleanBC Organic Infrastructure Grant Eligibility Criteria																								
4.1: Operational Commitment																								
: Minimum Operation Time	546																							
4.2: GHG Emission Commitment																								
: GHG Emissions Reporting	546																							





## Appendix C – GHG Reduction Calculations

### Landfill Gas

How much **food waste** will be sent to the compost facility in the first year?  
How much is the amount of food waste expected to grow each year?

3,559 Tonne  
2% Each Year

How much of this **food waste** is currently disposed of in which landfill, and how much landfill gas is captured by the landfill's gas capture system?

Landfill	Percentage	Capture %
Borrborough	100%	0%
Remaining waste not landfilled		0%
Total -		100%

Capture % = amount of landfill gas captured that it does not enter the atmosphere.  
Capture + Loss = 100%; If the landfill doesn't have a gas capture system enter 0%.

How much **yard waste** will be sent to the compost facility in the first year?  
How much is the amount of yard waste expected to grow each year?

3,559 Tonne  
2% Each Year

How much of this **yard waste** is currently disposed of in which landfill, and how much landfill gas is captured by the landfill's gas capture system?

Landfill	Percentage	Capture %
Borrborough	100%	0%
Remaining waste not landfilled		0%
Total -		100%

Capture % = amount of landfill gas captured that it does not enter the atmosphere.  
Capture + Loss = 100%; If the landfill doesn't have a gas capture system enter 0%.

How much **biomass** from waste-to-energy treatment will be composted in the first year?  
How much is the amount of this waste-to-energy expected to grow each year?

0 Tonne  
2% Each Year

What is the estimated total suspended solids content of the biomass?  
If not known, use the calculator default value of 9%.

9% Percentage

What is the volatile solids content of the biomass?  
If not known, use the calculator default value of 70%.

70% Percentage

How much of these **biomass** are currently disposed of in which landfill, and how much landfill gas is captured by the landfill's gas capture system?

Landfill	Percentage	Capture %
Borrborough	0%	0%
Remaining waste not landfilled		100%
Total -		100%

Capture % = amount of landfill gas captured that it does not enter the atmosphere.  
Capture + Loss = 100%; If the landfill doesn't have a gas capture system enter 0%.

What is the lag time between the deposition of biomass, food and/or yard waste and generation of landfill gas?

1 Year

If the lag time is not known, enter 1 year.

### Compost Facility Lifetime

Expected year that the compost facility will become operational (i.e., start year):  
Calculate GHG emission reductions until (and including) year:

2023  
2034

GHG emissions are calculated for 12 years.

### Composting

What type of practice will be used to compost the biomass, food and/or yard waste?

Forced aeration compost (baric)

Turned compost (baric)

Turned compost (optimised)

Forced aeration compost (baric)

Forced aeration compost (optimised)

non-forced aeration, turn-down draw or pillar.

non-forced aeration, windrow covered with 15 cm or more of finished compost for first 2 weeks of composting cycle.

aerated static pile or other forced aeration system.

\* aerated static pile system with synthetic cover;

\* positive aeration - pillar covered with 15 cm or more of finished compost for first 2 weeks of composting cycle; or

\* negative aeration - exhaust gas directed through a control system consisting of wood chips or other biofilter.

### GHG Calculations

Baseline Emissions (tCO <sub>2</sub> e)	
Landfill gas	214,621
<b>Total GHG Emissions</b>	<b>214,621</b>
<b>Average Yearly GHG Emissions</b>	<b>17,885</b>

Project Emissions (tCO <sub>2</sub> e)	
Composting	11,456
<b>Total GHG Emissions</b>	<b>11,456</b>
<b>Average Yearly GHG Emissions</b>	<b>955</b>

#### Total GHG Reductions

**203,164 tCO<sub>2</sub>e**

#### Average Yearly GHG Reductions

**16,930 tCO<sub>2</sub>e**



## **Appendix D - EPD-OMR-01.2 form**



## Appendix E – OMRR Details

**Note:** *Italicized font indicates OMRR intentions paper proposals.*

### Part I

*It is proposed that registrations would require sign off by a qualified professional and would be evaluated by the ENV.*

*The following includes the proposed registration changes:*

- *The existing requirement for composting facilities to give notice under the OMRR would be replaced by a registration process under the OMRR; and,*
- *The existing requirement to give notice under the OMRR for land application of managed organic matter (Class A biosolids, Class B biosolids and Class B compost) would be replaced by a registration process.*

### Part II

The following process describes the preliminary permit application requirements under the OMRR for a new compost facility with the capacity to produce over 5,000 tonnes or more:

- Section 1: Purpose of application
- Section 2: Applicant information, including company information
- Section 3: Applicants contact for technical information, including contact persons information
- Section 4: Authorized agent, whom can be elected by applicant to deal directly with the ENV for the future of the application
- Section 5: Facility Location and Operator Information
- Section 6: Legal Landowner of Facility (if not applicant)
- Section 7: Checklist of additional information required
  - DRAFT Discharge Factors Application Form
  - Location Map Form
  - Rationale Letter (if requesting preliminary application exemption)
  - Documents required later in the application. It is recommended to submit drafts of these documents prior to any meetings with the ENV: Information Requirements Table (IRT) Draft; Environmental Impact Study; Operating Plan; Odor Management Plan; Leachate Management Plan; Site Plan; Environmental Protection Notice Draft; Additional project background information.
- Section 8: Declaration and Signature
- Section 9: Payment of Fees

### Part III



With regards to composting facility registrations, changes to a registration may include, but are not limited to:

- A change in name of the authorized party(ies)
- A change in legal address or mailing address of either the discharger or registered owner
- A change in the qualified professional
- A change in the boundaries of the site
- Changes to the total annual mass (wet weight) of feedstock received per calendar year and/or design production capacity, greater than 10 percent
- Changes in the types of organic matter that is or will be processed into compost, e.g., addition of a new feedstock or elimination of an existing feedstock
- A change in the proportion of any type of organic matter feedstock of greater than 10 percent, e.g., from 50 percent yard waste, 30 percent food waste and 20 percent biosolids by weight, to 30 percent yard waste, 50 percent food waste and 20 percent biosolids by weight
- Changes in the types or classes of compost produced

*The ENV is proposing that the registration of a composting facility can be transferred from registered party(ies) to new party(ies), provided that the application for transfer is made at least 30 days before the transfer is to occur, and that all applicable changes to information required for registration is provided in the application. The fee for transfer of a registration is to be the same as for a permit transfer: \$400.*

#### **Part IV**

The plans and specifications must include:

- All works to be constructed;
- The design capacities of the facility;
- Leachate management plans;
- Odor management plans; and
- Operating and closure plans.

The qualified professional must affix their seal and/or signature to the plans and specifications of the compost facility and make a signed statement certifying that the facility has been constructed in accordance with the plans and specifications. These requirements are to ensure the safe operations of the compost facility to withstand the site conditions.

Within 90 days prior to operation, the facility owner must provide written notice to the ENV of Water, Land and Air protection (MWLAP), stating:

- The composting facility location;
- Design capacity;



- Name of contact person;
- Type of waste received;
- Intended distribution of compost; and
- A copy of personnel training program plan to address the specific training needed to operate the compost facility in compliance with the OMRR

## **Part V**

OMRR requires an impermeable surface (i.e. asphalt, concrete, etc.) for the receiving, storage, processing and curing sites of a composting facility to prevent the discharge of leachate into the environment. The surface must be capable of withstanding wear and tear of normal operational procedures. These sites may also have a roof or cover to prevent the collection of water around the base of the compost and prevent run-off water from entering different sites at the facility.

The Federal Fisheries Act and Environment Management Act (EMA) prohibits the release of sediment laden or process water, therefore some treatment of run-off and a discharge permit may be required.

An impermeable surface, roof, cover, prepared surface or leachate collection system may not be required if a qualified professional can demonstrate through an environmental impact assessment that the environment will be protected and appropriate water quality criteria will remain satisfied through the use of alternative leachate management processes.

## **Part VI**

Regulatory requirements for composting facilities would be determined based on annual incoming wet weight of feedstock, as measured in wet tonnes, which is easier to measure, record and regulate, and which helps reduce the likelihood of composting facilities accepting more material than can be processed in one year.

Beginning the third year after start-up, at least half of the compost stored at the composting facility must be removed annually. Residuals from the composting process must be stored to prevent vector attraction (i.e. wildlife, birds) and be disposed of on a regular basis. Residuals stored at a composting facility must not exceed 15 cubic meters at any given time (OMRR, 2002).

In regards to facilities that compost food waste, the OMRR currently does not require in-vessel or enclosed operations. However, if odors were to become an issue in the environment and to nearby receptors, the director may request that the facility take additional measures to manage the offensive odors, for example through full enclosure, biofilters, or negative pressure buildings. Considering that PRRD has the ability to account for potential OMRR draft changes early, ENV recommends that in-vessel or enclosed operations are considered to avoid and retrofitting costs for the facility in the future.



## Part VII

Applications for substituted requirements under the regulation are subject to a statutory decision-making process under the authority of an ENV director. Substitutions can be initiated by proponent via an application or by the director. All substitutions under the OMRR are subject to appeal.

*The ENV has proposed that revised regulation will continue; however, the regulation would introduce a process enabling a director to substitute one requirement for another under the OMRR under certain conditions. The ENV has also proposed that:*

- *Local First Nations communities would be required to be notified when an application for a substitution is made;*
- *The ENV would charge a fee for processing substitutions;*
- *Substitutions would be transferable on a case-by-case basis, depending on case-specific circumstances; and,*
- *If a substitution is granted, the decision in relation to the substitution is subject to appeal under the Environmental Management Act.*

## Part VIII

Composting facility standards contained in the OMRR are minimum requirements to operate in BC. Proponents are encouraged to make the best use of resources, employ best management practices (BMPs), and implement best achievable technology (BAT) in the design of all composting facilities, in order to most effectively manage discharges to the environment.

BMPs are intended to be effective and practical measures to prevent or limit harmful impacts to the environment, and can include: programs, technology, processes, siting, operating methods, measures or devices that control, prevent, remove or reduce pollution. BAT is technology which can achieve the best waste discharge standards and that has been shown to be economically feasible through commercial application.

*The ENV is proposing to enhance transparency and engagement with First Nations through the regulation by proposing that proponents provide notification to First Nations communities as follows:*

- *For composting facilities, proponents would be required to notify local First Nations communities of the intent to register, and to provide notification of any change in the registration within 30 days of the change; and*
- *For proposed land applications, proponents would be required to notify local First Nations communities of the intent to register, and to provide notification of any change in the registration within 30 days of the change.*

*The ENV will be developing guidance that will describe how to address enhanced engagement to achieve notification (including around traditional territory values, hunting and spiritual areas, and valuable resources such as groundwater and wildlife), including new government-to-government engagement tools.*



*Guidance documents to support First Nations and proponents in notification and engagement with respect to activities under the OMRR will be developed in accordance with legal requirements, ENV policy and government direction.*

## **Part IX**

*The ENV intends on renaming “untreated and unprocessed wood residuals” as “wood residue”. This new category would include wood or wood byproduct that is chipped or ground, the clearing of land with no soil present, and trimming and pruning activities. Wood residue must not contain composite wood products (such as plywood, particle board, fiberboard, etc.) and must not be contaminated or treated with antisapstain, preservative, fire retardant, glue, adhesive, laminate, bonding agents, resin, paint, stain, varnish or any substance harmful to humans, animals, plants or the environment.*

The OMRR currently allows composting of “domestic septic tank sludge” and “biosolids”, but the ENV aims to include “domestic composting toilet sludge” as defined by “sludge removed from a composting toilet used for receiving and treating domestic sewage”.

*The ENV aims to include “non-recyclable paper material”, defined as “paper material contaminated with organic matter that cannot be reasonably recycled into a paper product, and is not contaminated with any substance harmful to humans, animals, plants or the environment”.*

*The ENV aims to include “compostable plastic” to Schedule 12, defined as organic matter suitable for composting based on the following proposed requirements:*

- *Compostable plastic would be required to meet the BNQ 9011-911/2007 or BPI-ASTM D6400 and/or ASTM D6868 standards to be defined as compostable plastic; and,*
- *Composting facilities seeking to include compostable plastic as a feedstock suitable for composting would be required to meet time and temperature standards applicable to the compostable plastics being accepted.*

Currently the OMRR includes standards that apply to feedstock received by a composting facility. The ENV is proposing the following standards that would apply to organic matter suitable for composting under the OMRR (Schedule 12):

- Measure and record the amount (wet tonnes) and type of organic matter accepted by a composting facility, including the total amount of materials received, processed and stored at any time; and,
- Invasive species or noxious weeds found in yard waste will be prohibited from being composted as current composting practices do not effectively kill these organisms.

*The ENV intends to amend the OMRR to include (1) a definition to the regulation that clarifies that “residuals” include contaminating materials such as rocks, plastic, metal and garbage, (2) replace the 1% by weight limit on foreign matter content for retail-grade and managed organic matter with a new limit by weight of 0.5 percent dry weight for foreign matter content and (3) introduce a plastic limit as less than or equal to 0.25 percent dry weight.*



## **Part X**

*The ENV is looking to include provisions on sampling standards and procedures that must be based on the most current manuals or guidelines posted on the ENV website. Where these manuals do not apply, the standards and procedures would follow the current (2015) edition of the British Columbia Environmental Laboratory Manual.*

*The ENV is proposing sampling and monitoring of the finished product of biosolids, compost and BGM be based on wet weight to facilitate consistency and ease of operation. Additionally, the ENV is proposing to align the sampling methodology for Class A and Class B biosolids, and Class A and Class B compost, and BGM.*

*The ENV is proposing to clarify the intended sampling requirements applicable to pathogen limits in finished products by describing the types of samples required directly within the regulation. The ENV is proposing to amend Schedule 5 of the OMRR to specify the type of samples, number of samples and method for determining compliance based on expectations stated in guidance for substance concentrations and foreign matter content. A pre-screening requirement is proposed, to remove foreign matter (i.e., non-organic matter greater than 2 mm in any dimension), with a focus on plastic.*

## **Part XI**

*The proposed amendments to the OMRR will improve alignments between technical standards in the OMRR and current national standards (such as the Canadian Council of Ministers of the Environment (CCME) Guidelines for Compost Quality), federal regulations (such as the federal Fertilizer Act and Regulations), and trade memoranda. It is proposed that the revised OMRR may refer to other regulations, codes, standards and rules set by other jurisdictions by reference rather than by repeating those in the OMRR. These standards and regulations reflect current science and technologies, including those for composting and compost.*

*The ENV intends to update the OMRR (including Schedules) to improve consistency and currency with CCME standards, including:*

- Adding maximum limits that for Salmonella (as already required by the Canadian Food Inspection Agency T-4-120 trade memoranda for the regulation of compost) into Schedule 3 for Class A compost intended for sale or otherwise;*
- Deleting references to the carbon to nitrogen ratio for composting and replacing with respiration as a measure of compost maturity to align with CCME compost maturity criteria;*
- Considering options for extending curing time requirements for compost or a requirement to demonstrate maturity if less than a 14 day period; and,*
- Replacing the requirement that compost must not re-heat upon standing to greater than 20 degrees Celsius above ambient temperature with the requirement that the temperature rise of the compost above ambient temperature is less than 8 degrees Celsius, to align with CCME compost maturity criteria.*

*The ENV is not intending to amend the regulation to require specific methods to measure respiration or curing time, but would enable flexibility in the regulation and the ability to choose methods.*





At present the Agricultural Waste Control Regulation (AWCR) is under review. The ENV will work to closely align the OMRR with the AWCR to ensure consistency between regulations, particularly in relation to the land application of soil amendments (i.e., managed and retail grade organic matter) on agricultural land.

*Additional “housekeeping” changes to the OMRR proposed by the ENV include:*

- *Exempting composting of food waste and yard waste at all sites where production is not greater than 20 m<sup>3</sup>/year. Local governments would retain the ability to establish bylaws and zoning requirements for composting activities in order to manage any concerns regarding nuisance issues such as odour.*
- *Requiring that operations in all areas that receive greater than 600 mm/year of precipitation must cover compost between October 1st and April 1st of the following year. This requirement would primarily be intended to mitigate the generation of leachate in high precipitation areas of the province.*
- *Adopting the definitions of “water supply system” and “well recharge zone” and other consequential amendments to the Drinking Water Protection Act.*

*In keeping with the ENV’s approach towards continuous improvement, the ENV will be updating policies and best practices guidance to ensure they are in keeping with proposed revisions to the regulation.*



# Technical Memorandum

**Draft for Review**

This document is in draft form. A final version of this document may differ from this draft. As such, the contents of this draft document shall not be relied upon. GHD disclaims any responsibility or liability arising from decisions made based on this draft document.

To: Gerritt Lacey

Ref. No.: 11220779

From: Rachel Sank & Deacon Liddy

Tel: 604-214-0510

**Subject:** CleanBC Organics Infrastructure and Collection Program Grant – Charlie Lake

## 1. Introduction

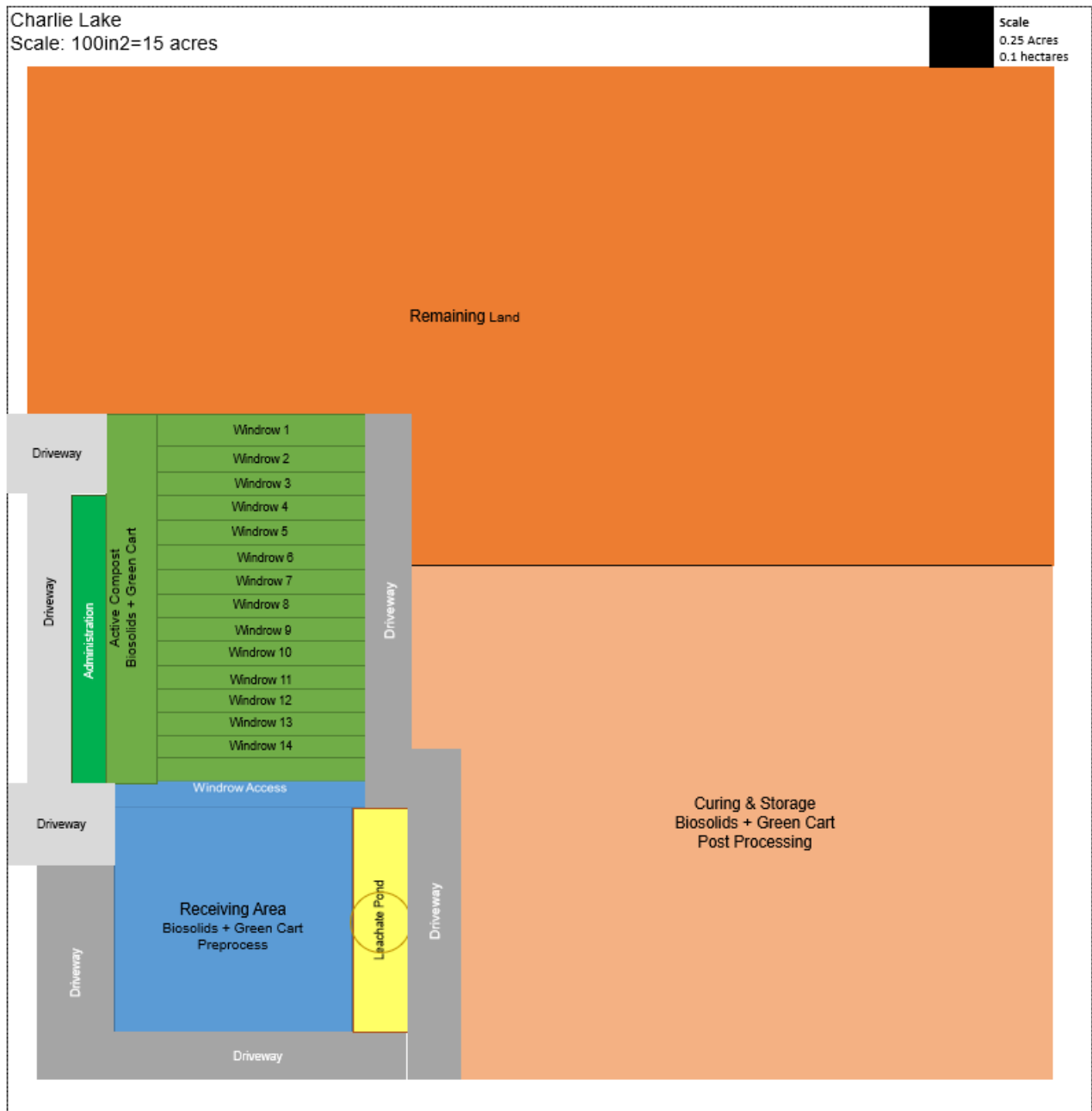
GHD Limited (GHD) was hired to support Peace River Regional District (PRRD) in developing an application for the 2020 CleanBC Organics Infrastructure and Collection Program. PRRD is applying for the organics processing infrastructure grant to help support two-thirds of the project cost for an organic processing facility. The purpose of this memorandum is to provide the necessary supporting documents required for the CleanBC Organics Infrastructure and Collection Program application. The scope of this document includes:

- Project Overview
- Detailed footprint estimates
- Detailed cost estimates
- Detailed project timelines
- GHG reduction emission estimates through BC biogas & composting facility GHG calculation tool
- Licenses, permits, and/or approvals

## 2. Project Overview

The Charlie Lake Sewage System and Truck Waste Facility is located near Fort St John and North Peace Regional Landfill. A waste composition study was conducted within the PRRD during the spring, summer, and fall of 2017 and the winter of 2018 at all three regional landfills in the PRRD: North Peace, Bessborough, and Chetwynd Regional landfills. The waste composition study identified that compostable organics are the largest contributor to landfill waste. The proposed project is to construct an organic processing facility with all necessary infrastructure on 6 hectares (15 acres) of land nearby Charlie Lake Truck Waste Facility. The facility will be designed to receive organic material from the North Peace area. With the support of the organics processing infrastructure grant, the proposed project will reduce greenhouse gas (GHG) emissions,

expand processing capacity for organic waste in British Columbia (BC) and divert organic waste from landfills.



**Figure 1:** Proposed compost pad for Charlie Lake Waste Water Site.

### 3. Material Quantities

#### 3.1 Estimate of Organic Tonnage

PRRD Four Season Waste Composition Study (2018) reported that the largest contributing tonnage of landfill waste for North Peace Regional landfill was compostable organics, approximately 32% or 9088 tonnes of the total 28,400 tonnes collected 2018.

#### 3.2 Design Capacity

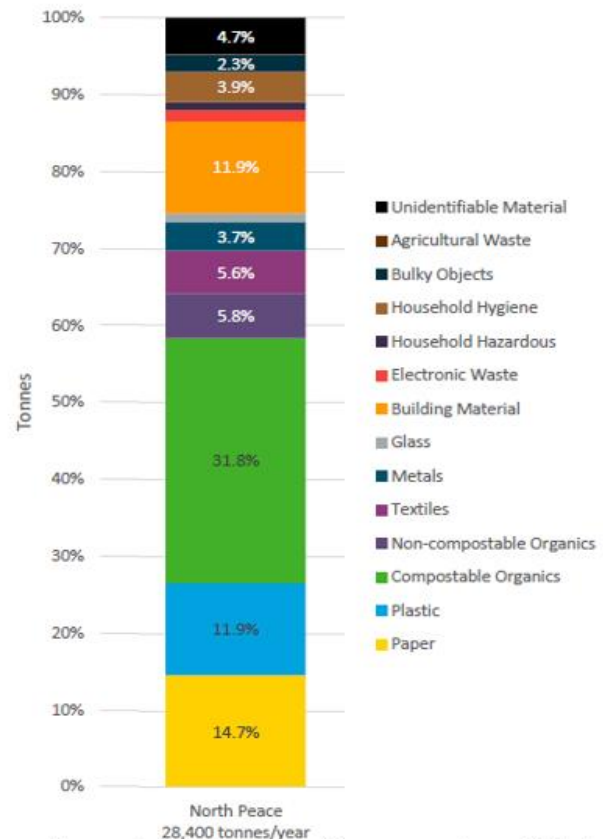
The design capacity for the organic processing facility will incorporate the recovered organics including food, leaf and yard wastes that are currently being landfilled. Each stream will be combined to accurately report on reduced GHG emissions from the recovered organics. For the purpose of this memorandum, 50% of landfilled organics are assumed to be recoverable.

#### 3.3 Assumed Technology

The conceptual design assumes a covered aerated static pile. The covers, aeration equipment and piping, and loaders will be provided by the operations contractor and the PRRD will provide the asphalt base and leachate drainage system.

#### 3.4 Proposed Feedstock

The feedstock for the proposed facility would be organics collected from single and multi- residential sources, composed of leaf, yard and food waste, and some commercial organics. Under Schedule 12 of the OMR (2002), other possible compost material which can be included in local facility to fill capacity include limited quantities of: animal bedding, biosolids, brewery and winery wastes, domestic septic tank sludge, fish and hatchery wastes, food waste, manure, milk processing waste and whey, plant matter derived from processing plants, poultry carcasses, untreated and unprocessed wood residuals, and yard waste (excluding all SRMs as outlined in Federal Regulations, and Whey). Biosolids will be transferred by the City of Fort St. John and transported to the organic processing facility to be used as feedstock for recovered organics. As biosolids will not remain separate from the food and yard waste stream, the finished compost product will be under Class B of the CCME guidelines.



**Figure 2:** Waste composition comparison of North Peace Regional landfill for all combined sectors.



## 4. Estimate of Footprint

### 4.1 Organic Processing Facility

The following section presents GHD's analysis of the forecasted footprint for Charlie Lake Waste Water Sites organic processing facility. Estimates were calculated based on data from the *PRRD Four Season Waste Composition Study* (2018). The estimated quantities are summarized in Table 4.1 (for current design and construction) and Table 4.2 (for future expansion) below.

**Biosolids** / The biosolids quantities were based on the 2019 tonnage data of 57 tonnes, with an assumed density of 1 tonne/m<sup>3</sup>.

**Combined Organics** / One singular combined organics stream will consist of residential food scrapes and leaf and yard waste from a future City of Fort St. John green cart collection program and biosolids. There may be developments in the future to receive organic materials from electoral districts.

The *PRRD Four Season Waste Composition Study* (2018) determined that of the 28,400 tonnes of waste going to landfill in 2018, 32% or 9,088 tonnes of that material was considered organic. With an assumed recovery rate of 50%, 4,515 tonnes of organic material is anticipated to be diverted from landfilling with the construction of a new organic processing facility. For the purposes of sizing the facility it is assumed that 100% of the recovered tonnage will be compostable. The 4,515 tonnes per annum was evenly distributed over 12-months, with an assumed density of 0.6 tonnes/m<sup>3</sup>.

The curbside yard waste was estimated based half of the recovered organic material at 2260 tonnes annually and evenly distributed over 6-months (May-October), with an assumed density of 0.28 tonnes/m<sup>3</sup>.

**Amendment Material** / This stream may consist of any material approved under Schedule 12 of the OMRR (2002). The estimated amendment quantities are based off a 2:1 wood to food scrap ratio. Amendment will only be added during the months in which residential leaf and yard waste is absent (i.e. winter months).

The active composting phase is planned for approximately 6-weeks, so the incoming material volumes at the receiving areas must also allow for 6-weeks (or 1.5-months) of material. The material quantities for the **receiving areas** were calculated by considering the highest tonnage month multiplied by 1.5-months.

The **active compost area** quantities were calculated with the same approach of multiplying the highest tonnage month by 1.5-months. A 2:1 amendment ratio is required for food waste; however, since the incoming stream will be a mix of food and yard waste, during May until October, very little, if any, amendment material will need to be added prior to active composting. An additional row will be constructed for windrow turning operations.

The **curing area** quantities were calculated by taking the highest 6-months (curing duration), and will be designed for an assumed 40 percent volume overall reduction from the active composting phase to the curing phase (i.e. total final volume 40 percent of initial volume).



The [storage area](#) quantities were calculated by taking the curing area quantities from the curing phase.

All other infrastructure including administration (office and scale), access roads, and leachate pond is assumed to be four acres.

**Table 4.1 Composting Feedstocks – Current Design/Construction**

Stage	Combined Organics (m <sup>2</sup> )
Material Receiving Area Capacity (1.5-months)	2,290
Active Compost Area Capacity	2,645
Curing Area Capacity (6-months)	5,168

**Table 4.2 Composting Feedstocks – Future Design/Construction**

Stage	Combined Organics (m <sup>2</sup> )
Material Receiving Area Capacity (1.5-months)	3,436
Active Compost Area Capacity	3,900
Curing Area Capacity (6-months)	7,710

## 4.2 Compost Location

Fifteen acres of land is available nearby the Charlie Lake Truck Waste Facility site to develop the necessary infrastructure for a composting operation. Table 4.3 below summarizes the area, selected location and capacity for each stage of the composting process and Table 4.4 summarizes the future expansion design.

**Table 4.3 Composting Operations Area Summary – Current Design and Construction**

Area	Location	Combined Organics Capacity (m <sup>3</sup> /year)
Material receiving and processing (1)	Adjacent to septage pond	-
Active composting	North of septage pond	3,432.0
Compost curing		6,774



Finished Compost storage		6,774
<b>Total</b>		16,980
Notes: (1) Receiving material includes green cart waste, yard waste and biosolids.		

**Table 4.3 Composting Operations Area Summary – Future Design and Construction**

Area	Location	Combined Organics Capacity (m³/year)
Material receiving and processing (1)	Adjacent to septage pond	-
Active composting	North of septage pond	5,148
Compost curing		10,160
Finished Compost storage		10,160
Total		22,756
Notes: (1) Receiving material includes green cart waste, yard waste and biosolids.		

## 5. Project Cost Estimate

The project cost has been estimated to be \$4,839,515 with a 25% contingency cost, bringing it to \$6,049,394. The detailed cost estimate and assumptions can be viewed in appendix A. Included in the estimate was the clearing, grading and filling of land, road costs, aggregate placement, asphalt for each pad, leachate management system, security and vector control, professional services and community engagement. Excluded from this cost estimate includes equipment such as aeration equipment, aeration pad and mobile equipment such as loaders, mixers, and screeners as this will be contractor supplied. Water supply is also excluded from the cost estimate.

## 6. Project Development Timeline

### 6.1 Organic Processing Infrastructure Timeline

The proposed schedule to complete the organic processing infrastructure is as follows:

Conceptual Design & OMRR Plans – 2 weeks

OMRR Registration and Application for OMRR Intentions Paper Deviations as Required – 2 weeks



Detailed Design of Site Works – 4 weeks

Request for Qualifications – D/B compost equipment & operations – 4 weeks

Request for Proposals – D/B compost equipment & operations – 4 week

Construction – 6 month period commencing summer of 2022

Commissioning – 6 months

Operations – Summer 2023

For detailed timeline see Appendix B

## 6.2 CleanBC Organics Infrastructure and Collections Grant Timeline

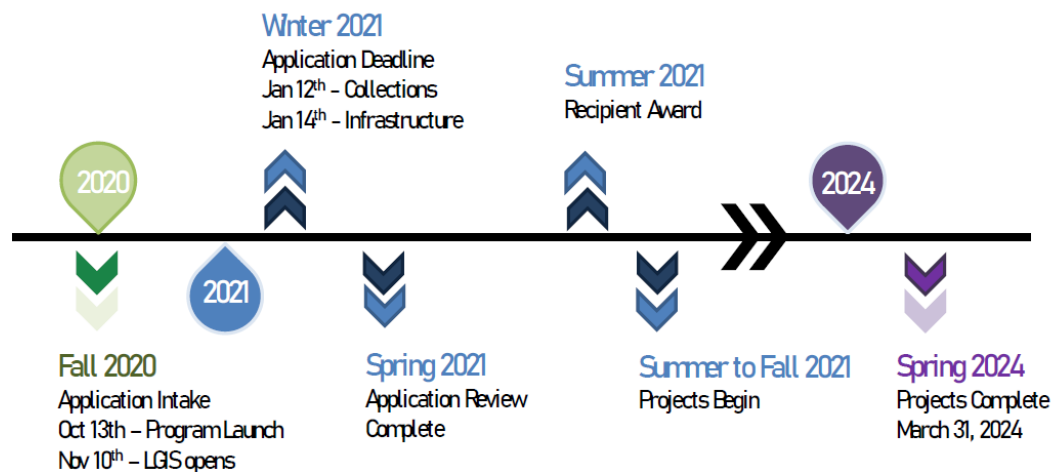


Figure 3: Timeline of CleanBC Organics Infrastructure and Collection program 2020 grant.

## 7. GHG Reduction Estimate

The greenhouse gas (GHG) reduction estimate was calculated using the B.C. Biogas and Composting Facility Greenhouse Gas Tool to determine the quantifiable GHG reductions from diverting food waste and yard waste from the North Peace Regional landfill to an organics processing facility. The total GHG reductions results from the project over the project timeframe is an average yearly GHG reduction amount of 12,325, for a total of 147,897.

For detailed GHG reduction calculation see Appendix C





## **8. Licenses, Permits and Approvals**

### **8.1 OMRR**

The purpose of this section is to address any requirements set out by the current OMRR (2002) and address any future requirements that may arise from the OMRR Intentions Paper (2020). The CleanBC Organics Infrastructure and Collection Program grant requires all projects, including those on federal land, to comply with the Environmental Management Act and additional regulations for organics in British Columbia. The ENV will be revising the Organic Matter Recycling Regulation (OMRR) made under the Environmental Management Act and the Public Health Act. Licenses, permits and approvals discussed in this section will include the OMRR 2002 regulations and bring forth any mentionable revisal's and/or proposals.

### **8.2 Permit Process**

Permits are required for facilities with a design capacity to produce 5,000 tonnes or more of compost (food waste or biosolids) per annum. Current and future projections of this organic processing facility will produce more than 5,000 tonnes of compost per annum. The ENV is proposing to replace requirements in the OMRR based on the amount of **compost produced** with requirements based on the amount of **feedstock received** by a composting facility, see section 8.3.4 for more detail.

### **8.3 Registration and Application**

The ENV is proposing a registration process that would incorporate greater information sharing and transparency than currently results from giving notice and compliance with the OMRR. A registration process would include an application for registration with information submission and online posting of submitted information. for more information of the proposed registration changes see Appendix E Part I.

The application process for a new compost facility permit under the OMRR requires the submission of a preliminary application. An EPD-OMR-01.2 form may be used for submission under the preliminary application to discharge waste under the *Environmental Management Act* for a new compost facility permit under the OMRR. **The EPD-OMR-01.2 form can be reviewed in Appendix D**

### **8.4 New Composting Facility Permit Under the OMRR**

A permit application must be submitted for a new compost facility that has the capacity to produce 5,000 tonnes or more of organic material. For more information on the process see Appendix E Part II.

### **8.5 Notification of Changes to Registration**

Information used for registration is required to be kept up to date. Examples of changes to registration can be found in Appendix E Part III.



## **8.6 OMRR Requirements for Registered Facility**

The following sections describes requirements for construction and operation, environmental impact studies, leachate management, and design capacity.

## **8.7 Construction and Operation of Composting Facility**

The construction and operation of a compost facility with a proposed annual production capacity of less than 20,000 tonnes is exempted from Part 5, Division 1, Section 23 of the OMRR. The operation of composting facilities and the products must safeguard human health and the environment. Under Part 5, Division 1, Section 24 of the OMRR, a qualified professional is required to prepare plans and specifications for construction and operation of a new composting facility.

Building permits are required before any construction takes place on the facility site. All provincial and national building codes are required for all proposed site structures and must adhere to WCB worker health and safety regulations.

For more information on plans, specifications, and operational procedures see Appendix E Part IV.

## **8.8 Environmental Impact Studies**

Currently the OMRR requires an environmental impact study (EIS) for any compost facility that produces more than 20,000 tonnes of product per year. However, the ENV is proposing that all composting facilities would be required to prepare a "facility environmental management plan". Those receiving less than 15,000 tonnes (wet weight) of feedstock per calendar year would be require a "light" facility environmental management plan that consolidates the odour management plan, operating plan, and leachate management plan.

## **8.9 Leachate Management**

The facility must have a leachate collection system designed, constructed, and maintained to reuse or remove leachate from the facility sites. Proper drainage should be used to divert runoff and minimize the amount of leachate produced. All leachate collected and reused during the composting process must not be discharged into the environment unless otherwise authorized under the Environment Management Act and Health Act. For more information about leachate management, see Appendix E Part V.

## **8.10 Design Capacity**

Under section 27 of the OMRR, during operations the amount of organic matter in the facility must not exceed the total design capacity of the facility. The ENV is proposing to replace requirements in the OMRR based on the amount of **compost produced** with requirements based on the amount of **feedstock received** by a composting facility.

The ENV is proposing future odor management plans that would require all composting facilities to prepare a facility environmental management plan (FEMP). Composting facilities receiving less than 15,000 tonnes (wet weight) of feedstock per calendar year would be required to provide a "light" FEMP



For more information on new tonnage requirements, vector controls and enclosed operations see Appendix E Part VI.

#### **8.11 Land Applications**

The OMRR relies on qualified professionals to prepare land application plans (including to establish beneficial use, suitable application rates and minimized potential for adverse impacts to human health and the environment). The ENV is looking to strengthen requirements for professional reliance in the OMRR.

#### **8.12 Substitutions under the OMRR**

The purpose of substitutions is to allow for flexibility in the regulation, while protecting the environment and human health. For information about substitutions go to Appendix E Part VII.

#### **8.13 Fee Payments**

Application fees and annual fees are associated with permits, approvals or operational certificates for composting facilities that process food waste or biosolids and have a design production capacity of 5,000 tonnes or greater (dry weight) of finished compost per year.

#### **8.14 Best Practices and Engagement with First Nations**

For information regarding OMRR best management practices and First Nations engagement, see Appendix E Part VIII.

#### **8.15 Organic Matter Suitable for Composting and Quality Criteria**

The OMRR list of organic matter suitable for composting under the regulation into Class A or Class B compost, includes animal bedding, biosolids, brewery and winery wastes, domestic septic tank sludge, fish and hatchery wastes, food waste, manure, milk processing waste and whey, plant matter derived from processing plants, poultry carcasses, untreated and unprocessed wood residuals, and yard waste (excluding all SRMs as outlined in Federal Regulations, and Whey).

For more information on future proposed feedstock, changes and quality criteria see Appendix E Part IX.

#### **8.16 Setbacks**

Currently all setback in the OMRR are referred to as guidance, however the ENV is proposing to replicate the following setbacks as mandatory. This would include:

- A minimum distance of 30 metres to the nearest watercourse; and,
- A minimum distance of 30 metres to the nearest water supply well.

In addition, setbacks currently contained in guidance would be specified in the OMRR for storage of processed organic material:

- A minimum distance of 15 metres to the nearest watercourse; and,



- A minimum distance of 30 metres to source water used for domestic purposes.

The registration would be required to demonstrate how all applicable setbacks are being met. For more information on sampling, monitoring and record keeping see Appendix E Part X.

For any information on technical standards and additional housekeeping see Appendix E Part XI.



## Appendix A – Cost Estimate

Construction / Materials						
	Item	Quantity	Unit	Rate	Cost	
	Site Prep	Clearing/grubbing	63432	m2	\$ 4.00 \$ 253,728	
	Earthworks	Cut/Fill/Grading	12686.4	m3	\$ 21.00 \$ 266,414	
	Roads/Access	New Road	702	m3	\$ 93.00 \$ 65,286	
		Work/Staging Area Aggregate	21246.05	m3	\$ 93.00 \$ 1,975,883	
	Receiving Area (Combined Organics)	Asphalt	3436	m2	\$ 70.00 \$ 240,489	
		Lock Blocks (supply + install)	354	ea	\$ 500.00 \$ 177,000	
	Active Compost Area (ASP)	Asphalt	3900	m2	\$ 70.00 \$ 273,000	
		Aeration Controls, Blowers, and Piping, Concrete	-	-	- -	
		Controls Shed	-	-	- -	
		Extension of electrical	4	ea	\$ 10,000.00 \$ 40,000	
	Leachate Management System	Manhole	1	ea	\$ 15,000.00 \$ 15,000	
		Leachate Transfer Piping	369	m	\$ 400.00 \$ 147,600	
		Excavation	369	m3	\$ 7.00 \$ 2,583	
	Curing Area	Asphalt	7710	m2	\$ 70.00 \$ 539,697	
	Security/Vector Control	Scale	1	ea	\$ 54,193.75 \$ 54,194	
		Office	1	ea	\$ 54,000.00 \$ 54,000	
		Fencing and Gates	984	m	\$ 100.00 \$ 98,400	
	Equipment	-	-	-	-	
		-	-	-	-	
	Construction & Materials Costs	\$	4,208,274.06			
	Professional Services 2022	\$	315,620.55			
	2022/2023 Subtotal	\$	4,523,894.62			
	Contingency Cost		25%			
	2022/2023 Total:	\$	5,654,868.27			
Other Eligible Costs						
Professional Services	Item	Quantity	Unit	Rate	Cost	
	2021					\$ 315,621
	Public Consultation and Communications Plan					
	Leachate Management Plan					
	Detailed Design (1)					
	Curbside Organics Collection Memo					
	Household Education Program					
	End Product Marketing Plan					
	Community Engagement/Education				\$ 315,621	
	2022					
	Allowance for Updated Odour Modelling of Proposed Concept					
	Tender					
	Construction Contract Administration (2)					
	Construction Inspections (2)					
	Commissioning Support					
	Construction Report (3)					
Operation and Maintenance Manual						
				Subtotal	\$ 4,839,515.17	
				Contingency Cost	25%	
				Total	\$ 6,049,393.96	



## Appendix B – Timeframe

Task No.	Milestone	Weeks	2020	2021					2022					2023					2024					→ 2034
			Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1				
1 Application and Data Compilation																								
1.1	Prepare Application																							
	Prepare Application	9																						
1.3	Application Deadline																							
	Application Deadline- Infrastructure	1																						
1.4	Recipient Award																							
	Recipient Award	1																						
2 Construction Design and Approval																								
2.1	Design																							
	Conceptual Design	2																						
	Organic Matter Recycling Regulations and Guidance (OMRR) Plans	2																						
	OMRR Registration and Application for OMRR Deviations as Required	2																						
3 Facility Approval																								
3.1	Pre-Construction																							
	Detailed design of site work	4																						
3.2	Procurement																							
	Request for Qualifications – D/B compost equipment & operations	4																						
	Request for Proposals – D/B compost equipment & operations	4																						
3.3	Construction																							
	Construction	26																						
3.4	Commissioning																							
	Commissioning	26																						
3.5	Operations																							
	Operations																							
4 CleanBC Organic Infrastructure Grant Eligibility Criteria																								
4.1	Operational Commitment																							
	Minimum Operation Time	546																						
4.2	GHG Emission Commitment																							
	GHG Emissions Reporting	546																						



## Appendix C – GHG Reduction Calculations

How much **food waste** will be sent to the compost facility in the first year?  
How much is the amount of food waste expected to grow each year?

4,516 Tonnes  
2% Each Year

How much of this **food waste** is currently disposed of in which landfills, and how much landfill gas is captured by the landfill's gas capture system?

*Capture % = amount of landfill gas captured so that it does not enter the atmosphere. Capture + Loss = 100%. If the landfill doesn't have a gas capture system enter 0%.*

Landfill	Percentage	Capture %
Ft. St. John	100%	24%
Remaining waste not landfilled	0%	
<b>Total =</b>	<b>100%</b>	

How much **yard waste** will be sent to the compost facility in the first year?  
How much is the amount of yard waste expected to grow each year?

2,258 Tonnes  
2% Each Year

How much of this **yard waste** is currently disposed of in which landfills, and how much landfill gas is captured by the landfill's gas capture system?

*Capture % = amount of landfill gas captured so that it does not enter the atmosphere. Capture + Loss = 100%. If the landfill doesn't have a gas capture system enter 0%.*

Landfill	Percentage	Capture %
Ft. St. John	100%	24%
Remaining waste not landfilled	0%	
<b>Total =</b>	<b>100%</b>	

How much **biosolids from wastewater treatment** will be composted in the first year?  
How much is the amount of this waste stream expected to grow each year?

57 Tonnes  
2% Each Year

What is the estimated total suspended solids content of the biosolids?  
*If not known, use the calculator default value of 9%.*

9% Percentage

What is the volatile solids content of the biosolids?  
*If not known, use the calculator default value of 70%.*

70% Percentage

How much of these **biosolids** are currently disposed of in which landfills, and how much landfill gas is captured by the landfill's gas capture system?

*Capture % = amount of landfill gas captured so that it does not enter the atmosphere. Capture + Loss = 100%. If the landfill doesn't have a gas capture system enter 0%.*

Landfill	Percentage	Capture %
Bessborough	100%	0%
Remaining waste not landfilled	0%	
<b>Total =</b>	<b>100%</b>	

What is the lag time between the deposition of biosolids, food and/or yard waste and generation of landfill gas?  
*If the lag time is not known, enter 1 year.*

1 Years

### Compost Facility Lifetime

Expected year that the compost facility will become operational (i.e., start year):  
Calculate GHG emission reductions until (and including) year:

2023  
2034

*GHG emissions are calculated for 12 years.*

### Composting

What type of practice will be used to compost the biosolids, food and/or yard waste?

Forced aeration compost (basic)

Turned compost (basic)  
Turned compost (optimized)  
Forced aeration compost (basic)  
Forced aeration compost (optimized)

non-forced aeration, turned windrows or piles,  
non-forced aeration, windrows covered with 15 cm or more of finished compost for first 5 weeks of composting cycle,  
aerated static pile or other forced aeration system,  
\* aerated static pile systems using synthetic covers;  
\* positive aeration - piles covered with 15 cm or more of finished compost for first 2 weeks of composting cycle; or  
\* negative aeration - exhaust gas directed through a control system consisting of wood chips or other biofilter.

### GHG Calculations

Baseline Emissions (tCO <sub>2</sub> e)	
Landfill gas	158,891
<b>Total GHG Emissions</b>	<b>158,891</b>
<b>Average Yearly GHG Emissions</b>	<b>13,241</b>

Project Emissions (tCO <sub>2</sub> e)	
Composting	10,394
<b>Total GHG Emissions</b>	<b>10,394</b>
<b>Average Yearly GHG Emissions</b>	<b>916</b>

#### Total GHG Reductions

**147,897 tCO<sub>2</sub>e**

#### Average Yearly GHG Reductions

**12,325 tCO<sub>2</sub>e**



## **Appendix D - EPD-OMR-01.2 form**





## Appendix E – OMRR Details

**Note:** *Italicized font indicates OMRR intentions paper proposals.*

### Part I

*It is proposed that registrations would require sign off by a qualified professional and would be evaluated by the ENV.*

*The following includes the proposed registration changes:*

- *The existing requirement for composting facilities to give notice under the OMRR would be replaced by a registration process under the OMRR; and,*
- *The existing requirement to give notice under the OMRR for land application of managed organic matter (Class A biosolids, Class B biosolids and Class B compost) would be replaced by a registration process.*

### Part II

The following process describes the preliminary permit application requirements under the OMRR for a new compost facility with the capacity to produce over 5,000 tonnes or more:

- Section 1: Purpose of application
- Section 2: Applicant information, including company information
- Section 3: Applicants contact for technical information, including contact persons information
- Section 4: Authorized agent, whom can be elected by applicant to deal directly with the ENV for the future of the application
- Section 5: Facility Location and Operator Information
- Section 6: Legal Landowner of Facility (if not applicant)
- Section 7: Checklist of additional information required
  - DRAFT Discharge Factors Application Form
  - Location Map Form
  - Rationale Letter (if requesting preliminary application exemption)
  - Documents required later in the application. It is recommended to submit drafts of these documents prior to any meetings with the ENV: Information Requirements Table (IRT) Draft; Environmental Impact Study; Operating Plan; Odor Management Plan; Leachate Management Plan; Site Plan; Environmental Protection Notice Draft; Additional project background information.
- Section 8: Declaration and Signature
- Section 9: Payment of Fees

### Part III



With regards to composting facility registrations, changes to a registration may include, but are not limited to:

- A change in name of the authorized party(ies)
- A change in legal address or mailing address of either the discharger or registered owner
- A change in the qualified professional
- A change in the boundaries of the site
- Changes to the total annual mass (wet weight) of feedstock received per calendar year and/or design production capacity, greater than 10 percent
- Changes in the types of organic matter that is or will be processed into compost, e.g., addition of a new feedstock or elimination of an existing feedstock
- A change in the proportion of any type of organic matter feedstock of greater than 10 percent, e.g., from 50 percent yard waste, 30 percent food waste and 20 percent biosolids by weight, to 30 percent yard waste, 50 percent food waste and 20 percent biosolids by weight
- Changes in the types or classes of compost produced

*The ENV is proposing that the registration of a composting facility can be transferred from registered party(ies) to new party(ies), provided that the application for transfer is made at least 30 days before the transfer is to occur, and that all applicable changes to information required for registration is provided in the application. The fee for transfer of a registration is to be the same as for a permit transfer: \$400.*

#### **Part IV**

The plans and specifications must include:

- All works to be constructed;
- The design capacities of the facility;
- Leachate management plans;
- Odor management plans; and
- Operating and closure plans.

The qualified professional must affix their seal and/or signature to the plans and specifications of the compost facility and make a signed statement certifying that the facility has been constructed in accordance with the plans and specifications. These requirements are to ensure the safe operations of the compost facility to withstand the site conditions.

Within 90 days prior to operation, the facility owner must provide written notice to the ENV of Water, Land and Air protection (MWLAP), stating:

- The composting facility location;
- Design capacity;



- Name of contact person;
- Type of waste received;
- Intended distribution of compost; and
- A copy of personnel training program plan to address the specific training needed to operate the compost facility in compliance with the OMRR

## **Part V**

OMRR requires an impermeable surface (i.e. asphalt, concrete, etc.) for the receiving, storage, processing and curing sites of a composting facility to prevent the discharge of leachate into the environment. The surface must be capable of withstanding wear and tear of normal operational procedures. These sites may also have a roof or cover to prevent the collection of water around the base of the compost and prevent run-off water from entering different sites at the facility.

The Federal Fisheries Act and Environment Management Act (EMA) prohibits the release of sediment laden or process water, therefore some treatment of run-off and a discharge permit may be required.

An impermeable surface, roof, cover, prepared surface or leachate collection system may not be required if a qualified professional can demonstrate through an environmental impact assessment that the environment will be protected and appropriate water quality criteria will remain satisfied through the use of alternative leachate management processes.

## **Part VI**

Regulatory requirements for composting facilities would be determined based on annual incoming wet weight of feedstock, as measured in wet tonnes, which is easier to measure, record and regulate, and which helps reduce the likelihood of composting facilities accepting more material than can be processed in one year.

Beginning the third year after start-up, at least half of the compost stored at the composting facility must be removed annually. Residuals from the composting process must be stored to prevent vector attraction (i.e. wildlife, birds) and be disposed of on a regular basis. Residuals stored at a composting facility must not exceed 15 cubic meters at any given time (OMRR, 2002).

In regards to facilities that compost food waste, the OMRR currently does not require in-vessel or enclosed operations. However, if odors were to become an issue in the environment and to nearby receptors, the director may request that the facility take additional measures to manage the offensive odors, for example through full enclosure, biofilters, or negative pressure buildings. Considering that PRRD has the ability to account for potential OMRR draft changes early, ENV recommends that in-vessel or enclosed operations are considered to avoid and retrofitting costs for the facility in the future.

## **Part VII**



Applications for substituted requirements under the regulation are subject to a statutory decision-making process under the authority of an ENV director. Substitutions can be initiated by proponent via an application or by the director. All substitutions under the OMRR are subject to appeal.

*The ENV has proposed that revised regulation will continue; however, the regulation would introduce a process enabling a director to substitute one requirement for another under the OMRR under certain conditions. The ENV has also proposed that:*

- *Local First Nations communities would be required to be notified when an application for a substitution is made;*
- *The ENV would charge a fee for processing substitutions;*
- *Substitutions would be transferable on a case-by-case basis, depending on case-specific circumstances; and,*
- *If a substitution is granted, the decision in relation to the substitution is subject to appeal under the Environmental Management Act.*

## **Part VIII**

Composting facility standards contained in the OMRR are minimum requirements to operate in BC. Proponents are encouraged to make the best use of resources, employ best management practices (BMPs), and implement best achievable technology (BAT) in the design of all composting facilities, in order to most effectively manage discharges to the environment.

BMPs are intended to be effective and practical measures to prevent or limit harmful impacts to the environment, and can include: programs, technology, processes, siting, operating methods, measures or devices that control, prevent, remove or reduce pollution. BAT is technology which can achieve the best waste discharge standards and that has been shown to be economically feasible through commercial application.

*The ENV is proposing to enhance transparency and engagement with First Nations through the regulation by proposing that proponents provide notification to First Nations communities as follows:*

- *For composting facilities, proponents would be required to notify local First Nations communities of the intent to register, and to provide notification of any change in the registration within 30 days of the change; and*
- *For proposed land applications, proponents would be required to notify local First Nations communities of the intent to register, and to provide notification of any change in the registration within 30 days of the change.*

*The ENV will be developing guidance that will describe how to address enhanced engagement to achieve notification (including around traditional territory values, hunting and spiritual areas, and valuable resources such as groundwater and wildlife), including new government-to-government engagement tools.*



*Guidance documents to support First Nations and proponents in notification and engagement with respect to activities under the OMRR will be developed in accordance with legal requirements, ENV policy and government direction.*

## **Part IX**

*The ENV intends on renaming “untreated and unprocessed wood residuals” as “wood residue”. This new category would include wood or wood byproduct that is chipped or ground, the clearing of land with no soil present, and trimming and pruning activities. Wood residue must not contain composite wood products (such as plywood, particle board, fiberboard, etc.) and must not be contaminated or treated with antisapstain, preservative, fire retardant, glue, adhesive, laminate, bonding agents, resin, paint, stain, varnish or any substance harmful to humans, animals, plants or the environment.*

The OMRR currently allows composting of “domestic septic tank sludge” and “biosolids”, but the ENV aims to include “domestic composting toilet sludge” as defined by “sludge removed from a composting toilet used for receiving and treating domestic sewage”.

*The ENV aims to include “non-recyclable paper material”, defined as “paper material contaminated with organic matter that cannot be reasonably recycled into a paper product, and is not contaminated with any substance harmful to humans, animals, plants or the environment”.*

*The ENV aims to include “compostable plastic” to Schedule 12, defined as organic matter suitable for composting based on the following proposed requirements:*

- *Compostable plastic would be required to meet the BNQ 9011-911/2007 or BPI-ASTM D6400 and/or ASTM D6868 standards to be defined as compostable plastic; and,*
- *Composting facilities seeking to include compostable plastic as a feedstock suitable for composting would be required to meet time and temperature standards applicable to the compostable plastics being accepted.*

Currently the OMRR includes standards that apply to feedstock received by a composting facility. The ENV is proposing the following standards that would apply to organic matter suitable for composting under the OMRR (Schedule 12):

- Measure and record the amount (wet tonnes) and type of organic matter accepted by a composting facility, including the total amount of materials received, processed and stored at any time; and,
- Invasive species or noxious weeds found in yard waste will be prohibited from being composted as current composting practices do not effectively kill these organisms.

*The ENV intends to amend the OMRR to include (1) a definition to the regulation that clarifies that “residuals” include contaminating materials such as rocks, plastic, metal and garbage, (2) replace the 1% by weight limit on foreign matter content for retail-grade and managed organic matter with a new limit by weight of 0.5 percent dry weight for foreign matter content and (3) introduce a plastic limit as less than or equal to 0.25 percent dry weight.*

## **Part X**



*The ENV is looking to include provisions on sampling standards and procedures that must be based on the most current manuals or guidelines posted on the ENV website. Where these manuals do not apply, the standards and procedures would follow the current (2015) edition of the British Columbia Environmental Laboratory Manual.*

*The ENV is proposing sampling and monitoring of the finished product of biosolids, compost and BGM be based on wet weight to facilitate consistency and ease of operation. Additionally, the ENV is proposing to align the sampling methodology for Class A and Class B biosolids, and Class A and Class B compost, and BGM.*

*The ENV is proposing to clarify the intended sampling requirements applicable to pathogen limits in finished products by describing the types of samples required directly within the regulation. The ENV is proposing to amend Schedule 5 of the OMRR to specify the type of samples, number of samples and method for determining compliance based on expectations stated in guidance for substance concentrations and foreign matter content. A pre-screening requirement is proposed, to remove foreign matter (i.e., non-organic matter greater than 2 mm in any dimension), with a focus on plastic.*

## **Part XI**

*The proposed amendments to the OMRR will improve alignments between technical standards in the OMRR and current national standards (such as the Canadian Council of Ministers of the Environment (CCME) Guidelines for Compost Quality), federal regulations (such as the federal Fertilizer Act and Regulations), and trade memoranda. It is proposed that the revised OMRR may refer to other regulations, codes, standards and rules set by other jurisdictions by reference rather than by repeating those in the OMRR. These standards and regulations reflect current science and technologies, including those for composting and compost.*

*The ENV intends to update the OMRR (including Schedules) to improve consistency and currency with CCME standards, including:*

- Adding maximum limits that for Salmonella (as already required by the Canadian Food Inspection Agency T-4-120 trade memoranda for the regulation of compost) into Schedule 3 for Class A compost intended for sale or otherwise;*
- Deleting references to the carbon to nitrogen ratio for composting and replacing with respiration as a measure of compost maturity to align with CCME compost maturity criteria;*
- Considering options for extending curing time requirements for compost or a requirement to demonstrate maturity if less than a 14 day period; and,*
- Replacing the requirement that compost must not re-heat upon standing to greater than 20 degrees Celsius above ambient temperature with the requirement that the temperature rise of the compost above ambient temperature is less than 8 degrees Celsius, to align with CCME compost maturity criteria.*

*The ENV is not intending to amend the regulation to require specific methods to measure respiration or curing time, but would enable flexibility in the regulation and the ability to choose methods.*



At present the Agricultural Waste Control Regulation (AWCR) is under review. The ENV will work to closely align the OMRR with the AWCR to ensure consistency between regulations, particularly in relation to the land application of soil amendments (i.e., managed and retail grade organic matter) on agricultural land.

*Additional “housekeeping” changes to the OMRR proposed by the ENV include:*

- *Exempting composting of food waste and yard waste at all sites where production is not greater than 20 m<sup>3</sup>/year. Local governments would retain the ability to establish bylaws and zoning requirements for composting activities in order to manage any concerns regarding nuisance issues such as odour.*
- *Requiring that operations in all areas that receive greater than 600 mm/year of precipitation must cover compost between October 1st and April 1st of the following year. This requirement would primarily be intended to mitigate the generation of leachate in high precipitation areas of the province.*
- *Adopting the definitions of “water supply system” and “well recharge zone” and other consequential amendments to the Drinking Water Protection Act.*

*In keeping with the ENV’s approach towards continuous improvement, the ENV will be updating policies and best practices guidance to ensure they are in keeping with proposed revisions to the regulation.*

## Appendix C: Eligible and Ineligible Costs

The Province will contribute up to two-thirds of eligible Project Costs. Eligible Project Costs include:

- Management and professional service costs, such as accounting, communications, audit charges, GHG emission reduction and cost-per-tonne estimate verification, and results monitoring, measuring and reporting.
- Material and supplies costs.
- Printing, production and distribution costs.
- Equipment and capital assets purchase or rental, except vehicles.
- Contractors required to perform activities related to the project components.
- Any GST/HST that is not reimbursable by CRA, and any PST not reimbursable by the Province.
- Administrative and overhead administration costs, which includes incremental human resource costs, including salaries and benefits.
- Initial distribution costs of funded curbside collection program materials, such as collection bins, and communication and educational outreach packages and/or programs to residents.
- Other costs that, in the opinion of the Province, are direct and necessary for the successful implementation of a project and have been approved by the Province in writing prior to being incurred.

The PRRD will be responsible for the remaining one-third of eligible costs and any ineligible costs. Ineligible costs include:

- Costs incurred prior to contract being signed with Province for funding.
- Amounts previously reimbursed under other federal and/or provincial funding programs.
- Costs incurred for withdrawn or cancelled project components.
- Land acquisition, leasing land, buildings and other facilities, leasing equipment other than equipment directly related to the construction of a project, real estate fees and related costs.
- Financing charges, legal fees, and loan interest payments, including those related to easements (e.g. surveys).
- PST and GST/HST, for which the recipient is eligible for a rebate and any other cost eligible for rebates.
- Any good or service received as a donation or in-kind contribution.
- Insurance.
- Professional membership dues or licenses.
- Depreciation / amortization expenses.



- Office rent, maintenance expenses, and utilities.
- Business meeting expenses.
- Travel costs.
- Vehicle rental, purchasing, operation, maintenance, and repair costs.
- Facility and/or residential organic curbside collection program operational, maintenance and/or repair costs.
- Feasibility studies and pilot projects.
- Eligible costs incurred after March 31, 2024



# REPORT

To: Solid Waste Committee

Report Number: ENV-SWC-031

From: Gerritt Lacey, Solid Waste Manager

Date: January 7, 2021

**Subject: 2021 Solid Waste Supplemental Requests**

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## **RECOMMENDATION #1:**

That the Solid Waste Committee recommend that the Regional Board approve the Supplemental Item - Charlie Lake Compost Site Development, and that \$1,000,000 is allocated to the project and included in the 2021 Solid Waste Budget.

## **RECOMMENDATION #2:**

That the Solid Waste Committee recommend that the Regional Board approve the Supplemental Item – Bessborough Landfill Compost Site Development, and that \$1,000,000 is allocated to the project and included in the 2021 Solid Waste Budget.

## **RECOMMENDATION #3:**

That the Solid Waste Committee recommend that the Regional Board approve the Supplemental Item - North Peace Regional Landfill Phase 1 Closure, and that \$70,000 is allocated to the project and included in the 2021 Solid Waste Budget.

## **RECOMMENDATION #4:**

That the Solid Waste Committee recommend that the Regional Board approve the Supplemental Item – Chetwynd Landfill Scale Replacement, and that \$279,267 is allocated to the project and included in the 2021 Solid Waste Budget.

## **RECOMMENDATION #5:**

That the Solid Waste Committee recommend that the Regional Board approve the Supplemental Item – Prespatou Scale Replacement, and that \$60,000 is allocated to the project and included in the 2021 Solid Waste Budget.

## **RECOMMENDATION #6:**

That the Solid Waste Committee recommend that the Regional Board approve the Supplemental Item – Bulky Pit, and that \$155,000 is allocated to the project and included in the 2021 Solid Waste Budget.

## **RECOMMENDATION #7:**

That the Solid Waste Committee recommend that the Regional Board approve the Supplemental Item – Manned Transfer Station Builds – Lebell, Lone Prairie, Hazler, and that \$110,000 is allocated to the project and included in the 2021 Solid Waste Budget.

**RECOMMENDATION #8:**

That the Solid Waste Committee recommend that the Regional Board approve the Supplemental Item – Bessborough Landfill Diversion Pad Development, and that \$140,000 is allocated to the project and included in the 2021 Solid Waste Budget.

**RECOMMENDATION #9:**

That the Solid Waste Committee recommend that the Regional Board allocate \$185,733 to be transferred into the Solid Waste Capital Reserve as part of the 2021 Solid Waste Budget.

**BACKGROUND/RATIONALE:**

This report is intended to provide the Solid Waste Committee (SWC) with an outline of the proposed 2021 Solid Waste Capital Program. For 2021 there have been 8 new capital projects identified, a brief summary of each project has been provided below:

**1. Charlie Lake Compost Infrastructure Development (attachment #1)**

The Province recently released the CleanBC Organics Infrastructure and Collection Program. The program intends to create additional organics processing capacity in British Columbia. The program will fund up to 25.7 million dollars of projects where the province will contribute up to two-thirds of eligible project costs, with the remaining 1/3 of the project costs contributed from the successful recipient.

There are two streams of funding available, Organic Processing Infrastructure, or Residential Curbside Collections. The application for the Charlie Lake site will fall under the infrastructure side of the program.

The estimated 1/3 contribution from the PRRD at this time is \$2,016,465 with the proposed funding coming 100% from requisition in 2021 (\$1,000,000) and 2022 (\$1,016,465).

If the grant funding does not pass the project will not proceed. The \$1,000,000 that was allocated for the project will instead be transferred into the Solid Waste capital reserve at the end of the year.

**2. Bessborough Landfill Compost Infrastructure Development (attachment #2)**

This project falls under the same grant application as the Charlie Lake Compost Infrastructure Development. The estimated 1/3 contribution from the PRRD is \$1,969,160 with the proposed funding coming 100% from requisition in 2021 (\$1,000,000) and 2022 (\$969,160).

If the grant funding does not pass the project will not proceed. The \$1,000,000 that was allocated for the project will instead be transferred into the Solid Waste capital reserve at the end of the year.

**3. North Peace Regional Landfill Phase 1 Closure (attachment #3)**

All landfills have a requirement to be “closed” when they have been filled to their final design. The closure refers to the final cap of the landfill. This cap helps prevent leachate generation, contains and manages landfill gasses, and helps establish vegetative cover. Today, most landfills use a method of progressive closures, this spreads the cost of the final closure over the years of the landfill’s life so there is not a large single cost.

The North Peace Regional Landfill is ready to receive its first closure works. The area is approximately 24,000m<sup>2</sup> and is pictured below in red:



In 2021, the design for the final closure will be completed with the construction taking place in 2023 (2022 if the organics grant does not pass). The estimated cost for design is \$70,000 with the proposed funding coming 100% from requisition.

#### 4. Chetwynd Landfill Scale Replacement (attachment #4)

The current foundation for the Chetwynd Landfill (CHLF) scale is failing. In 2020 the design for the scale replacement was awarded to Sperling Hansen and the work will be completed this year with a tender package ready to go out for bid in March of 2021 for the construction.

The total estimated cost for the work in 2021 is \$447,556; the proposed funding for this project is \$168,289 from capital reserves (carried forward for 2020 budget) and \$279,267 from requisition.

#### 5. Prespatou Transfer Station Scale Replacement (attachment #5)

The Prespatou Transfer Station experienced a significant amount of movement in the lock block wall that supports the deck to the attendant building and to the piles of the scale foundation. The problem is believed to be attributed to drainage issues and standing water, however the foundation itself could be compromised. Staff is preparing to investigate the problem in 2021 operationally, but if there are problems with the foundation itself, a consultant will be required to provide alternative options for the site. Keeping the scale operational is important as the site sees a lot of traffic from the agricultural community.

The total estimated cost for the design work in 2021 is \$60,000; the proposed funding for this project is 100% from requisition.

If it is found that the consultant is not needed, the dollars that were requisitioned would move into the Solid Waste capital reserve at the end of the year.

#### **6. Bulky Pit Closure (attachment #6)**

In 2020, the Cecil Lake, Rose Prairie, and Kelley Lake Transfer Stations (CLTS, RPTS, and KLTS) had ramps and tipping rails constructed to support the use of 40 yard bins for the collection of bulky and wood waste. Previously, bulky and wood waste was disposed of in a Bulky Waste Pit; however, concerns by the BC Ministry of Environment were raised back in 2018 leading staff to move away from collection in that same manner as costs would be prohibitive. The proposed project for 2021 for these sites is to provide the cover system to the previously used Bulky Waste Pits and place them at their end of life.

The total estimated cost of the project is \$155,000; the proposed funding for this project is 100% requisition.

#### **7. Manned Transfer Station - (Lebell, Lone Prairie, Hazler) (attachment #7)**

This project is to provide designs for three new manned transfer stations to be built in 2022. The designs would be for the Lebell, Lone Prairie, and Hazler areas. These sites would replace the current unmanned sites at Mt. Lemoray, Hasler Flats, Sukunka, Lone Prairie, and Lebell.

The total estimated cost of the project is \$110,000; the proposed funding for this project is 100% requisition.

#### **8. Bessborough Diversion Pad (attachment #8)**

This capital upgrade is to expand the designated divertible materials area and provide a gravel pad at the Bessborough Landfill. Currently, the divertible material area is mainly used for metals and white goods, with a separate area for concrete and is located mostly on a clay base. This project would clear approximately 0.6 acres of trees and connect the two diversion areas and add gravel to the pad. The total size of the diversion pad would be 1.5 acres. A picture outlining the area to be clearing is provided below:



The total estimated cost of the project is \$140,000; the proposed funding for this project is 100% requisition.

### **9. Transfer to Reserve**

To keep the new capital works at \$3,000,000 for 2021 a transfer to reserve the capital reserve of \$185,733 is proposed.

If all of the new capital projects are approved, the Capital Program for the Solid Waste Department in 2021 would be 8 new projects, and 6 carry forward projects.

Staff has been working on developing a Solid Waste 5 Year Capital Plan, which helps guide the department in the upcoming years to help provide financial stability. A table of the plan has been provided in attachment #9 for reference.

### **ALTERNATIVE OPTIONS:**

1. That the Solid Waste Committee provide further direction.

### **STRATEGIC PLAN RELEVANCE:**

☒ Not Applicable to Strategic Plan.

### **FINANCIAL CONSIDERATION(S):**

Project	Requisition	Reserve
Charlie Lake Compost Pad Development	\$1,000,000	
Bessborough Landfill Compost Pad Development	\$1,000,000	
North Peace Regional Landfill Phase 1 Closure - Design	\$70,000	
Chetwynd Landfill Scale Replacement – Tender, Construction, QA/QC	\$279,267	\$168,289
Prespatou Scale Replacement – Design	\$60,000	
Bulky Waste Pit Closure (CLTS,RPTS, KLTS) – Design, Tender, Construction	\$155,000	
Manned Transfer Station (Lebell, Lone Prairie, Hazler) - Design	\$110,000	
Bessborough Landfill Diversion Pad Development	\$140,000	
Transfer to Reserve	\$185,733	
<b>TOTALS</b>	<b>\$3,000,000</b>	<b>\$168,289</b>

### **COMMUNICATIONS CONSIDERATION(S):**

N/A

### **OTHER CONSIDERATION(S):**

A proposed 5 year Capital plan outlining anticipated upcoming projects is provided in attachment #9.



## Attachments:

1. 2021 Budget - Supplemental Item – Charlie Lake Compost Site Development
2. 2021 Budget - Supplemental Item – Bessborough Landfill Compost Site Development
3. 2021 Budget - Supplemental Item – North Peace Regional Landfill Phase 1 Closure
4. 2021 Budget - Supplemental Item – Chetwynd Landfill Scale Replacement
5. 2021 Budget - Supplemental Item – Prespatou Scale Replacement
6. 2021 Budget - Supplemental Item – Bulky Pit Closure
7. 2021 Budget - Supplemental Item – Manned Transfer Station
8. 2021 Budget - Supplemental Item – Bessborough Landfill Diversion Pad Development
9. Solid Waste 5 Year Capital Plan

2021 Budget - Supplemental Item						
<b>Title:</b> Charlie Lake Compost Site Development			<b>Environmental Services</b>			
<b>Division:</b> Solid Waste			<b>Regional Solid Waste Management - 500</b>			
<b>Type:</b> Capital - New			<b>High</b>			
Description						
In fall of 2020, the CleanBC Organic Infrastructure and Collection Program began to accept applications. The program was created by the Province and is intended to increase the capacity for organics processing within the all of British Columbia. The program requires successful applicants to commit to an organics program for a mandatory 10 years.						
Benefits						
If the application is accepted, the Province will fund 2/3 of the total proposed project costs. The creation of the infrastructure is a crucial first step in developing a organics diversion program in the region.						
Risks						
The grant application could be denied. If the grant is accepted and costs are beyond that in the proposal, the PRRD is liable for all additional costs.						
Financial Information						
Operating						
<b>Funding Sources</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>5 Year Total</b>
Requisition	1,000,000	1,016,465				2,016,465
						0
						0
	1,000,000	1,016,465	0	0	0	2,016,465
Expenses						
<b>Expenses</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>5 Year Total</b>
Design	131,509					131,509
Construction		1,884,956				1,884,956
						0
						0
						0
						0
						0
						0
	131,509	1,884,956	0	0	0	2,016,465
Administration						
<b>Author:</b> Gerritt Lacey					<b>Date Prepared:</b> 11-23-2020	
<b>Approval Date</b>						



2021 Budget - Supplemental Item						
Title: Bessborough Landfill Compost Site Development				Environmental Services		
Division: Solid Waste				Regional Solid Waste Management - 500		
Type: Capital - New				High		
Description						
In fall of 2020, the CleanBC Organic Infrastructure and Collection Program began to accept applications. The program was created by the Province and is intended to increase the capacity for organics processing within the all of British Columbia. The program requires successful applicants to commit to an organics program for a mandatory 10 years.						
Benefits						
If the application is accepted, the Province will fund 2/3 of the total proposed project costs. The creation of the infrastructure is a crucial first step in developing a organics diversion program in the region.						
Risks						
The grant application could be denied, in which case the requisitioned funds would be transferred into the Capital Reserve. If the grant is accepted and costs are beyond that in the proposal, the PRRD is liable for all additional costs.						
Financial Information						
Operating						
Funding Sources	2021	2022	2023	2024	2025	5 Year Total
Requisition	1,000,000	969,160				1,969,160
						0
						0
	1,000,000	969,160	0	0	0	1,969,160
Expenses	2021	2022	2023	2024	2025	5 Year Total
Design	128,423					128,423
Construction		1,840,736				1,840,736
						0
						0
						0
						0
						0
						0
	128,423	1,840,736	0	0	0	1,969,160
Administration						
Author: Gerritt Lacey					Date Prepared: 11-23-2020	
Approval Date						

2021 Budget - Supplemental Item						
Title: North Peace Regional Landfill Phase 1A Closure - Design				Environmental Services		
Division: Solid Waste				Regional Solid Waste Management - 500		
Type: Capital - New				Medium		
Description						
Under the Operating Permit of a landfill, the owner must supply the Province a Design, Operating and Closure Plan (DOCP) for the landfill. The DOCP illustrates how the site will be filled and subsequently closed or capped. Under the DOCP for the North Peace Regional Landfill (NPRLF) the PRRD is required to progressively close completed phases of the landfill within 2 years of a phases completion. Phase 1A of the NPRLF was finished in 2018, the area to close is approximately 22,000m <sup>2</sup>						
Benefits						
By progressively closing developed landfill phases, leachate generation is reduced as surface waters can no longer enter the waste mass. Additionally, progressive closures allow for the cost of final cover to be spread over several years instead of a single lump sum.						
Risks						
By not completing the closure in a timely fashion the PRRD will be out of compliance with the Operating Permit and the Design Operating and Closure Plan that has been approved by the Province.						
Financial Information						
Operating						
Funding Sources	2021	2022	2023	2024	2025	5 Year Total
Requisition	70,000		2,282,500			2,352,500
						0
						0
	70,000	0	2,282,500	0	0	2,352,500
Expenses	2021	2022	2023	2024	2025	5 Year Total
Closure Design	70,000					70,000
Closure Tender, Construction, QA/QC			2,282,500			2,282,500
						0
						0
						0
						0
						0
						0
	70,000	0	2,282,500	0	0	2,352,500
Administration						
Author: Gerritt Lacey					Date Prepared: 11-23-2020	
Approval Date						

2021 Budget - Supplemental Item						
Title: Chetwynd Landfill Scale Replacement - Tender, Construction, QA/QC				Environmental Services		
Division: Solid Waste				Regional Solid Waste Management - 500		
Type: Capital - New				Medium		
Description						
In 2019 a 80' scale was moved from the North Peace Regional Landfill to the Chetwynd Landfill (CHLF). The intention was to reuse the 80' scale and replace the current 40' scale at the CHLF. In 2020 budget was allocated of the design and tendering for the project. In 2020 the design and tender package was complete with the intention of the construction and QA/QC taking place in 2021.						
Benefits						
The 80' scale will allow for easier access for the larger trucks to weigh in on, additionally by reusing the 80' scale saves the new purchase of a scale which is estimated between \$90,000 - \$100,000. The design for the new scale area has been made with consideration to the site being turned in to a transfer station in the future.						
Risks						
The foundation of the current 40' scale at the CHLF is failing. The existing foundation has settled and shifted, which in turn has caused the stress to the scale. Delaying the replacement can result in higher costs of maintenance or a failure of the scale.						
Financial Information						
Operating						
Funding Sources	2021	2022	2023	2024	2025	5 Year Total
Capital Reserve	168,289					168,289
Requisition	279,267					279,267
						0
	447,556	0	0	0	0	447,556
Expenses	2021	2022	2023	2024	2025	5 Year Total
Tender Costs	3,556					3,556
Construction Costs	384,000					384,000
QA/QC Costs	60,000					60,000
						0
						0
						0
						0
						0
	447,556	0	0	0	0	447,556
Administration						
Author: Gerritt Lacey					Date Prepared: 11-23-2020	
Approval Date						

2021 Budget - Supplemental Item						
Title: Prespatou Scale Replacement - Design			Environmental Services			
Division: Solid Waste			Regional Solid Waste Management - 500			
Type: Capital - New			Medium			
Description						
<p>The foundations at the Prespatou Transfer Station (PPTS) have begun to move. Movement in the lock block wall has caused the deck of the attendant building to heave approximately one foot. Additionally it appears that the Piles that support the scale have begun to shift causing the scale to contact some of the pipes. The movement is likely caused by drainage issues and water becoming trapped and saturating the ground. The project will asses the next steps required to repair the scale foundation</p>						
Benefits						
<p>The scale at the Prespatou transfer station is used frequently by the area's farming community for weigh bills. By maintaining a scale on site the same level of service can be provided to the community.</p>						
Risks						
<p>Should the scale foundation continue to fail, the use of the scale could be limited. If the scale is unusable the site would have to move to volume based tipping fees and the area would not have access to the scale for weight bills for the agriculture in the area.</p>						
Financial Information						
Operating						
Funding Sources	2021	2022	2023	2024	2025	5 Year Total
Requisition	60,000	452,500				512,500
						0
						0
	60,000	452,500	0	0	0	512,500
Expenses						
Expenses	2021	2022	2023	2024	2025	5 Year Total
Design	60,000					60,000
Tender		12,500				12,500
Construction		400,000				400,000
QA/QC		40,000				40,000
						0
						0
						0
						0
	60,000	452,500	0	0	0	512,500
Administration						
Author: Gerritt Lacey					Date Prepared: 11-23-2020	
Approval Date						

Title: Bulky Pit Closure - Design, Tender, Construction		Environmental Services
Division:	Solid Waste	Regional Solid Waste Management - 500
Type:	Capital - New	Medium
Description		

In 2020 the Cecil lake, Rose Prairie, and Kelly Lake transfer stations received tipping ramps for bulky and wood material to be collected in 40 yard bins. Phase 2 of the project is to close the current "Bulky Waste Pits". The closure will be performed in accordance to provincial guidelines and is a necessary step to move the permit for the old landfill site towards abandonment.

Benefits
By closing the Bulky Waste Pits staff will be able to pursue the abandonment of the previous Landfill operating permit. By abandoning the permit requirements that arise from permit updates are mitigated in the future.
Risks

If the closure does not take place the pits will remain open, and carry a higher maintenance cost as the will need to be dewatered. Additionally, if the closure does not go through then staff will be unable to move the operating permit towards abandonment.

Financial Information						
Operating						
Funding Sources	2021	2022	2023	2024	2025	5 Year Total
Requisition	155,000					155,000
						0
						0
	155,000	0	0	0	0	155,000
Expenses	2021	2022	2023	2024	2025	5 Year Total
Design	15,000					15,000
Tender	15,000					15,000
Construction	125,000					125,000
						0
						0
						0
						0
						0
	155,000	0	0	0	0	155,000
Administration						
Author: Gerritt Lacey					Date Prepared: 11-23-2020	
Approval Date						

2021 Budget - Supplemental Item		
<b>Title:</b> Manned TS Builds - Design		<b>Environmental Services</b>
<b>Division:</b>	Solid Waste	<b>Regional Solid Waste Management - 500</b>
<b>Type:</b>	Capital - New	<b>Medium</b>
<b>Description</b>		

To design manned Transfer Stations at Lebell, Lone Prairie, and Hazler to replace the current unmanned sites. The intent is to design in 2021, and tender and construct in 2022.

Benefits
Manned sites area able to offer more services to residents. The consolidation of waste into a compactor will lower transportation costs
Risks

Financial Information						
<b>Operating</b>						
<b>Funding Sources</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>5 Year Total</b>
Requisition	110,000	1,482,500				1,592,500
						0
						0
	<b>110,000</b>	<b>1,482,500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,592,500</b>
<b>Expenses</b>						
<b>Expenses</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>5 Year Total</b>
Design	110,000					110,000
Tendering		12,500				12,500
Construction		1,350,000				1,350,000
QA/QC		120,000				120,000
						0
						0
						0
						0
	<b>110,000</b>	<b>1,482,500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,592,500</b>
<b>Administration</b>						
<b>Author:</b> Gerritt Lacey					<b>Date Prepared:</b> 11-23-2020	
<b>Approval Date</b>						

2021 Budget - Supplemental Item		
<b>Title:</b> Bessborough Landfill Diversion Pad		<b>Environmental Services</b>
<b>Division:</b>	Solid Waste	<b>Regional Solid Waste Management - 500</b>
<b>Type:</b>	Capital - New	<b>Low</b>
<b>Description</b>		

To develop a 6,500m<sup>2</sup> gravel pad for divertible materials such as metal, tires, wood, concrete, shingles.

Benefits
A gravel pad will promote better drainage lowering to cost of maintenance and increasing customer experience versus the current clay pad. A centralized location for divertible materials will provide easier site navigation for customer as the location will be located outside of a fill plan and can stay for the life of the landfill.
Risks

Nothing at this time

Financial Information						
<b>Operating</b>						
<b>Funding Sources</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>5 Year Total</b>
Requisition	140,000					140,000
						0
						0
	140,000	0	0	0	0	140,000
<b>Expenses</b>						
<b>Expenses</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>5 Year Total</b>
Construction	140,000					140,000
						0
						0
						0
						0
						0
						0
						0
	140,000	0	0	0	0	140,000
<b>Administration</b>						
<b>Author:</b> Gerritt Lacey					<b>Date Prepared:</b> 11-23-2020	
<b>Approval Date</b>						

2021 Capital Projects	2021 Costs	2021 Reserve Funds	2021 Carry Forward Costs	2022 Capital Projects	2022 Costs	2023 Capital Projects	2023 Costs	2024 Capital Projects	2024 Costs	2025 Capital Projects	2025 Costs
Charlie Lake Composting Pad Development - Design	\$ 1,000,000.00			Charlie Lake Composting Pad Development - Design	\$ 1,016,464.69	NPRLF Closure Phase 1A - Tender, Construction, QA/QC	\$ 2,282,500.00	Dawson Creek Closed Landfill Closure - Tender, Construction, QA/QC	\$ 2,500,500.00	Chetwynd Landfill Closure - Design	\$ 45,000.00
Bessborough Landfill Composting Pad Development - Design	\$ 1,000,000.00			Bessborough Landfill Composting Pad Development - Design	\$ 969,159.91	Dawson Creek Closed Landfill Closure - Design	\$ 45,000.00	North Peace Regional Landfill Landfill Gas Expansion Phase 2 - Stage 3	\$ 842,500.00		
North Peace Regional Landfill Phase 1 Closure - Design	\$ 70,000.00			Prespatou Scale Replacement Tender, Construction, and QA/QC	\$ 367,500.00	Share Shed Bessborough Landfill, Chetwynd Landfill, North Peace Regional Landfill, Dawson Creek Transfer Station	\$ 80,000.00	Transfer to Reserve	\$ 657,000.00		
Chetwynd Landfill Scale Replacement - Tender, Construction, QA/QC	\$ 279,267.00	\$ 168,289.00		Manned Transfer Station Builds (Lebell, Lone Prairie, Hazler) - Tender, Consrtruction, QA/QC	\$ 1,482,500.00	Manned Transfer Station Builds (Hudson's Hope, Doig) - Tender, Construction, QA/QC	\$ 992,500.00				
Prespatou Scale Replacement - Design	\$ 60,000.00			Manned Transfer Station Builds (Hudson's Hope, Doig) - Design	\$ 55,000.00	NPRLF Diversion Pad	\$ 165,000.00				
Bulky Pit Closure (CLTS, RPTS, KLTS) - Design, Tender, Construction	\$ 155,000.00			Transfer to Reserve	\$ 109,375.40	Transfer to Reserve	\$ 435,000.00				
Manned Transfer Station (Lebell, Lone Prairie, Hazler) - Design	\$ 110,000.00										
Bessborough Diversion Pad Development	\$ 140,000.00										
Transfer to Reserve	\$ 185,733.00										
2019 Bessborough Landfill Phase 3A Construction, Phase 1A & 2 Closure, Stormpond Construction			\$ 62,000.00								
2019 Chetwynd Landfill Phase 2 Closure			\$ 442,000.00								
2019 North Peace Regional Landfill Phase 2 Stage 2 LFG Expansion			\$ 42,000.00								
2020 Bessborough Landfill Phase 3B Construction, Phase 1B Closure, Leachate Collection Contrsuction			\$ 1,591,000.00								
2020 Bulky Waste Tipping Rail Construction (CLTS, RPTS, KLTS)			\$ 21,000.00								
2020 Chetwynd Landfill Scale Relocation - Design			\$ 35,000.00								
2022 Totals	\$ 3,000,000.00	\$ 168,289.00	\$ 2,193,000.00	2022 Total	\$ 4,000,000.00	2023 Total	\$ 4,000,000.00	2024 Total	\$ 4,000,000.00	2025 Total	\$ 45,000.00





## Solid Waste Committee Terms of Reference

### 1. Background:

- 1.1 The Peace River Regional District (PRRD) developed a Regional Solid Waste Management Plan that was approved in 2009. The Plan addresses three key areas:
- Greater efficiency of programs and services.
  - Greater focus on reducing, reusing, and recycling to protect our environment.
  - Greater focus on sustainable management to protect future generations.

### 2. Role of the Committee:

- 2.1 With the understanding that Solid Waste Management is a regional function and represents our largest single budget item; the goals of the Solid Waste Committee (SWC) is to act as an advisory committee for the Regional District solid waste management function and identify concerns and issues that may arise.

### 3. Structure of the Solid Waste Committee:

- 3.1 Members: The SWC will consist of five (5) Board members as appointed by the Chair and will consist of:
- Director from the City of Dawson Creek, or alternate director;
  - Director from the City of Fort St. John, or alternate director;
  - Director from the District of Chetwynd, or alternate director;
  - Director from Electoral Area 'B', or alternate (Electoral Area 'C' Director);
  - Director from Electoral Area 'E', or alternate (Electoral Area 'D' Director);
  - PRRD Board Chair, as ex-officio member;
  - Appropriate Regional District staff person – non-voting.
- 3.2 The meetings will be chaired by a Committee member elected by the Committee participants on an annual basis.
- 3.3 In the absence of the Chair, a member elected Vice-Chair by the Committee on an annual basis will chair the meetings.

### 4. Meetings:

- 4.1 The Committee shall meet on a monthly basis, on the first Thursday of every month;
- 4.2 Meetings will be open to the public;
- 4.3 Items for the regular agenda must be provided to Administration one (1) week prior to the scheduled meeting;
- 4.4 The PRRD Board Chair will be given a copy of all Committee meeting agendas.

### 5. Procedures:

- 5.1 Quorum – at least one-half of the members of the Committee;
- 5.2 Voting – all options and recommendations shall be determined by majority vote, with recommendations and options being forwarded to the Regional Board for consideration and action.

Date Committee Established		Board Resolution #	
Date TOR Approved by Board	May 26, 2016	Board Resolution #	RD/16/05/20 (26)
Amendment Date		Board Resolution #	
Amendment Date		Board Resolution #	
Amendment Date		Board Resolution #	