October 30, 2023

Mr. Steve Copp
Mirror Nova Scotia Limited
600 Otter Lake Drive
Lakeside, NS   B3T 2E2

Dear Mr. Copp,

Re: August 2023 Performance Audit
**   Otter Lake Waste Processing & Disposal Facility**

In August 2023, Strum Consulting was retained by Mirror Nova Scotia Limited (Mirror) to oversee a Performance Audit at the Otter Lake Waste Processing & Disposal Facility (Otter Lake) located at 600 Otter Lake Drive in Lakeside, NS.

The purpose of the Performance Audit was to characterize the incoming residential waste stream and assess the percentage of compostable waste in this stream by mass. The audit also captures the incoming percentage of white goods and household hazardous waste (HHW). This letter report provides a summary of the Performance Audit completed on September 7, 2023.

Summary
Based on 10 samples being collected during the August 2023 Performance Audit, the total compostable waste percentage per area ranged from a minimum of 4.11% to a maximum of 18.52%. The total weighted Compostable Waste Percentage for the August 2023 Audit is calculated to be 6.31%.

Using the combined data collected during the May 2023 and August 2023 Performance Audits, the total compostable waste percentage ranged from a minimum of 5.31% to a maximum of 28.89%. For the two quarterly audits completed to date, using the calculated 95% confidence interval, the percentage of Estimated Annual Compostable Waste is calculated to be between 6.18% and 12.59%, with a total weighted Compostable Waste Percentage value of 9.39%. The long-term cumulative goal (i.e., Performance Target) for Otter Lake includes compostable waste not exceeding 10% of the total amount of municipal solid waste landfilled, by mass.

As additional sampling will be completed during future quarterly audits, it is expected that the statistical data will vary as more audit data becomes available.

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Project # 22-8641

Background

In March 2022, Nova Scotia Environment & Climate Change (NSECC) issued an updated Municipal Approval for Otter Lake, allowing the Front End Processor and Waste Stabilization Facility (FEP/WSF) to be deactivated upon the submission and acceptance of a Compliance Plan in accordance with the Approval requirements.

As per the Approval, the Performance Targets for Otter Lake include (but are not limited to) a long-term goal of compostable waste not exceeding 10% of the total amount of municipal solid waste landfilled, by mass. Prior to the deactivation of the FEP and WSF, the submitted Compliance Plan included details of how Performance Targets will be achieved. The Compliance Plan also outlines how Performance Audits will be completed as a means to quantify the presence of compostable waste being received at Otter Lake. White goods and HHW were added to the audits based on comments received from NSECC after their review of the draft Compliance Plan.

Given the above, quarterly Performance Audits will be completed to characterize the composition of compostable waste in the incoming residential waste stream.

Methodology

The methodology followed for the August 2023 Performance Audit reflects best practices identified in the Divert NS Waste Audit Manual and Field Procedures Guide (2017), as well as site specific processes established by Halifax Regional Municipality (HRM) and is summarized below.

Sample Load Identification

Residential curbside collection is divided into eight collection areas in HRM and condominium properties which are also considered to be residential. The geographic descriptions of the various areas are described in Table A, below.

Table A: Collection Area Descriptions

Waste Collection Area	Area Description
1	Halifax (former city limits); Spryfield
2	Dartmouth (former city limits)
3	Bedford; Hammonds Plains; Pockwock
4	Beechville-Timberlea; Herring Cove; Prospect; Peggy's Cove; St. Margaret's Bay to Hubbards
5	Sackville; Beaver Bank; Fall River; Waverley, Wellington; Dutch Settlement
6	Cole Harbour; Westphal; Cherry Brook; Eastern Passage; Cow Bay
7	Porters Lake; Lawrencetown; Chezzetcook; Lake Echo; Preston
8	Middle Musquodoboit; Musquodoboit Harbour; Elderbank; Sheet Harbour; Eastern Shore
Condos	Multi-residential style properties located in various communities

Based on residential curbside collection schedules for each specific collection area and the scheduled audit date and time, sample loads are selected ahead of time by HRM staff. A random number generator is used to choose which vehicle would be sampled.

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The Alberta Provincial Waste Characterization Framework (2005) was reviewed and used to guide the number and weight of the samples to be collected. A minimum annual sample number of 40 samples is recommended, and as such, two samples from collection area 2 (Area 2) and one sample from all other curbside collection areas (Areas 1, 3-8 and Condos), for a total of 10 samples, were assessed as part of the August 2023 Performance Audit. To avoid skewing the data, the weights of the two duplicate samples were added together and divided by two.

The selected loads were visually inspected at the tip face upon arrival and photographs were taken as shown in the attached photo log. The following information was recorded for each load:

- Collection vehicle and route numbers
- Date/Time of arrival
- Date/Time sample taken
- Gross and tare weight of truck
- Weight of sample
- Number/type of bulky items observed
- Names of persons taking the sample
- Date/Time of sorting

<u>Sample Size</u>
Photographs of the auditing process are provided as Attachment 1. Once emptied from the vehicle, multiple sections of the load were selected in order to draw a sample that was representative of the load. Each sample was to contain a mix of clear and black bags. Containers shown in Photo 6 (Attachment 1) were used to collect a sample between 90 and 135 kg.

Records documenting the identifying information of each vehicle sampled (scale tickets - Attachment 2) and the Performance Audit Record field data sheets (Attachment 3) are also attached to this report.

<u>Material Categories</u>
The categories that were used to define the different types of compostable waste are consistent with the Approval and are outlined below in Table B.

Table B: Compostable Waste Sorting Categories

Category	Sub-Category	Examples
Fibre	Newsprint/Paper	The Chronicle Herald, The Coast, Masthead News, The Cobequid/Dartmouth/Cole Harbour Wire, flyers
	Corrugated Cardboard/Boxboard	Consumer boxes (e.g., from appliances, storage, filing, and shipping)
Organics	Food Waste (Putrescible)	Whole vegetables, fruit, meat, fish, leftover food waste, eggshells, peels, oils, bones, fat, packaged food if most of if it consists of food
	Yard Waste	Grass, leaves, brush, branches, wood chips, soil

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Materials which did not fall into one of the above noted categories were counted, weighed, and categorized as one of the following:

- Other garbage
- HHW including lead-acid (automotive) batteries, post-consumer paint products, ethylene glycol, used oil, used glycol, used oil filters, glycol containers, and oil containers.
- White goods (items such as toasters, microwaves, and coffee makers that would be mostly composed of metal materials that can be disposed of in garbage bags). It should be noted that the majority of white goods are not marketable from a recycling perspective.

Sorting Procedure
The sorting team consisted of several Mirror staff. All staff were briefed on the sorting protocols, including familiarity with example materials for each sorting category. Strum staff were designated as "Lead" and responsible for quality control and data collection.

The audit space consisted of an open area set up with tables for sorting waste materials, containers clearly labeled for each of the waste categories, and digital scales for weighing the waste materials. The containers used for sorting were weighed prior to commencing the audit and recorded on the data sheets to allow for net sample weights to be determined.

To maintain consistency, the Lead was responsible for weighing and recording the data on dedicated data sheets for each area, each time a container was filled. The process continued for each respective area until the full sample was properly sorted and weighed.

Previous Assessments
A baseline was developed through previous Performance Audits that were completed for the 2022/23 fiscal year in May 2022 (report dated June 22, 2022), August 2022 (report dated November 4, 2022), November 2022 (report dated February 2, 2023), and February 2023 (report dated April 6, 2023). Using the combined data collected during the 2022/23 quarterly Performance Audits, the total compostable waste percentage for the Compliance Plan baseline ranged from a minimum of 8.90% to a maximum of 15.15%. Using the calculated 95% confidence interval, the percentage of Estimated Annual Compostable Waste was calculated to be between 9.31% and 14.72%, with a total weighted Compostable Waste Percentage value of 12.41%.

Performance Audits for the 2023/24 fiscal year began in May 2023 (report dated June 26, 2023). During the May 2023 audit, the total compostable waste percentage ranged from a minimum of 5.00% to a maximum of 39.25%. Using the calculated 95% confidence interval, the percentage of Estimated Annual Compostable Waste was calculated to be between 6.38% and 18.53%, with a total weighted Compostable Waste Percentage value of 12.46% for the first quarter.

Further details of the previously completed Performance Audits are provided in the above-noted reports.

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August 2023 Performance Audit Summary

A summary of the August 2023 Performance Audit completed at Otter Lake is provided below in Table C. As previously mentioned, the August 2023 Performance Audit field data sheets containing the data collected respective to each waste collection area during the audit are attached to this report as Attachment 3.

Table C: August 2023 Performance Audit Results

Waste Collection Area	Category Percentage (%)							
	Garbage/ Residue	HHW	White Goods	Fibre - Newsprint/ Paper	Fibre - Corrugated Cardboard	Organics - Food/ Putrescible Waste	Organics - Yard Waste	Total Compostable Waste
1	92.11%	011%	2.11%	0.21%	1.47%	2.42%	0.00%	4.11%
2A	95.37%	0.00%	0.37%	0.74%	0.56%	2.96%	0.56%	4.82%
2B	94.23%	0.00%	1.41%	1.67%	1.03%	1.03%	0.00%	3.72%
3	94.36%	0.08%	0.08%	0.73%	0.24%	4.11%	0.00%	5.08%
4	89.39%	0.00%	0.65%	1.22%	0.65%	7.76%	0.00%	9.63%
5	94.81%	0.00%	0.43%	0.26%	0.17%	3.90%	0.00%	4.33%
6	94.76%	0.00%	0.31%	0.31%	1.26%	2.83%	0.00%	4.40%
7	91.28%	0.00%	1.85%	1.54%	2.46%	2.05%	0.21%	6.26%
8	85.78%	0.08%	0.84%	2.09%	1.26%	9.12%	0.00%	12.47%
Condos	78.52%	0.00%	1.93%	5.33%	2.07%	11.11%	0.00%	18.52%

Notes:

1. Total compostable waste percentage based on aggregate of four compostable waste category percentages.

Using the data in Table C above, the total compostable waste percentage ranged from a minimum of 3.72% (Area 2B) to a maximum of 18.52% (Condos), based on the 10 samples collected during the August 2023 Performance Audit.

Average Total Compostable Waste Percentage

A summary of the Total Compostable Waste percentage for the May 2023, and August 2023 Performance Audits completed at Otter Lake is provided below in Table D. Using this data, the Average Total Compostable Waste percentage was calculated for each area.

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Table D: Average Total Compostable Waste Percentage

Waste Collection Area	May 2023 Total Compostable Waste	Aug. 2023 Total Compostable Waste	Average Total Compostable Waste Per Area
1	11.23%*	4.11%	7.67%
2	10.10%	4.27%**	7.19%
3	15.89%	5.08%	10.49%
4	26.53%	9.63%	18.08%
5	6.28%	4.33%	5.31%
6	6.75%	4.40%	5.58%
7	5.00%	6.26%	5.63%
8	5.37%	12.47%	8.92%
Condos	39.25%	18.52%	28.89%

Notes:
1. Average total compostable waste percentage per area based on May 2023 and August 2023 Waste Audit Total Compostable Waste percentages.
2. * May 2023 Total Compostable Waste percentage for Area 1 is based on average of the two samples (1A and 1B) collected during the May 2023 waste audit.
3. ** August 2023 Total Compostable Waste percentage for Area 2 is based on average of the two samples (2A and 2B) collected during the August 2023 waste audit.

Using the data in Table D above, the average total compostable waste percentage ranges from a minimum of 5.31% (Area 5) to a maximum of 28.89% (Condos), based on a total of 20 samples being collected during the May 2023 and August 2023 Performance Audits.

Overall Compostable Waste

August 2023

As shown in Table E below, given the August 2023 total compostable waste percentage per area and the three-year average of waste tonnage per area, the estimated compostable waste tonnage per year has been calculated. Using the total of the Estimated Annual Compostable Waste (3140.15 tonnes) and the three-year waste average total (49733.08 tonnes), the weighted Compostable Waste Percentage is calculated to be 6.31%. Supporting data is provided as Table 1 (Attachment 4).

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Table E: Estimated Annual Compostable Waste based on August 2023 Data

Waste Collection Area	Three Year Waste Average (Tonnes)	August 2023 Total Compostable Waste	Estimated Annual Compostable Waste (Tonnes)
1	10130.91	4.11%	416.38
2	6958.87	4.27%*	297.14
3	4479.73	5.08%	227.57
4	5415.09	9.63%	521.47
5	8615.57	4.33%	373.05
6	5242.25	4.40%	230.66
7	2989.28	6.26%	187.13
8	3408.18	12.47%	425.00
Condos	2493.20	18.52%	461.74
TOTAL	**49733.08**	**N/A**	3140.15
Weighted Compostable Waste Percentage = (3140.15/49733.08) X 100 = 6.31%			

Notes:
1. Data used to calculate three-year average provided by Mirror and included tonnage from the fiscal years 2020/2021, 2021/2022, and 2022/2023.
2. *August 2023 Total Compostable Waste percentage for Area 2 is based on average of the two samples (2A and 2B) collected during the August 2023 waste audit.

Based on the data in Table E above, the Estimated Annual Compostable Waste per area ranges from a minimum of 187.13 tonnes (Area 7) to a maximum of 521.47 tonnes (Area 4), with a mean of 348.91 tonnes.

<u>May 2023, and August 2023</u>

As shown in Table F below, given the average (May 2023, and August 2023) total compostable waste percentage per area and the three-year average of waste tonnage per area, the estimated compostable waste tonnage per year has been calculated. Using the totals of the Estimated Annual Compostable Waste (4668.95 tonnes) and the three-year waste average total (49,733.08 tonnes), the weighted Compostable Waste Percentage is calculated to be 9.39%. Supporting data is provided as Table 2 (Attachment 4).

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Table F: Estimated Annual Compostable Waste based on May 2023 and August 2023 Data

Waste Collection Area	Three Year Waste Average (Tonnes)	Three Year Waste Average (% Total)	Average Total Compostable Waste % Per Area	Estimated Annual Compostable Waste (Tonnes)
1	10130.91	20.37%	7.67%	777.04
2	6958.87	13.99%	7.19%	500.34
3	4479.73	9.01%	10.49%	469.92
4	5415.09	10.89%	18.08%	979.05
5	8615.57	17.32%	5.31%	457.49
6	5242.25	10.54%	5.58%	292.52
7	2989.28	6.01%	5.63%	168.30
8	3408.18	6.85%	8.92%	304.01
Condos	2493.20	5.01%	28.89%	720.29
TOTAL	**49733.08**	**100.00%**	**N/A**	**4668.95**
Compostable Waste Percentage = (4668.95/49733.08) X 100 = 9.39%				

Notes:

1. Data used to calculate three-year average provided by Mirror and included tonnage from the fiscal years 2020/2021, 2021/2022, and 2022/2023.

Based on the data in Table F above, the Estimated Annual Compostable Waste per area ranges from a minimum of 168.30 tonnes (Area 7) to a maximum of 979.05 tonnes (Area 4), with a mean of 518.77 tonnes.

Descriptive Statistics

A descriptive statistical analysis was completed on the Estimated Annual Compostable Waste tonnage and the Estimated Annual Food/Putrescible Waste calculated per area from the August 2023 Performance Audit. The statistical analysis was completed using the Microsoft Excel Analysis ToolPak Descriptive Statistics analysis tool. Supporting data for the statistical analysis is provided as Tables 1 – 8 (Attachment 4).

Compostable Waste

At 95% confidence interval, the Estimated Average Annual Compostable Waste tonnage per area is calculated to be between 341.54 tonnes (lower bound) and 695.70 tonnes (upper bound). The confidence interval was calculated by subtracting/adding the calculated 95% confidence level (177.08) from the mean (518.62 tonnes).

By multiplying the lower bound (341.54 tonnes) and the upper bound (695.70) of the 95% confidence interval by nine (for each area), the Total Estimated Annual Compostable Waste would have a calculated range from 3073.86 tonnes to 6261.30 tonnes. By dividing the lower and upper range of the Total Estimated Annual Compostable Waste by the three-year waste average total (49733.08 tonnes), and multiplying the values by 100%, the percentage of Estimated Annual Compostable Waste is calculated to be between 6.18% and 12.59%.

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Food/Putrescible Waste

At 95% confidence interval, the Estimated Average Annual Food/Putrescible Waste tonnage per area is calculated to be between 195.62 tonnes (lower bound) and 399.68 tonnes (upper bound). The confidence interval was calculated by subtracting/adding the calculated 95% confidence level (102.03) from the mean (297.65 tonnes).

By multiplying the lower bound (195.62 tonnes) and the upper bound (399.68 tonnes) of the 95% confidence interval by nine (for each area), the Total Estimated Annual Food/Putrescible Waste would have a calculated range from 1760.58 tonnes to 3597.11 tonnes. By dividing the lower and upper range of the Total Estimated Annual Food/Putrescible Waste by the three-year waste average total (49733.08 tonnes), and multiplying the values by 100%, the percentage of Estimated Annual Food/Putrescible Waste is calculated to be between 3.54% and 7.23%. The weighted Food Waste percentage is calculated to be 5.46%. Supporting data is provided as Table 6 (Attachment 4).

The above noted statistical analyses are based on a total of 20 samples collected during the May 2023 and August 2023 Performance Audit. As additional sampling will be completed during future audits, it is expected that the statistical data will vary as more data becomes available.

Closure

This report was prepared by ▮▮▮▮▮▮▮▮, MIT, Junior Environmental Geoscientist, and was reviewed by ▮▮▮▮▮▮▮▮ P.Geo., Senior Environmental Geoscientist. Should additional information become available, Strum requests that this information be brought to our attention immediately so that we can re-assess the conclusions presented in this report.

This Report and any use of the Report is subject to the terms herein (see attached Statement of Qualifications and Limitations).

If you have any questions, please contact us.

Thank you,

Statement of Qualifications and Limitations

This Report (the "Report") has been prepared by Strum Consulting ("Consultant") for the benefit of Mirror Nova Scotia Limited ("Client") in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the "Agreement").

The information, data, recommendations, and conclusions contained in the Report (collectively, the "Information"):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations")
- represents Consultant's professional judgement in light of the Limitations and industry standards for the preparation of similar reports
- may be based on information provided to consultant which has not been independently verified
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued
- must be read as a whole and sections thereof should not be read out of such context
- was prepared for the specific purposes described in the Report and the Agreement
- in the case of subsurface, environmental, or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time

Consultant shall be entitled to rely upon the accuracy and completeness of information that was provided and has no obligation to update such information. Consultant accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental, or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

Consultant agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but Consultant makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

The Report is to be treated as confidential and may not be used or relied upon by third parties, except:

- as agreed in writing by Consultant and Client
- as required by law
- for use by governmental reviewing agencies

Consultant accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss, or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of Consultant to use and rely upon the Report and the Information. Any damages arising from improper use of the Report or parts thereof shall be borne by the party making such use.

ATTACHMENT 1
PHOTOGRAPH LOG

Photo 1: Waste collection vehicle unloading waste collected from HRM collection Area 1. Photo taken on August 24, 2023.

Photo 2: Waste audit sample collected from HRM collection Area 1. Photo taken on September 7, 2023, during waste audit.

Photo 3: Sorting process and white goods bin of HRM collection Area 1. Photo taken September 7, 2023, during waste audit.

Photo 4: Fiber and OCC waste bin sorted from HRM collection Area 1. Photo taken September 7, 2023, during waste audit.

Photo 5: Waste load collected from HRM collection Area 2-1.
Photo taken on September 1, 2023.

Photo 6: Waste audit sample collected from HRM collection Area 2-1 (Extra Load).
Photo taken on September 7, 2023, during waste audit.

Photo 7: Sorting process and yard waste bin of HRM collection Area 2-1 (Extra Load). Photo taken September 7, 2023, during waste audit.

Photo 8: Newsprint/ paper bin sorted from HRM collection Area 2-1 (Extra Load). Photo taken September 7, 2023, during waste audit.

Photo 9: Waste pile from HRM collections Area 2-2.
Photo collected August 28, 2023.

Photo 10: Waste audit sample from HRM collection Area 2-2.
Photo collected September 7, 2023, during waste audit.

Photo 11: Yard waste bin sorted from HRM collection Area 2-2.
Photo taken on September 7, 2023, during waste audit.

Photo 12: Food waste bin sorted from HRM collection Area 2-2.
Photo taken September 7, 2023, during waste audit.

Photo 13: Waste collection vehicle unloading waste collected from HRM collection Area 3. Photo taken on August 30, 2023.

Photo 14: Waste audit sample from HRM collection Area 3. Photo collected September 7, 2023, during waste audit.

Photo 15: Paper waste sorted from HRM collection Area 3. Photo collected September 7, 2023, during waste audit.

Photo 16: Food waste sorted from HRM collection Area 3. Photo taken September 7, 2023, during waste audit.

Photo 17: Waste load collected from HRM collection Area 4.
Photo taken on September 1, 2023.

Photo 18: Waste audit sample from HRM collection Area 4.
Photo collected September 7, 2023, during waste audit.

Photo 19: White goods waste bin sorted from HRM collection Area 4.
Photo taken September 7, 2023, during waste audit.

Photo 20: Food waste bin sorted from HRM collection Area 4.
Photo taken September 7, 2023, during waste audit.
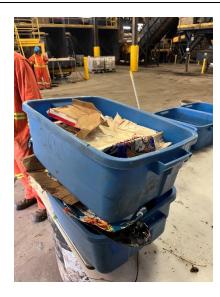
Photo 21: Waste collection vehicle unloading waste collected from Area 5.
Photo taken on August 22, 2023.

Photo 22: Waste audit sample from HRM collection Area 5.
Photo collected September 7, 2023, during waste audit.

Photo 23: White goods waste sample from HRM collection Area 5 following sorting.
Photo taken September 7, 2023, during waste audit.

Photo 24: Food waste sample from HRM collection Area 5 following sorting.
Photo taken September 7, 2023, during waste audit.

Photo 25: Waste collection vehicle unloading waste collected from HRM collection Area 6. Photo taken on August 21, 2023.

Photo 26: Waste audit sample collected from HRM collection Area 6. Photo collected September 7, 2023, during waste audit.

Photo 27: Food waste bin separated from HRM collection Area 6. Photo taken September 7, 2023, during waste audit.

Photo 28: Paper waste bin separated from HRM collection Area 6. Photo taken September 7, 2023, during waste audit.

Photo 29: Waste collection vehicle unloading waste collected from HRM collection Area 7. Photo taken on August 31, 2023.

Photo 30: Waste from HRM collection Area 7.
Photo collected September 7, 2023, during waste audit.

Photo 31: Food waste bin separated from HRM collection Area 7.
Photo taken September 7, 2023, during waste audit.

Photo 32: Fiber and OCC waste bin sample from HRM collection Area 7 following sorting. Photo taken September 7, 2023, during waste audit.

Photo 33: Waste load collected from HRM collection Area 8.
Photo taken on August 29, 2023.

Photo 34: Waste audit sample from HRM collection Area 8.
Photo collected September 7, 2023, during waste audit.

Photo 35: Food waste bin separated from HRM collection Area 8.
Photo taken September 7, 2023, during waste audit.

Photo 36: Hazardous waste sample from HRM collection Area 8 following sorting.
Photo taken September 7, 2023, during waste audit.

Photo 37: Waste load collected from HRM collection Area 9 (Condos). Photo taken on August 23, 2023.

Photo 38: Waste audit sample from HRM collection Area 9 (Condos). Photo collected September 7, 2023, during waste audit.

Photo 39: Food waste sample from HRM collection Area 9 (Condos) following sorting. Photo taken September 7, 2023, during waste audit.

Photo 40: Paper waste sample from HRM collection Area 9 (Condos) following sorting. Photo taken September 7, 2023, during waste audit.

ATTACHMENT 2
SCALE TICKETS

Halifax Regional Municipality

Vehicle ID: RE1043
License Plate: 57423D

Waste Type: residential

Origin: 1 HALIFAX

Invoice: 0400927
Royal Environmental Group

Gross Weight: 23,190 (kg)
Tare Weight: 16,550 (kg)
Net Weight: 6,640 (kg)

     $0.00

Total: $0.00

Halifax Regional Municipality

Scale Slip:	088430
	09/01/2023 13:04:27
Clerk:	Shelley

Vehicle ID:	RE2093	Gross Weight:	22,690	(kg)
License Plate:	44-064-D	Tare Weight:	16,120	(kg)
Waste Type:	residential	Net Weight:	6,570	(kg)
Origin:	2 DARTMOUTH			

Invoice: 0400927
Royal Environmental Group

$0.00

Total: $0.00

Halifax Regional Municipality

Scale Slip:	088290
	08/28/2023 11:34:16
Clerk:	DMS

Vehicle ID:	RE2106	
License Plate:	44-063-D	
Waste Type:	residential	
Origin:	2 DARTMOUTH	
Invoice:	0400927	
	Royal Environmental Group	

Gross Weight:	24,480	(kg)
Tare Weight:	16,170	(kg)
Net Weight:	8,310	(kg)

	$0.00
Total:	$0.00

Halifax Regional Municipality

Scale Slip:	088374
	08/30/2023 15:55:37
Clerk:	DMS

Vehicle ID:	RE1036	
License Plate:	56-925-D	
Waste Type:	residential	
Origin:	3 BEDFORD/HAMMONDS PLAINS	
Invoice:	0400927	
	Royal Environmental Group	

Gross Weight:	27,980	(kg)
Tare Weight:	16,530	(kg)
Net Weight:	11,450	(kg)

	$0.00
Total:	$0.00

Halifax Regional Municipality

Vehicle ID: GFL095
License Plate: 511 86D
Waste Type: residential
Origin: 4 WESTERN COUNTY

Invoice: 0402150
GFL Environmental Inc

Scale Slip: 088433
09/01/2023 13:49:39
Clerk: Shelley

Gross Weight: 23,510 (kg)
Tare Weight: 15,490 (kg)
Net Weight: 8,020 (kg)

     $0.00
Total: $0.00

Halifax Regional Municipality

Vehicle ID: RE1033
License Plate: 56-130-D
Waste Type: residential
Origin: 5 SACKVILLE/FALL RIVER

Invoice: 0400927
Royal Environmental Group

Gross Weight: 26,480 (kg)
Tare Weight: 16,560 (kg)
Net Weight: 9,920 (kg)

$0.00
Total: $0.00

Halifax Regional Municipality

Scale Slip: 088109
08/21/2023 13:03:32
Clerk: DMS

Vehicle ID: RE1030
License Plate: 56-386-D
Waste Type: residential
Origin: 6 COLE HARBOUR/EASTERN PASSAGE

Invoice: 0400927
Royal Environmental Group

Gross Weight: 27,450 (kg)
Tare Weight: 16,490 (kg)
Net Weight: 10,960 (kg)

$0.00
Total: $0.00

Halifax Regional Municipality

Scale Slip:	088411
	08/31/2023 16:35:06
Clerk:	Shelley

Vehicle ID:	MW9524
License Plate:	56246D
Waste Type:	residential
Origin:	7 PRESTON/LAWRENCETOWN/LK ECHO
Invoice:	0188466
	MILLER WASTE SYSTEMS

Gross Weight:	30,530 (kg)
Tare Weight:	17,100 (kg)
Net Weight:	13,430 (kg)

	$0.00
Total:	$0.00

Halifax Regional Municipality

Scale Slip: 088336
08/29/2023 15:26:49
Clerk: DMS

Vehicle ID: RE6007
License Plate: 36-770-D
Waste Type: residential
Origin: 8 EASTERN COUNTY

Invoice: 0400927
Royal Environmental Group

Gross Weight: 20,190 (kg)
Tare Weight: 16,390 (kg)
Net Weight: 3,800 (kg)

$0.00
Total: $0.00

Halifax Regional Municipality

Vehicle ID: GFL051
License Plate: 43-448D
Waste Type: residential
Origin: HALIFAX CONDOS

Invoice: 0402150
GFL Environmental Inc

Gross Weight: 19,920 (kg)
Tare Weight: 16,300 (kg)
Net Weight: 3,620 (kg)

$0.00
Total: $0.00

ATTACHMENT 3
FIELD DATA SHEETS

Performance Audit Record

Date   September 7, 2023

Name of Supervisor   Patrick Avery, Callum Drever

Area   Area 1

Number of Sorters   5

Weighscale Ticket Information

Truck Number/ID	RE1043
Collection Area	Halifax
Date	24-Aug-23
Ticket Time	12:57
Gross Weight	23,190	KG
Tare Weight	16,550	KG
Net Weight	6640	KG

Weight of Gross Sample   145   KG

Weight of Tote Bin   50   KG   Date of Audit of Sample   07-Sep-23

Net Sample of Trash   95   KG   Sample Audit Time Started   9:00am

Number of Bulkies Observed   -   Sample Audit Time Completed   9:25am

Material	Empty Bin(s) Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)
		1	2	
Garbage/Residue	50.00	137.50	-	87.50
Fibre - Newsprint/Paper	1.10	1.30	-	0.20
Fibre - OCC	1.10	2.50	-	1.40
Food/Putrescible Waste	1.10	3.40	-	2.30
Yard Waste	0.00	-	-	0.00
HHW	1.10	1.20	-	0.10
White Goods	1.10	3.10	-	2.00

Material	Gross Sample (KG)	Total Weight of Bins (KG)	Net Sample (KG)	Net Waste Percentage (%)
Garbage/Residue	137.50	50.00	87.50	92.105
Fibre - Newsprint/Paper	1.30	1.10	0.20	0.211
Fibre - OCC	2.50	1.10	1.40	1.474
Food/Putrescible Waste	3.40	1.10	2.30	2.421
Yard Waste	0.00	0.00	0.00	0.000
HHW	1.20	0.00	0.10	0.105
White Goods	3.10	1.10	2.00	2.105
Lost or Gained Mass	Combined Weight Following Sorting			-0.690
	144.00			

Notes:

Performance Audit Record

Date	September 7, 2023		**Name of Supervisor**	Callum Drever
Area	Area 2A		**Number of Sorters**	5

Weighscale Ticket Information

Truck Number/ID	RE2093
Collection Area	Dartmouth
Date	01-Sep-23
Ticket Time	13:04
Gross Weight	22,690 KG
Tare Weight	16,120 KG
Net Weight	6570 KG

Weight of Gross Sample	158	KG		
Weight of Tote Bin	50	KG	**Date of Audit of Sample**	07-Sep-23
Net Sample of Trash	108	KG	**Sample Audit Time Started**	9:25am
Number of Bulkies Observed	-		**Sample Audit Time Completed**	10:15am

Material	Empty Bin(s) Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)
		1	**2**	
Garbage/Residue	50.00	153.00	-	103.00
Fibre - Newsprint/Paper	1.10	1.90	-	0.80
Fibre - OCC	1.10	1.70	-	0.60
Food/Putrescible Waste	1.10	4.30	-	3.20
Yard Waste	1.10	1.70	-	0.60
HHW	0.00	-	-	0.00
White Goods	1.10	1.50	-	0.40

Material	Gross Sample (KG)	Total Weight of Bins (KG)	Net Sample (KG)	Net Waste Percentage (%)
Garbage/Residue	153.00	50.00	103.00	95.370
Fibre - Newsprint/Paper	1.90	1.10	0.80	0.741
Fibre - OCC	1.70	1.10	0.60	0.556
Food/Putrescible Waste	4.30	1.10	3.20	2.963
Yard Waste	1.70	1.10	0.60	0.556
HHW	0.00	0.00	0.00	0.000
White Goods	1.50	1.10	0.40	0.370
Lost or Gained Mass	Combined Weight Following Sorting			0.63
	159.00			

Notes:

Performance Audit Record

Date   September 7, 2023   **Name of Supervisor**   Callum Drever

Area   Area 2B   **Number of Sorters**   5

Weighscale Ticket Information

Truck Number/ID	RE2106
Collection Area	Dartmouth
Date	28-Aug-23
Ticket Time	11:34
Gross Weight	24,480 KG
Tare Weight	16,170 KG
Net Weight	8310 KG

Weight of Gross Sample   129   KG

Weight of Tote Bin   51   KG   **Date of Audit of Sample**   07-Sep-23

Net Sample of Trash   78   KG   **Sample Audit Time Started**   10:15am

Number of Bulkies Observed   -   **Sample Audit Time Completed**   10:40am

Material	Empty Bin(s) Weight (KG)	Total Separated Sample Weights (KG) 1	Total Separated Sample Weights (KG) 2	Net Sample (KG)
Garbage/Residue	51.00	124.50	-	73.50
Fibre - Newsprint/Paper	1.10	2.40	-	1.30
Fibre - OCC	1.10	1.90	-	0.80
Food/Putrescible Waste	1.10	1.90	-	0.80
Yard Waste	0.00	-	-	0.00
HHW	0.00	-	-	0.00
White Goods	1.10	2.20	-	1.10

Material	Gross Sample (KG)	Total Weight of Bins (KG)	Net Sample (KG)	Net Waste Percentage (%)
Garbage/Residue	124.50	51.00	73.50	94.231
Fibre - Newsprint/Paper	2.40	1.10	1.30	1.667
Fibre - OCC	1.90	1.10	0.80	1.026
Food/Putrescible Waste	1.90	1.10	0.80	1.026
Yard Waste	0.00	0.00	0.00	0.000
HHW	0.00	0.00	0.00	0.000
White Goods	2.20	1.10	1.10	1.410
Lost or Gained Mass	Combined Weight Following Sorting 129.00			0.000

Notes:

Performance Audit Record

Date   September 7, 2023   **Name of Supervisor**   Callum Drever

Area   Area 3   **Number of Sorters**   4

Weighscale Ticket Information

Truck Number/ID	RE1036
Collection Area	Bedford/Hammonds Plains
Date	30-Aug-23
Ticket Time	15:55
Gross Weight	27,980 KG
Tare Weight	16,530 KG
Net Weight	11450 KG

Weight of Gross Sample   175   KG

Weight of Tote Bin   51   KG   **Date of Audit of Sample**   07-Sep-23

Net Sample of Trash   124   KG   **Sample Audit Time Started**   10:40am

Number of Bulkies Observed   -   **Sample Audit Time Completed**   11:20am

Material	Empty Bin(s) Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)
		1 (Black)	2 (Clear)	
Garbage/Residue	51.00	82.50	85.50	117.00
Fibre - Newsprint/Paper	2.20	1.40	1.70	0.90
Fibre - OCC	2.20	1.20	1.30	0.30
Food/Putrescible Waste	2.20	3.00	4.30	5.10
Yard Waste	0.00	-	-	0.00
HHW	1.10	1.20	-	0.10
White Goods	1.10	-	1.20	0.10

Material	Gross Sample (KG)	Total Weight of Bins (KG)	Net Sample (KG)	Net Waste Percentage (%)
Garbage/Residue	168.00	51.00	117.00	94.355
Fibre - Newsprint/Paper	3.10	2.20	0.90	0.726
Fibre - OCC	2.50	2.20	0.30	0.242
Food/Putrescible Waste	7.30	2.20	5.10	4.113
Yard Waste	0.00	0.00	0.00	0.000
HHW	1.20	1.10	0.10	0.081
White Goods	1.20	1.10	0.10	0.081
Lost or Gained Mass	Combined Weight Following Sorting			0.000
	175.00			

Notes: Area was sorted by black and clear bags. Clear garbage weight 85.5kg back calculated by subtracting total weight of Black bags

(82.5kg + 2.4kg) from total garbage after sorting clear bags. 0.5kg missing from calculations but present in final weights due to fluctuation

in scale accuracy.

Performance Audit Record

Date September 7, 2023

Name of Supervisor Callum Drever

Area Area 4

Number of Sorters 4

Weighscale Ticket Information

Truck Number/ID	GFL095	
Collection Area	Western County	
Date	01-Sep-23	
Ticket Time	13:49	
Gross Weight	23,510	KG
Tare Weight	15,490	KG
Net Weight	8020	KG

Weight of Gross Sample 173.5 KG

Weight of Tote Bin 51 KG Date of Audit of Sample 07-Sep-23

Net Sample of Trash 122.5 KG Sample Audit Time Started 11:20am

Number of Bulkies Observed - Sample Audit Time Completed 11:45am

Material	Empty Bin(s) Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)
		1	2	
Garbage/Residue	51.00	160.50	-	109.50
Fibre - Newsprint/Paper	1.10	2.60	-	1.50
Fibre - OCC	1.10	1.90	-	0.80
Food/Putrescible Waste	1.10	10.60	-	9.50
Yard Waste	0.00	-	-	0.00
HHW	0.00	-	-	0.00
White Goods	1.10	1.90	-	0.80

Material	Gross Sample (KG)	Total Weight of Bins (KG)	Net Sample (KG)	Net Waste Percentage (%)
Garbage/Residue	160.50	51.00	109.50	89.388
Fibre - Newsprint/Paper	2.60	1.10	1.50	1.224
Fibre - OCC	1.90	1.10	0.80	0.653
Food/Putrescible Waste	0.00	0.00	9.50	7.755
Yard Waste	1.90	1.10	0.00	0.000
HHW	0.00	0.00	0.00	0.000
White Goods	1.90	1.10	0.80	0.653
Lost or Gained Mass	Combined Weight Following Sorting			0.000
	173.50			

Notes:

Performance Audit Record

Date September 7, 2023   **Name of Supervisor** Callum Drever

Area Area 5   **Number of Sorters** 5

Weighscale Ticket Information

Truck Number/ID	RE1033
Collection Area	Sackville/Fall River
Date	22-Aug-23
Ticket Time	12:51
Gross Weight	26,480 KG
Tare Weight	16,560 KG
Net Weight	9920 KG

Weight of Gross Sample 165.5 KG

Weight of Tote Bin 50 KG **Date of Audit of Sample** 07-Sep-23

Net Sample of Trash 115.5 KG **Sample Audit Time Started** 11:45am

Number of Bulkies Observed - **Sample Audit Time Completed** 12:45pm

Material	Empty Bin(s) Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)
		1	2	
Garbage/Residue	50.00	159.50	-	109.50
Fibre - Newsprint/Paper	1.10	1.40	-	0.30
Fibre - OCC	1.10	1.30	-	0.20
Food/Putrescible Waste	1.10	5.60	-	4.50
Yard Waste	0.00	-	-	0.00
HHW	0.00	-	-	0.00
White Goods	1.10	1.60	-	0.50

Material	Gross Sample (KG)	Total Weight of Bins (KG)	Net Sample (KG)	Net Waste Percentage (%)
Garbage/Residue	159.50	50.00	109.50	94.805
Fibre - Newsprint/Paper	1.40	1.10	0.30	0.260
Fibre - OCC	1.30	1.10	0.20	0.173
Food/Putrescible Waste	0.00	0.00	4.50	3.896
Yard Waste	1.60	1.10	0.00	0.000
HHW	0.00	0.00	0.00	0.000
White Goods	1.60	1.10	0.50	0.433
Lost or Gained Mass	Combined Weight Following Sorting			0.000
	165.50			

Notes:

Performance Audit Record

Date   September 7, 2023   **Name of Supervisor**   Callum Drever

Area   Area 7   **Number of Sorters**   4

Weighscale Ticket Information

Truck Number/ID	MW9524
Collection Area	Preston/ Lawrencetown/Lake Echo
Date	31-Aug-23
Ticket Time	16:35
Gross Weight	30,530 KG
Tare Weight	17,100 KG
Net Weight	13430 KG

Weight of Gross Sample   147.5   KG

Weight of Tote Bin   50   KG   **Date of Audit of Sample**   07-Sep-23

Net Sample of Trash   97.5   KG   **Sample Audit Time Started**   1:10pm

Number of Bulkies Observed   -   **Sample Audit Time Completed**   1:35pm

Material	Empty Bin(s) Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)
		.	2	
Garbage/Residue	3.00	139.00	-	136.00
Fibre - Newsprint/Paper	1.10	2.60	-	1.50
Fibre - OCC	2.20	4.60	-	2.40
Food/Putrescible Waste	2.20	2.20	2.00	2.00
Yard Waste	1.10	1.30	-	0.20
HHW	0.00	-	-	0.00
White Goods	1.10	2.90	-	1.80

Material	Gross Sample (KG)	Total Weight of Bins (KG)	Net Sample (KG)	Net Waste Percentage (%)
Garbage/Residue	139.00	3.00	136.00	139.487
Fibre - Newsprint/Paper	2.60	1.10	1.50	1.538
Fibre - OCC	4.60	2.20	2.40	2.462
Food/Putrescible Waste	4.20	2.20	2.00	2.051
Yard Waste	1.30	1.10	0.20	0.205
HHW	0.00	0.00	0.00	0.000
White Goods	2.90	1.10	1.80	1.846
Lost or Gained Mass	Combined Weight Following Sorting			0.000
	147.50			

Notes:

Performance Audit Record

Date　　　September 7, 2023　　　　　　　　　　**Name of Supervisor**　　Callum Drever

Area　　　Area 8　　　　　　　　　　　　　　**Number of Sorters**　　5

Weighscale Ticket Information

Truck Number/ID	RE6007	
Collection Area	Eastern County	
Date	29-Aug-23	
Ticket Time	15:26	
Gross Weight	20,190	KG
Tare Weight	16,390	KG
Net Weight	3800	KG

Weight of Gross Sample　　　169.5　　　KG

Weight of Tote Bin　　　50　　　KG　　　**Date of Audit of Sample**　　07-Sep-23

Net Sample of Trash　　　119.5　　　KG　　　**Sample Audit Time Started**　　1:35pm

Number of Bulkies Observed　　　-　　　　　**Sample Audit Time Completed**　　2:05pm

Material	Empty Bin(s) Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)
		1	2	
Garbage/Residue	50.00	152.50	-	102.50
Fibre - Newsprint/Paper	1.10	3.60	-	2.50
Fibre - OCC	1.10	2.60	-	1.50
Food/Putrescible Waste	2.20	11.70	1.40	10.90
Yard Waste	0.00	-	-	0.00
HHW	1.10	1.20	-	0.10
White Goods	1.10	2.10	-	1.00

Material	Gross Sample (KG)	Total Weight of Bins (KG)	Net Sample (KG)	Net Waste Percentage (%)
Garbage/Residue	152.50	50.00	102.50	85.774
Fibre - Newsprint/Paper	3.60	1.10	2.50	2.092
Fibre - OCC	2.60	1.10	1.50	1.255
Food/Putrescible Waste	13.10	2.20	10.90	9.121
Yard Waste	0.00	0.00	0.00	0.000
HHW	1.20	1.10	0.10	0.084
White Goods	2.10	1.10	1.00	0.837
Lost or Gained Mass	Combined Weight Following Sorting			-0.295
	169.00			

Notes:

Performance Audit Record

Date   September 7, 2023   **Name of Supervisor**   Callum Drever

Area   Area 9 (Condos)   **Number of Sorters**   3

Weighscale Ticket Information

Truck Number/ID	GFL051	
Collection Area	Halifax Condos	
Date	23-Aug-23	
Ticket Time	14:17	
Gross Weight	19,920	KG
Tare Weight	16,300	KG
Net Weight	3620	KG

Weight of Gross Sample   118   KG

Weight of Tote Bin   50.5   KG   **Date of Audit of Sample**   07-Sep-23

Net Sample of Trash   67.5   KG   **Sample Audit Time Started**   2:05pm

Number of Bulkies Observed   -   **Sample Audit Time Completed**   2:35pm

Material	Empty Bin(s) Weight (KG)	Total Separated Sample Weights (KG)		Net Sample (KG)
		1	2	
Garbage/Residue	50.50	103.50	-	53.00
Fibre - Newsprint/Paper	2.20	1.50	4.30	3.60
Fibre - OCC	1.10	2.50	-	1.40
Food/Putrescible Waste	2.20	7.30	2.40	7.50
Yard Waste	0.00	-	-	0.00
HHW	0.00	-	-	0.00
White Goods	1.10	2.40	-	1.30

Material	Gross Sample (KG)	Total Weight of Bins (KG)	Net Sample (KG)	Net Waste Percentage (%)
Garbage/Residue	103.50	50.50	53.00	78.519
Fibre - Newsprint/Paper	5.80	2.20	3.60	5.333
Fibre - OCC	2.50	1.10	1.40	2.074
Food/Putrescible Waste	9.70	2.20	7.50	11.111
Yard Waste	0.00	0.00	0.00	0.000
HHW	0.00	0.00	0.00	0.000
White Goods	2.40	1.10	1.30	1.926
Lost or Gained Mass	Combined Weight Following Sorting			-0.424
	117.50			

Notes:

ATTACHMENT 4
SUPPORTING DATA

Waste Collection Area	% Organics From September 7, 2023 Waste Audit	Average Based On Previous Three Fiscal Years (Tonnes)	Estimated Annual Compostable Waste (Tonnes)
1	4.11%	10130.91	416.38
2	4.27%	6958.87	297.14
3	5.08%	4479.73	227.57
4	9.63%	5415.09	521.47
5	4.33%	8615.57	373.05
6	4.40%	5242.25	230.66
7	6.26%	2989.28	187.13
8	12.47%	3408.18	425.00
Condos	18.52%	2493.20	461.74
	TOTAL	49733.08	3140.15

Mean	7.67%	-	348.91
Min	4.11%	-	187.13
Max	18.52%	-	521.47

Compostable Waste Percentage	(3140.15/49733.08)*100% = 6.31%

Notes: % Organic for Area 2 is based on average of the two samples (2A and 2B) collected during the August 2023 waste audit.

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Waste Collection Area	% Organics From May 17, 2023 Waste Audit	% Organics From September 7, 2023 Waste Audit	% Organics Average	Average Based On Previous Three Fiscal Years (Tonnes)	Estimated Annual Compostable Waste (Tonnes)
1	11.23%	4.11%	7.67%	10130.91	777.04
2	10.10%	4.27%	7.19%	6958.87	500.34
3	15.89%	5.08%	10.49%	4479.73	469.92
4	26.53%	9.63%	18.08%	5415.09	979.05
5	6.28%	4.33%	5.31%	8615.57	457.49
6	6.75%	4.40%	5.58%	5242.25	292.52
7	5.00%	6.26%	5.63%	2989.28	168.30
8	5.37%	12.47%	8.92%	3408.18	304.01
Condos	39.25%	18.52%	28.89%	2493.20	720.29
			TOTAL	49733.08	4668.95

Mean	10.86%	-	518.77
Min	5.31%	-	168.30
Max	28.89%	-	979.05

Compostable Waste Percentage	(4668.95/49733.08)*100% = 9.39%

Notes: % Organic for Area 1 based on average of the two samples (1-3 and 1) collected during the May 2023 waste audit.

Notes: % Organic for Area 2 is based on average of the two samples (2A and 2B) collected during the August 2023 waste audit.

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Audit	Waste Collection Area	% Organics	Average Waste Based On Previous Three Fiscal Years (Tonnes)	Estimated Annual Compostable Waste (Tonnes)
May 2023 Performance Audit	1	11.23%	10130.91	1137.70
	2	10.10%	6958.87	702.85
	3	15.89%	4479.73	711.83
	4	26.53%	5415.09	1436.62
	5	6.28%	8615.57	541.06
	6	6.75%	5242.25	353.85
	7	5.00%	2989.28	149.46
	8	5.37%	3408.18	183.02
	Condos	39.25%	2493.20	978.58
August 2023 Performance Audit	1	4.11%	10130.91	416.38
	2	4.27%	6958.87	297.14
	3	5.08%	4479.73	227.57
	4	9.63%	5415.09	521.47
	5	4.33%	8615.57	373.05
	6	4.40%	5242.25	230.66
	7	6.26%	2989.28	187.13
	8	12.47%	3408.18	425.00
	Condos	18.52%	2493.20	461.74
	Mean	10.86%	-	518.62
	Min	4.11%	-	149.46
	Max	39.25%	-	1436.62

Notes: % Organic for Area 1 based on average of the two samples (1-3 and 1) collected during the May 2023 waste audit.
Notes: % Organic for Area 2 is based on average of the two samples (2A and 2B) collected during the August 2023 waste audit.

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Mean	518.6179928
Standard Error	83.93120321
Median	420.6902235
Mode	#N/A
Standard Deviation	356.0899376
Sample Variance	126800.0437
Kurtosis	1.421461157
Skewness	1.360310951
Range	1287.159377
Minimum	149.464
Maximum	1436.623377
Sum	9335.12387
Count	18
Confidence Level(95.0%)	177.07936
Upper Confidence Interval	695.6973528
Lower Confidence Interval	341.5386328

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Waste Collection Area	% Food Waste From September 7, 2023 Waste Audit	Average Based On Previous Three Fiscal Years (Tonnes)	Estimated Annual Food Waste (Tonnes)
1	2.42%	10130.91	245.17
2	1.99%	6958.87	138.48
3	4.11%	4479.73	184.12
4	7.76%	5415.09	420.21
5	3.90%	8615.57	336.01
6	2.83%	5242.25	148.36
7	2.05%	2989.28	61.28
8	9.12%	3408.18	310.83
Condos	11.11%	2493.20	276.99
	TOTAL	49733.08	2121.44

Mean	5.03%	-	235.72
Min	1.99%	-	61.28
Max	11.11%	-	420.21

Food Waste Percentage	(2121.44/49733.08)*100% = 4.27%

Notes: % Food waste for Area 2 is based on average of the two samples (2A and 2B) collected during the August 2023 waste audit.

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CONSULTING

Waste Collection Area	% Food Waste From May 17, 2023 Waste Audit	% Food Waste From September 7, 2023 Waste Audit	% Food Waste Average	Average Based On Previous Three Fiscal Years (Tonnes)	Estimated Annual Food Waste (Tonnes)
1	4.56%	2.42%	3.49%	10130.91	353.57
2	3.72%	2.96%	3.34%	6958.87	232.43
3	10.56%	4.11%	7.34%	4479.73	328.81
4	12.42%	7.76%	10.09%	5415.09	546.38
5	1.97%	3.90%	2.94%	8615.57	253.30
6	5.04%	2.83%	3.94%	5242.25	206.54
7	2.41%	2.05%	2.23%	2989.28	66.66
8	1.79%	9.12%	5.46%	3408.18	186.09
Condos	32.20%	11.11%	21.66%	2493.20	540.03
			TOTAL	49733.08	2713.81

Mean	6.72%	-	301.53
Min	2.23%	-	66.66
Max	21.66%	-	546.38

Compostable Waste Per	(2713.81/49733.08)*100% = 5.46%

Notes: % Food waste for Area 1 based on average of the two samples (1-3 and 1) collected during the May 2023 waste audit.

Notes: % Food waste for Area 2 is based on average of the two samples (2A and 2B) collected during the August 2023 waste audit.

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Audit	Waste Collection Area	% Food Waste	Average Waste Based On Previous Three Fiscal Years (Tonnes)	Estimated Annual Compostable Waste (Tonnes)
May 2023 Performance Audit	1	4.56%	10130.91	461.97
	2	3.72%	6958.87	258.87
	3	10.56%	4479.73	473.06
	4	12.42%	5415.09	672.55
	5	1.97%	8615.57	169.73
	6	5.04%	5242.25	264.21
	7	2.41%	2989.28	72.04
	8	1.79%	3408.18	61.01
	Condos	32.20%	2493.20	802.81
August 2023 Performance Audit	1	2.42%	10130.91	245.17
	2	1.99%	6958.87	138.48
	3	4.11%	4479.73	184.12
	4	7.76%	5415.09	420.21
	5	3.90%	8615.57	336.01
	6	2.83%	5242.25	148.36
	7	2.05%	2989.28	61.28
	8	9.12%	3408.18	310.83
	Condos	11.11%	2493.20	276.99
	Mean	6.66%	-	297.65
	Min	1.79%	-	61.01
	Max	32.20%	-	802.81

Notes: % Food waste for Area 1 based on average of the two samples (1-3 and 1) collected during the May 2023 waste audit.
Notes: % Food waste for Area 2 is based on average of the two samples (2A and 2B) collected during the August 2023 waste audit.

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Mean	297.6493793
Standard Error	48.35957076
Median	261.539682
Mode	#N/A
Standard Deviation	205.1722825
Sample Variance	42095.66552
Kurtosis	0.985929993
Skewness	1.105118034
Range	741.803978
Minimum	61.006422
Maximum	802.8104
Sum	5357.688828
Count	18
Confidence Level(95.0%)	102.0297757
Upper Confidence Interval	399.6791551
Lower Confidence Interval	195.6196036

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