



2024 Waste Audit Report and Waste Reduction Work Plan

Humber College – North Campus

Prepared for

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EXECUTIVE SUMMARY

In accordance with Ontario Regulation 102/94, AET Group Inc. conducted a waste audit study for Humber College, North Campus on February 15th, 2024. The waste audit report is intended to report on the status of the facility with respect to the current waste management practices and to calculate an overall waste diversion rate based on waste collected and sampled over a 24-hour generation period. Material reused and recycled by weight was also provided by Humber College for inclusion in the generated and diverted waste.

Humber College currently has a recycling program for newspaper, mixed fine paper, magazines, books, Kraft, molded pulp, corrugated cardboard, boxboard, polycoat containers, recyclable paper packaging, food and beverage containers (aluminum, steel, glass and plastics numbered #1 to #6 rigid), organic waste, oil and grease, batteries, lamps and bulbs, e-waste, PPE, scrap metal, wood, and furniture. Humber College has also partnered with Friendlier as a way of reusing food containers on campus and reducing the amount of waste sent to landfill.

The total annual waste generated by Humber College has been estimated to be 759,878.82 kg. An estimated 61.94% of the total waste generated is diverted from disposal through recycling and reuse programs, which totals 470,631.73 kg annually. The greatest contributors to diverted materials are Organics – Food Wastes and Scrap Woods, which account for 154,151.09 kg and 79,020 kg annually. Approximately 159,980.57 kg of potentially divertible materials (under the facility's current recycling and organics programs) is being disposed annually.

The waste audit report includes current waste management practices and procedures, an approach and methodology, audit sort results; waste generated by waste zone and recommendations/action statements. An achievable waste reduction work plan is presented at the end of the document that explains how Humber College can further reduce the quantity and recycling more of the waste generated on an annual basis.

1.0 INTRODUCTION

1.1 Definitions

Capture Rate:	The capture rate is the percentage of a recyclable or organic material collected and diverted out of the total amount of that material generated. It is an excellent indicator of how well a recycling and/or organics program is working for a specific material.
Contamination Rate:	The percentage of misplaced material in a diversion bin that is not currently accepted by the existing recycling or organics program.
Diversion Rate:	The diversion rate is the percentage of the total waste generated that is diverted from disposal into the various reuse and recycling programs available at the campus.
Garbage Stream:	Material that is collected for disposal rather than diversion. It will include divertible material where the diversion programs are not operating at 100% efficiency. This material is sometimes referred to as residual waste.
HSW:	Household Special Waste is material that is potentially harmful to the environment and should be disposed of through special handlers.
Organics:	Refers to material that can be composted. The material accepted in an organics program is dependent on the type of composting campus accepting the material, how it is processed and what quality of processed material is desired.
Recycling Stream:	Material that is diverted from the garbage stream in a recycling program such as blue box recycling, designated corrugated cardboard recycling or scrap metal recycling.
Source-Separated:	Refers to material that is separated from the garbage stream at the campus generating the waste.
Unaudited Material:	Material that has not been audited but for which weights have been provided by the campus or by the waste hauler.
Waste Zone:	A waste zone is a predetermined area in the campus from which waste material is collected for an audit, such that material in all the collection bins in the zone is generated by activities that are similar in nature.

1.2 Background

AET Group Inc. (AET) was contracted by Humber College in partnership with Circular Innovation Council (CIC) to conduct a waste audit and prepare a waste reduction work plan for the campus at 205 Humber College Blvd, Etobicoke. Humber College collected the waste material generated over a 24-hour period, from February 14th to February 15th, 2024. AET conducted the waste audit on site on February 15th, 2024. The waste audit was completed to examine the waste generated over a 24-hour sample period and to calculate annual waste disposed for the year based on the samples collected and weighed. Recommendations are provided in this report to assist in reducing the amount of waste sent for disposal and to help formulate a waste reduction work plan.

Waste audits must be conducted and updated annually to meet the requirements of Ontario Regulation 102/94 of the Environmental Protection Act (EPA) as components of the Ministry of the Environment, Conservation and Parks

3Rs initiative. The results of the waste audit are then used to design and implement a waste reduction work plan. The work plan forms the basis of the source separation program under Ontario Regulation 103/94. A waste audit is the most effective means of measuring the waste reduction performance of a company. Compliance under Ontario Regulation 102/94 requires that a waste audit and waste reduction work plan be completed, and a written report be prepared annually, if at the location or campus, at any time during the calendar year, more than 350 persons are enrolled.

Ontario Regulation 102/94 – Waste Audits and Waste Reduction Work Plans for Educational Institutions

Part X: Educational Institutions

Sec. 51 (1) Under this regulation the operator of an educational institution is required to conduct a waste audit and waste reduction work plan.

Sec. 52 (1) A waste audit is required addressing the waste generated by the operation of the institution at the location or campus. The audit shall also address the composition of recycled and reused materials.

(2) A written report of the waste audit shall be prepared.

(3) The audit and written report is to be updated every year following the initial waste audit.

Sec. 53 (1) A written report of the waste reduction work plan is to be prepared in accordance with reduction, reuse and recycling the generated waste.

(2) The waste reduction work plan and written report is updated every year following the initial waste reduction work plan.

Sec. 54 Implementation of the waste reduction work plan.

Sec. 55 Training, awareness, and education of the work plan to employees and students.

1.3 Campus Profile

Humber College's North Campus, located at 205 Humber College Blvd, Etobicoke, is one of three main campuses of Humber College Institute of Technology & Advanced Learning. The campus operates 5-7 days a week for 51 weeks a year and currently employs approximately 21,628 full time employees and students.

1.4 Current Waste Management System

At Humber College's North Campus, the current waste management program encompasses initiatives for reuse, recycling, and organics. Under the reuse program, partnerships with companies like "Friendlier" facilitate the utilization of reusable plastic food containers, while shipping and receiving operations prioritize the reuse of plastic crates, wood pallets, and drums. The recycling program is divided into fibres and containers, facilitating the diversion of corrugated cardboard, mixed recyclable paper, aluminum and steel food and beverage containers, recyclable plastics (PET, HDPE & other rigid plastics), glass bottles, and scrap metals from the disposal stream. Additionally, an organics program is in place to divert food waste, yard waste, and tissue/toweling.

Numerous programs and systems have been implemented at the campus by the Office of Sustainability, in line with their "Sustainability Plan 2019-2024" to reduce the amount of waste generated and to maximize diversion rates. A few of these initiatives along with other current waste management practices are outlined below.

Regular Collection System

The North Campus waste management is organized with predominantly 4-stream and 3-stream bin setups across the campus, occasionally supplemented by single bin setups. Additionally, the campus cafeterias feature dedicated "liquids" bins to reduce contamination. Furthermore, the campus employs specialized shredding disposal methods for confidential papers.

Other Back End Collection Systems

The campus implements separate collection systems for back-end waste materials, primarily generated by the receiving area. Various bins are designated for specific waste categories, including cardboard, wood, metals, E-waste, furniture, PPE (Personal Protective Equipment), fluorescent bulbs, and batteries. Additionally, the campus has receptacles dedicated to capturing oil and grease from the kitchen area, further augmenting their responsible waste management practices.

"Friendlier"

The Friendlier program at the college campus operates through a simple process. Students and staff receive their meals in reusable BPA-free, Polypropylene (#5) containers for which they pay a small refundable deposit. After their meal, participants scan the container using the Friendlier app, then return it to designated collection bins on campus. The deposit is refunded. Since the start of Humber having a reusable container program, they have diverted more than 340,000 containers.

In an effort to advance this program on campus, a strategic partnership has been established between Friendlier and Pizza-Pizza to introduce reusable single-slice pizza boxes, estimated to commence in 2024/2025. Upon consumption, the containers can be returned to the same designated bins for subsequent cleaning and reuse.

No-Bins Policy in Office Spaces

The college has transitioned to a centralized garbage bin system. This policy mandates that all office spaces relinquish individual waste bins in favor of shared waste collection points. This initiative has helped to reduce the use of approximately 70,000 garbage bags annually across both North and Lakeshore campuses.

Low-Waste Event Spaces

The college hosts 13 mandatory low-waste event spaces that utilize reusable utensils. These spaces are equipped with durable dining ware like metal cutlery and other glasses which are stored on-site and can be used by event hosts during the event, ensuring that every event contributes to waste reduction.

Specialty Capture Programs

At the campus, several specialty capture programs are in place to encourage responsible disposal. This includes two designated bins solely for battery collection, ensuring their safe disposal. Additionally, there are two bins specifically designated for the collection of writing instruments such as pens and sharpies. Book donation boxes are placed throughout the campus to facilitate redistribution of literature. Moreover, Residences feature clothing donation setups, encouraging students to donate clothing for reuse or recycling.

Compactor Lock (Pilot)

The recyclables compactor located at the rear of the campus is accessible only to trained staff who possess the expertise to differentiate between contaminated and clean recycling bags. This protocol minimizes the risk of contamination within the load, significantly increasing the likelihood that all materials will be recycled rather than sent to landfill.

1.5 Objectives

The objectives of the waste audit are to:

Identify the types and quantities of solid, non-hazardous waste materials generated in all waste zones at Humber College's North Campus;

- Identify and quantify the amount of material recycled and reused at the campus;
- Review and evaluate current 3Rs practices;
- Evaluate current waste disposal methods;
- Develop a detailed waste audit report; and to,
- Identify waste reduction opportunities to assist in the formulation of a waste reduction work plan.

1.6 Audit Scope

The scope of the waste audit included a waste composition study of Humber College's North Campus located at 205 Humber College Blvd, Etobicoke. A study was also completed for Humber College's Lakeshore Campus, which is detailed in a separate report. The study involved a physical audit of solid, non-hazardous waste samples generated during a 24-hour sample period. Records for the total diverted material for 2024 were provided by Humber College personnel and reviewed to calculate total annual weights during the year and to calculate an overall diversion rate.

2.0 APPROACH AND METHODOLOGY

A waste audit questionnaire was sent by AET to the Humber College Sustainability Team to complete prior to the waste audit. Humber College personnel created a comprehensive sampling plan in collaboration with AET and distributed it to custodial staff and other key personnel prior to the waste audit to coordinate waste collection efforts.

2.1 Waste Sorting

During the 24-hour period spanning from February 14th to February 15th, staff at Humber College's North Campus collected waste materials, including garbage, recycling, and organics, from five (5) distinct waste zones. These zones included the Common Areas, Food Areas, Residence, Residence Cafeteria, and Washrooms and were identified using color-coded bags. All zones featured separate streams for garbage, containers, fibres, and organics, except for washrooms, which only contained garbage. A digital scale with precision to 0.01 kg was used to weigh the sorted waste material. The contents of each sample were examined and separated into their appropriate waste categories in plastic totes (sorted waste) and weighed individually. A detailed list of material categories can be found in Appendix C. The plastic totes were tared and zeroed out to calculate the net sample weight for each waste category. This process was repeated for each waste zone. Once all the waste material was classified and weighed, the non-divertible material was put into a waste bin, and the recyclable and organic materials recovered from the garbage were diverted accordingly.

2.2 Assumptions & Calculations

2.2.1 Assumptions

The assumptions used when assessing the waste audit results are as follows:

- That the samples gathered over the 24-hour collection period when extrapolated for annual waste disposed are representative of the composition of waste generated over the year.
- That the annual estimate is based on 5-7 working days (averaged to 6 working days/week) per week and 51 equivalent weeks of operation per year.
- It is assumed that if the bags utilized for collecting the audit sample are included as part of the sample, they would constitute an outlier, and hence are not considered part of the audited data.
- That the information provided by Humber College is accurate.

2.2.2 Calculations

The calculations used to analyze the waste audit results are as follows:

$$\text{Capture Rate} = \left(\frac{\text{weight of specified material diverted}}{\text{total weight of specified material generated}} \right) \times 100\%$$

$$\text{Contamination Rate} = \left(\frac{\text{unsuitable materials in the recycling/organics stream}}{\text{total weight of material in the recycling/organics stream}} \right) \times 100\%$$

$$\text{Diversion Rate} = \left(\frac{\text{weight of all material diverted}}{\text{total weight of all material generated}} \right) \times 100\%$$

$$\text{Generation Rate} = \left(\frac{\text{kg generated}}{24 \text{ hours}} \right) \times \left(\frac{24 \text{ hours}}{\text{day}} \right) \times 6 \text{ operating days per week} \times 51 \text{ weeks per year}$$

3.0 RESULTS AND DISCUSSION

The following section outlines the results of the sorted (sampled) and unsorted (non-sampled) waste generation based on the results of the waste audit. The results of the waste audit were examined to track waste diversion progress and determine areas that need improvement.

3.1 Overall Waste Generation Profile

The estimated total annual waste generation for North Campus is approximately 759,878.82 kg. Table 3.1 summarizes the waste generation profile for North Campus. Materials are broken down by category along with the quantity of materials diverted, the amount of potentially divertible materials that are being disposed and the non-divertible materials. It must be noted that 'divertible materials' refers to materials that are divertible under the recycling programs currently in place at North Campus. A detailed breakdown of the campus's overall waste generation, including material sub-categories, can be found in the waste audit results, Appendix A.

Table 3.1 Overall Waste Generation Profile

Material Category	Diverted Materials (kg/yr)	Disposed Divertible Materials (kg/yr)	Disposed Non-Divertible Materials (kg/yr)	Total (kg/yr)	Percent of Total (%)	Waste Generated Per Person (kg/yr)	Diversion Rate (%)
Paper	81,327.87	36,425.40	41,354.98	159,108.25	20.94%	7.36	51.11%
Plastics	40,702.00	38,268.02	15,003.22	93,973.24	12.37%	4.34	43.31%
Glass	3,445.30	0.00	0.00	3,445.30	0.45%	0.16	100.00%
Metals	26,605.18	1,743.33	2,397.31	30,745.82	4.05%	1.42	86.53%
Organics	154,151.09	83,543.83	47,261.45	284,956.37	37.50%	13.18	54.10%
Hazardous Materials	22,928.23	0.00	408.29	23,336.52	3.07%	1.08	98.25%
Residual Waste	141,472.06	0.00	22,841.26	164,313.32	21.62%	7.60	86.10%
Total	470,631.73	159,980.57	129,266.51	759,878.82	100.00%	35.13	61.94%
Per Person (kg/yr)	21.76	7.40	5.98	35.13			

Note: Divertible materials refer only to materials accepted in the campus's current diversion programs.

Figure 3.1 illustrates the above-described composition of the campus's overall waste generation.

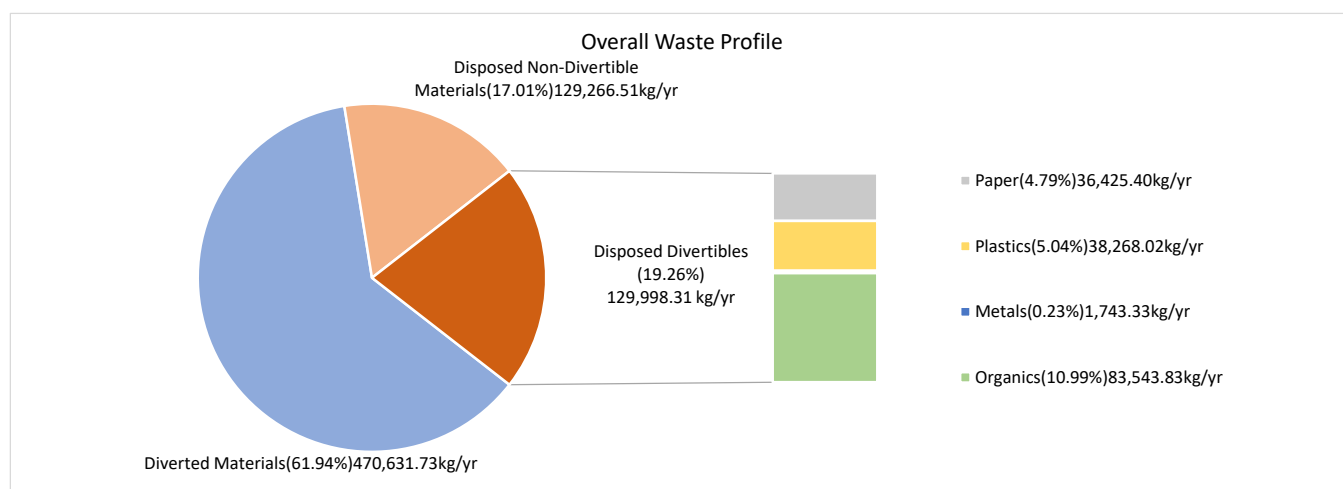


Figure 3.1 Composition of Overall Waste Generated

3.2 Garbage Stream Generation by Area

The following sections outline the results, in terms of garbage generation weights by material category for each of the five (5) waste zones collected and audited. All waste zones provided garbage, containers, fibres, and organics to be audited except washrooms which only had garbage. The figures in each zone illustrate the disposed waste by material category and the fraction of each that is recyclable, compostable or garbage according to the acceptance criteria for each waste stream.

Recyclable and organic materials in the garbage stream represent materials that have not been captured in the diversion programs. Table 3.2 illustrates the proportion of garbage generated by waste zone.

Common Areas generated the most garbage with 38.74% (88,992.88 kg/yr) of the total material disposed of in this stream, followed by Food Areas (64,903.20 kg/yr), Washrooms (35,860.62 kg/yr), Residence (22,800.82 kg/yr), and Residence Cafeteria (17,183.01 kg/yr).

Table 3.2 Total Garbage by Area

Functional Area	Total (kg/yr)	kg/Person/yr	% of Total
Common Areas	88,992.88	4.11	38.74%
Food Areas	64,903.20	3.00	28.25%
Residence	22,800.82	1.05	9.92%
Residence-Cafeteria	17,183.01	0.79	7.48%
Washrooms	35,860.62	1.66	15.61%
Total	229,740.54	10.62	100.00%

3.2.1 Common Areas - Garbage

Approximately 88,992.88 kg of garbage is generated annually in the Common Areas. Figure 3.2 illustrates the breakdown of garbage by material category. The largest component of Common Areas garbage is organic materials at 37,453.33 kg/yr and recyclable papers at 23,979.55 kg/yr. Approximately 29.06% of materials disposed of within the Common Areas garbage bins are compostable organic materials while an additional 28.48% are recyclable.

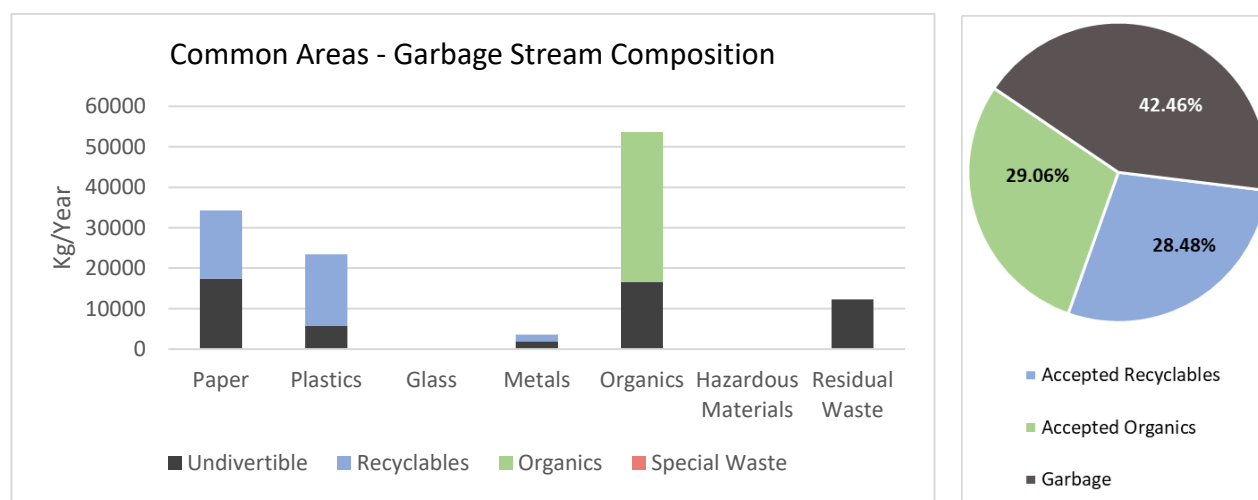


Figure 3.2 Breakdown of Common Areas Garbage Stream based on Material Category and Acceptance Criteria

3.2.2 Food Areas - Garbage

Approximately 64,903.20 kg of garbage is generated annually in the Food Areas. Figure 3.3 illustrates the breakdown of garbage by material category. The largest components of Food Area garbage are organic materials at 30,039.13 kg/yr and papers at 19,611.04 kg/yr. Approximately 33.41% of materials disposed of within the Food Area garbage bins are compostable organic materials while an additional 29.66% are recyclable.

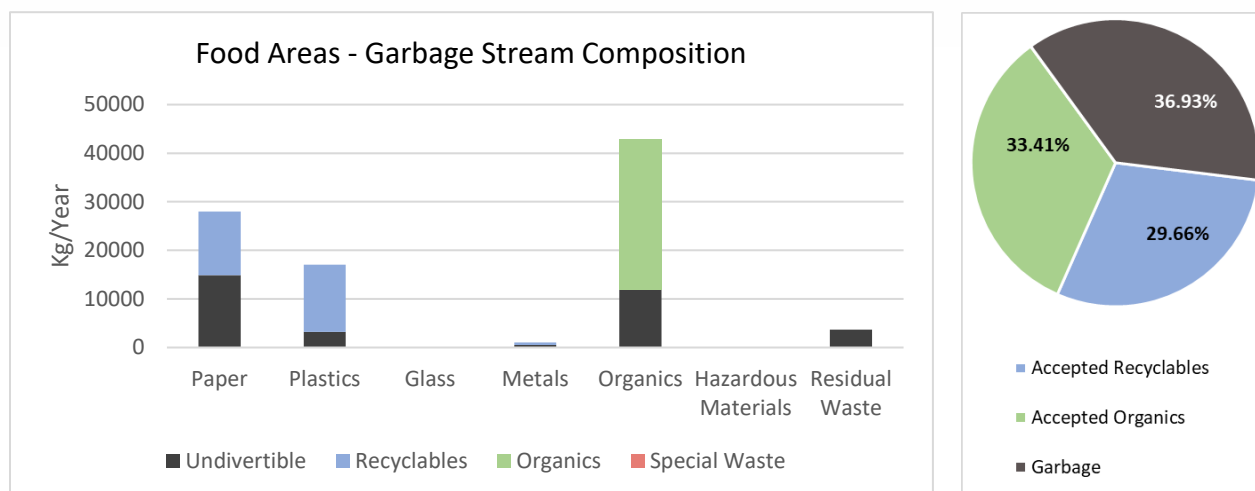


Figure 3.3 Breakdown of Food Areas Garbage Stream based on Material Category and Acceptance Criteria

3.2.3 Residence - Garbage

Approximately 22,800.82 kg of garbage is generated annually by the Residences. Figure 3.4 illustrates the breakdown of garbage by material category. The largest components of Residence garbage are organic materials at 10,876.54 kg/yr followed by paper at 5,937.19 kg/yr. Approximately 33.26% of the waste material disposed of within the Residence garbage bins are compostable organic materials and an additional 36.11% are recyclable. Batteries were found in the garbage stream and contributed to an estimated 0.66% of overall garbage generation in the Residences per year.

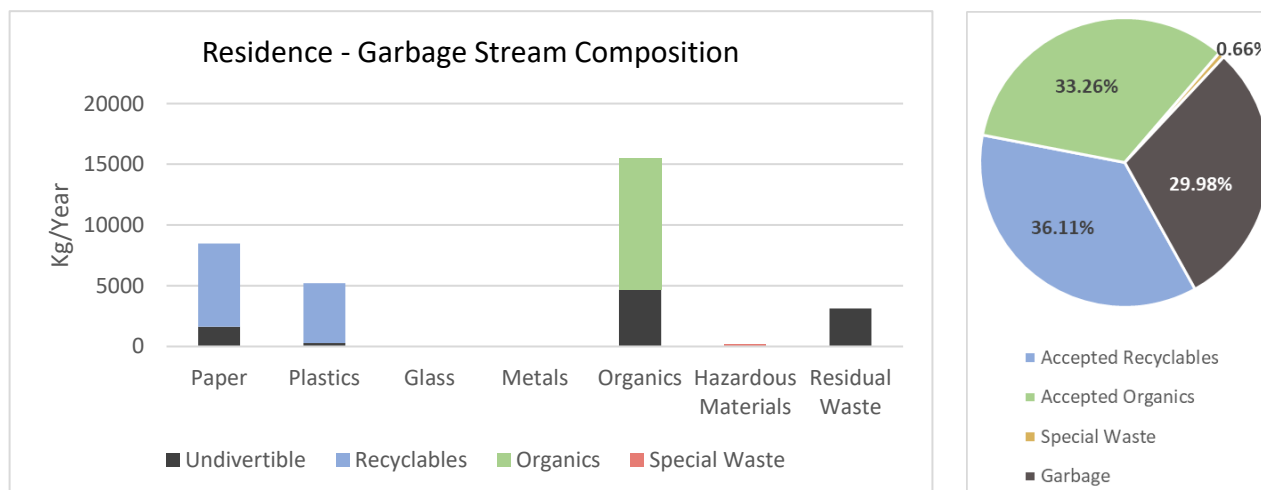


Figure 3.4 Breakdown of Residence Garbage Stream based on Material Category and Acceptance Criteria

3.2.4 Residence Cafeteria - Garbage

Approximately 17,183.01 kg of garbage is generated annually in the Residence Cafeteria garbage. Figure 3.5 illustrates the breakdown of garbage by material category. The largest component of Residence Cafeteria garbage is organic materials at 8,129.07 kg/yr followed by paper at 5,208.45 kg/yr. Approximately 43.91% of the waste material disposed of within the Residence Cafeteria garbage bins are compostable organic materials and an additional 33.43% are recyclable.

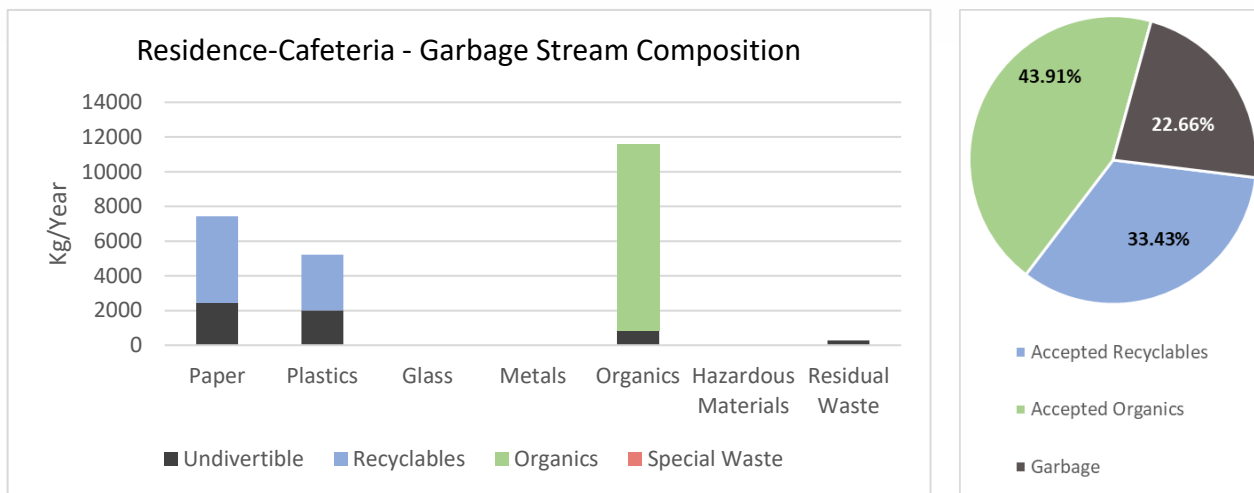


Figure 3.5 Breakdown of Residence Cafeteria Garbage Stream based on Material Category and Acceptance Criteria

3.2.5 Washrooms - Garbage

Approximately 35,860.62 kg of garbage is generated annually in the Washroom garbage. Figure 3.6 illustrates the breakdown of garbage by material category. The largest component of washroom garbage is organic materials (tissues and toweling) at 22,240.48 kg/yr followed by residual waste at 6,163.54 kg/yr. Tissues and toweling contributed to 74.88% of the organics weight. However, this material is not accepted as organics currently and is considered garbage. Approximately 12.38% of the waste material disposed of within the washroom garbage bins is organic (food) and 12.02% is recyclable. Furthermore, the sample revealed the presence of used vapes, totaling 258.61 kg/year (0.72%) of special waste.

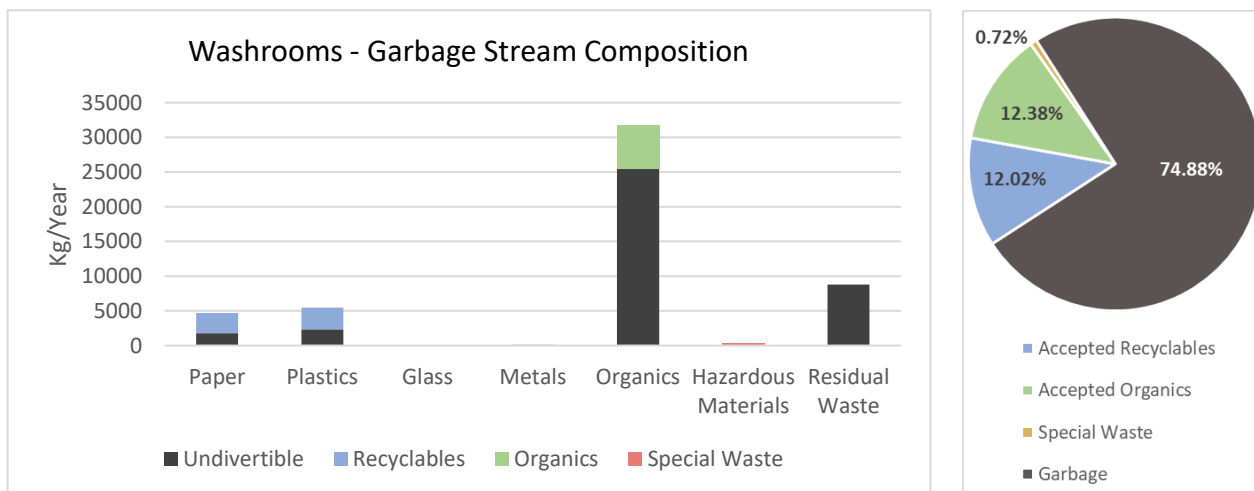


Figure 3.6 Breakdown of Washroom Garbage Stream based on Material Category and Acceptance Criteria

3.3 Recycling - Containers Stream Generation by Area

The following section outlines the results, in terms of container recycling generation weights by material category for each of the four (4) waste zones collected and audited. The figures in each zone illustrate the disposed waste by material category and the fraction of each that is recyclable, compostable, or garbage according to the acceptance criteria.

Garbage in the containers stream represents contamination while organic materials in the containers stream represent cross-contamination. Table 3.3 illustrates the proportion of the container recycling generated by waste zone.

Common Areas generated the most containers stream recycling, accounting for 49.24% (37,307.10 kg/yr) of the total material disposed of in this stream, followed by Food areas (25,996.15 kg/yr), Residence (7,908.73 kg/yr), and Residence Cafeteria (4,557.49 kg/yr).

Table 3.3 Total Container recycling by Area

Functional Area	Total (kg/yr)	kg/Person/yr	% of Total
Common Areas	37,307.10	1.72	49.24%
Food Areas	25,996.15	1.20	34.31%
Residence	7,908.73	0.37	10.44%
Residence-Cafeteria	4,557.49	0.21	6.01%
Total	75,769.46	3.50	100.00%

3.3.1 Common Areas - Containers

Approximately 37,307.10 kg of material is generated annually in the containers stream in Common Areas. Figure 3.7 illustrates the breakdown of the stream by material category. The largest components of container recycling stream in Common Areas are organics at 11,561.45 kg/yr, plastics at 10,972.68 kg/yr, and papers at 10,919.15 kg/yr. Approximately 26.69% of the material disposed of within the containers stream are compostable organic materials which are considered cross contamination, while an additional 26.69% is garbage with non-recyclable papers (9,955.70 kg/yr) being the major contaminant.

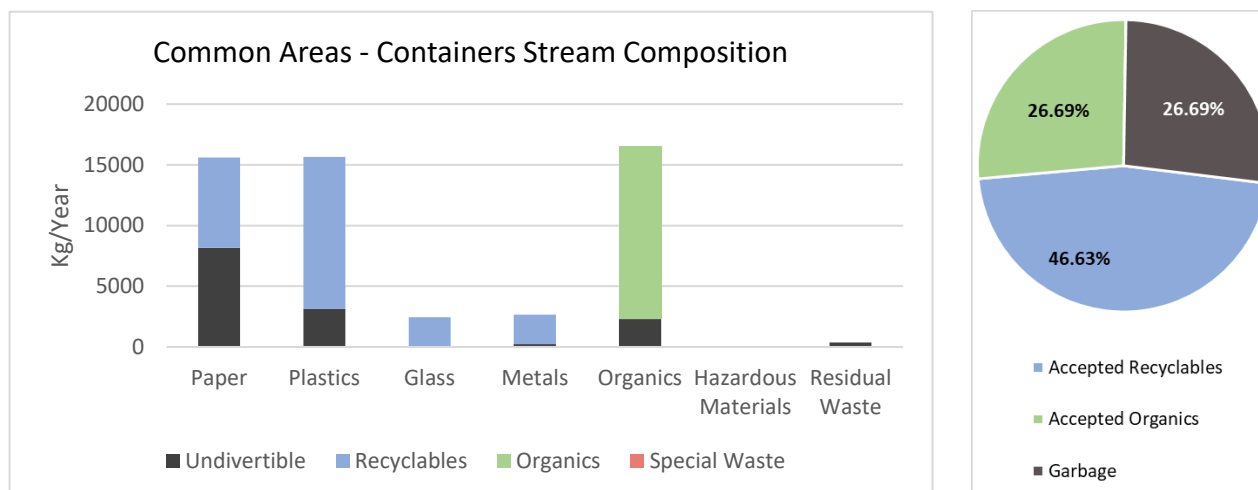


Figure 3.7 Breakdown of Common Areas Containers Stream based on Material Category and Acceptance Criteria

3.3.2 Food Areas - Containers

Approximately 25,996.15 kg of material is generated annually in the containers stream in Food Areas. Figure 3.8 illustrates the breakdown of the stream by material category. The largest components of container recycling stream in Food Areas are plastics at 11,958.23 kg/yr and papers at 7,972.15 kg/yr. Approximately 5.83% of the material disposed of within the containers stream are compostable organic materials which is considered cross contamination, while an additional 23.67% is garbage with non-recyclable papers (6,152.42 kg/yr) being the major contaminant.

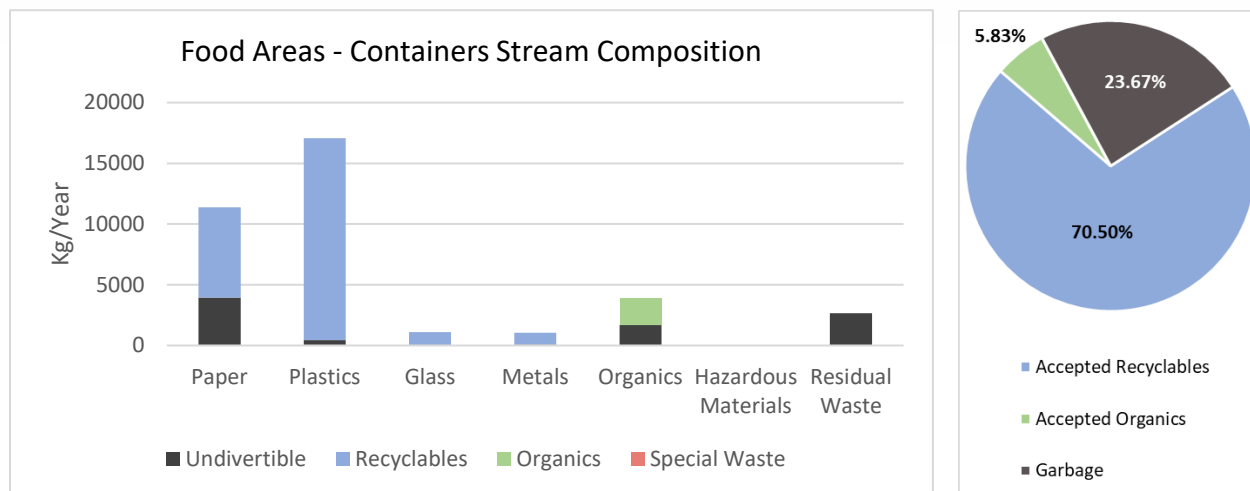


Figure 3.8 Breakdown of Food Areas Containers Stream based on Material Category and Acceptance Criteria

3.3.3 Residence - Containers

Approximately 7,908.73 kg of material is generated annually in the containers stream from the Residence. Figure 3.9 illustrates the breakdown of the stream by material category. The largest components of container recycling stream in the Residence are plastics at 3,180.68 kg/yr and organics at 2,879.81 kg/yr. Approximately 33.15% of the material disposed of within the containers stream is compostable organic materials which are considered cross contamination, while an additional 14.13% is garbage with non-recyclable plastics (1,117.54 kg/yr) being the major contaminant.

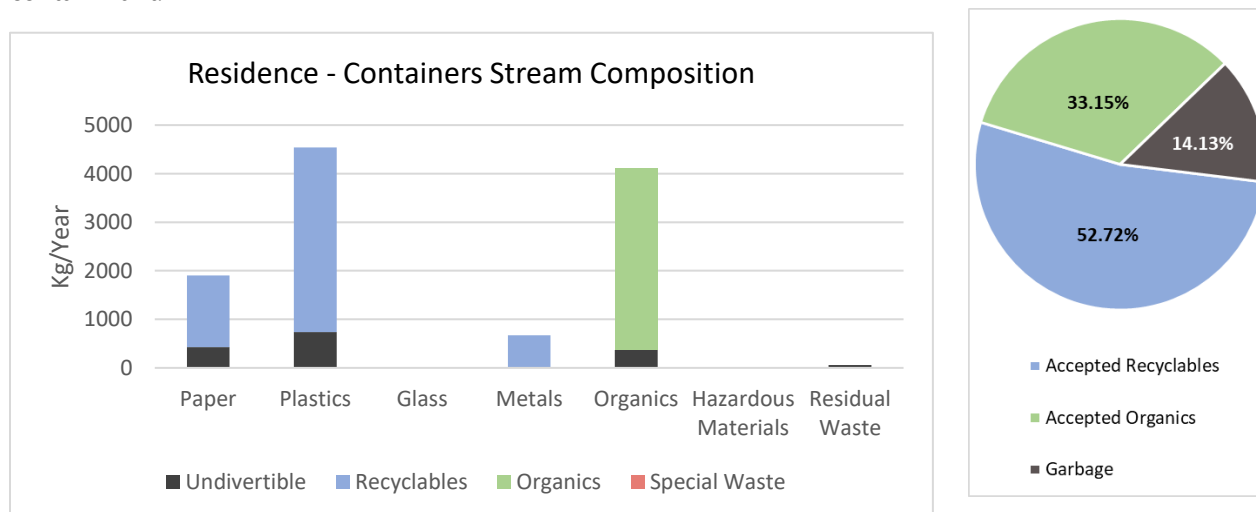


Figure 3.9 Breakdown of Residence Containers Stream based on Material Category and Acceptance Criteria

3.3.4 Residence Cafeteria - Containers

Approximately 4,557.49 kg of material is generated annually in the containers stream from the Residence Cafeteria. Figure 3.10 illustrates the breakdown of the stream by material category. The largest components of container recycling stream in the Residence Cafeteria are plastics at 2,494.63 kg/yr and organics at 1,199.34 kg/yr. Approximately 26.32% of the material disposed of within the containers stream are compostable organic materials which are considered cross contamination, while an additional 12.63% is garbage with non-recyclable paper (575.68 kg/yr) being the major contaminant.

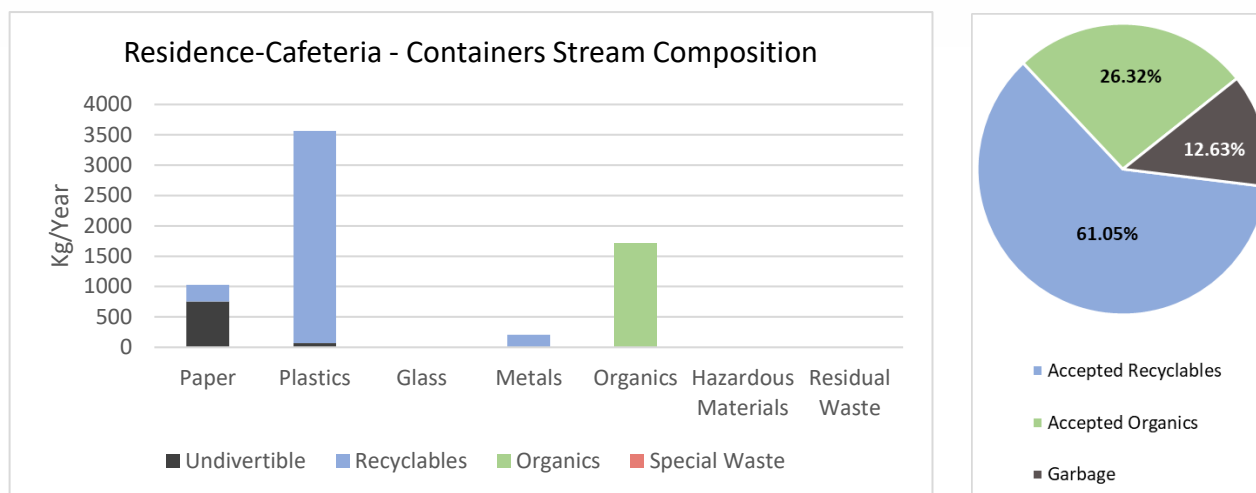


Figure 3.10 Breakdown of Residence Cafeteria Containers Stream based on Material Category and Acceptance Criteria

3.4 Recycling - Fibres Stream Generation by Area

The following section outlines the results, in terms of fibre recycling stream generation weights by material category for each of the four (4) waste zones collected and audited. The figures in each zone illustrate the disposed waste by material category and the fraction of each that is recyclable, compostable, or garbage according to the acceptance criteria.

Garbage in the fibres stream represents contamination while organics represent cross-contamination. Table 3.4 illustrates the proportion of the fibre recycling generated by waste zone.

The Residence Cafeteria generated the most fibre recycling accounting for 32.89% (6,209.60 kg/yr) of the total material disposed of in this stream followed by Common Areas (5,930.15 kg/yr), Food Areas (4,296.79 kg/yr), and Residence (2,443.45 kg/yr).

Table 3.4 Total Fibre recycling by Area

Functional Area	Total (kg/yr)	kg/Person/yr	% of Total
Common Areas	5,930.15	0.27	31.41%
Food Areas	4,296.79	0.20	22.76%
Residence	2,443.45	0.11	12.94%
Residence-Cafeteria	6,209.60	0.29	32.89%
Total	18,880.00	0.87	100.00%

3.4.1 Common Areas - Fibres

Approximately 5,930.15 kg of material is generated annually in the fibres stream in Common Areas. Figure 3.11 illustrates the breakdown of the stream by material category. The largest components of fibres stream in Common Areas are papers at 4,833.48 kg/yr. Approximately 2.05% of the material disposed of within the fibres stream are compostable organic materials which are considered cross contamination, while an additional 32.19% is garbage with non-recyclable papers (1,909.02 kg/yr) being the major contaminant.

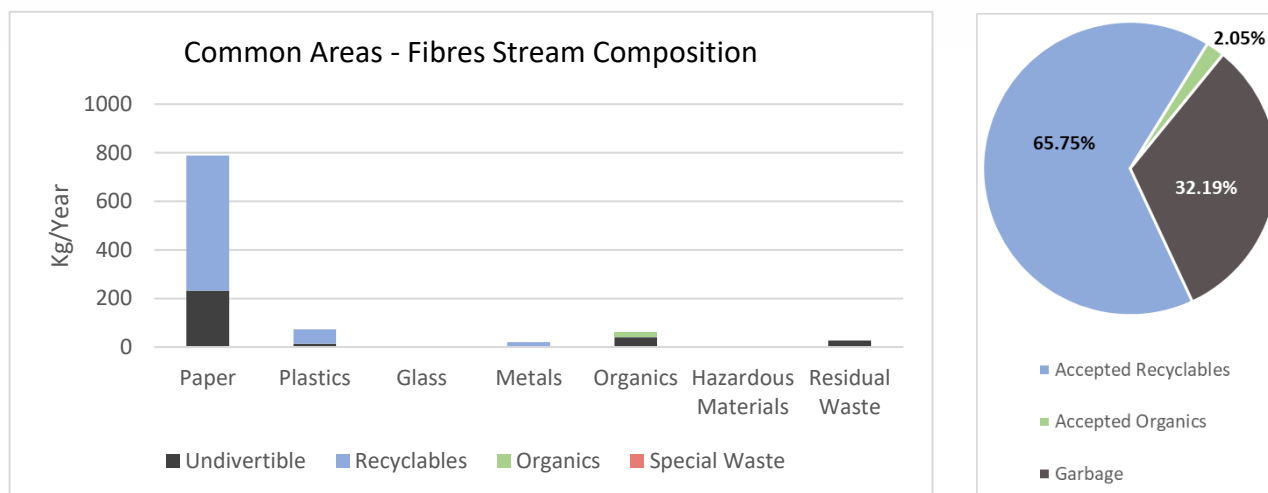


Figure 3.11 Breakdown of Common Areas Fibres Stream based on Material Category and Acceptance Criteria

3.4.2 Food Areas - Fibres

Approximately 4,296.79 kg of material is generated annually in the Food Areas' fibres stream. Figure 3.12 illustrates the breakdown of the stream by material category. The largest components of fibres stream in Food Areas are papers at 4,177.43 kg/yr. A fraction of the material (0.93%) disposed of within the fibres stream are compostable organic materials which are considered cross contamination, while an additional 10.19% is garbage with non-recyclable papers (437.64 kg/yr) being the major contaminant.

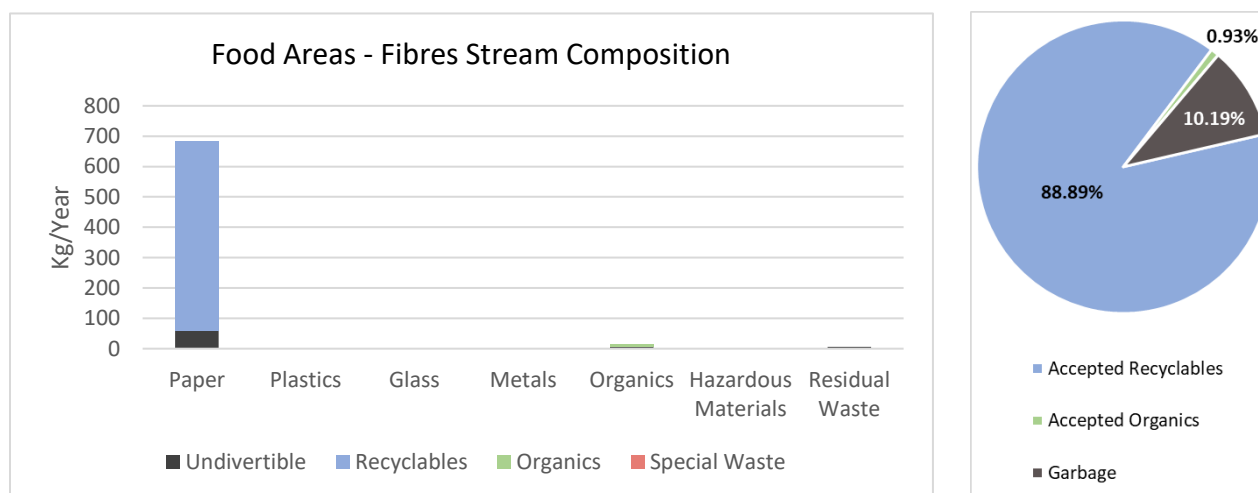


Figure 3.12 Breakdown of Food Areas Fibres Stream based on Material Category and Acceptance Criteria

3.4.3 Residence - Fibres

Approximately 2,443.45 kg of material is generated annually in the Residence fibres stream. Figure 3.13 illustrates the breakdown of the stream by material category. The largest components of fibres stream in Residence are papers at 939.79 kg/yr, followed by organics at 902.20 kg/yr. Approximately 35.38% of the material disposed of within the fibres stream are compostable organic materials which are considered cross contamination, while an additional 20.00% is garbage with non-recyclable metals (488.69 kg/yr) being the major contaminant.

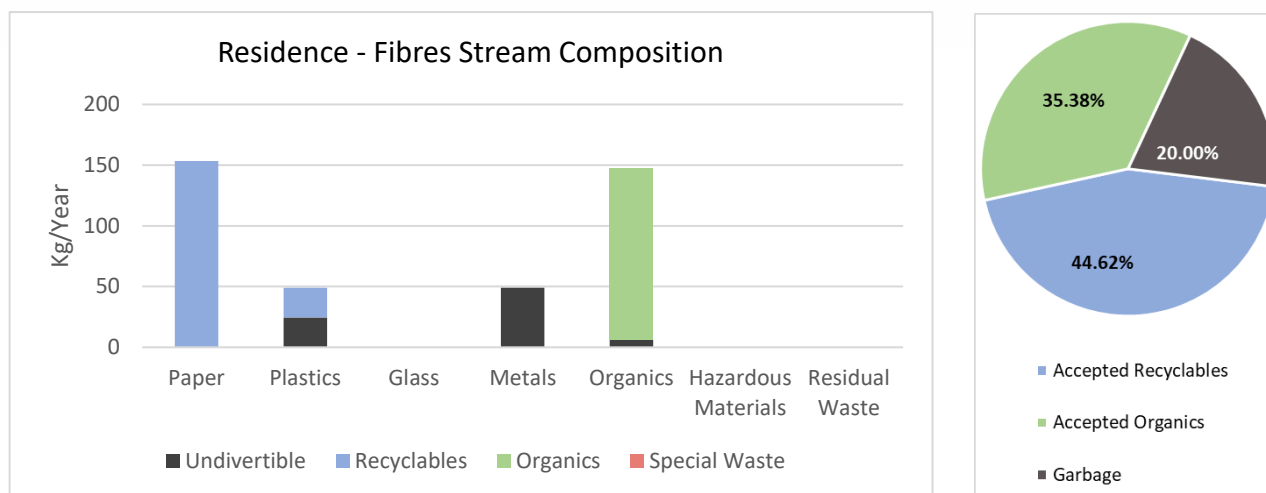


Figure 3.13 Breakdown of Residence Fibres Stream based on Material Category and Acceptance Criteria

3.4.4 Residence Cafeteria - Fibres

Approximately 6,209.60 kg of material is generated annually in the Residence Cafeteria fibres stream. Figure 3.14 illustrates the breakdown of the stream by material category. The largest components of the fibres stream in Residence Cafeteria are papers at 3,175.37 kg/yr and plastics at 1,305.43 kg/yr. A small fraction (1.70%) of the material disposed of within the fibres stream are compostable organic materials which are considered cross contamination, while an additional 35.23% is garbage with non-recyclable paper and non-recyclable plastics (2,187.47 kg/yr) being the major contaminants.

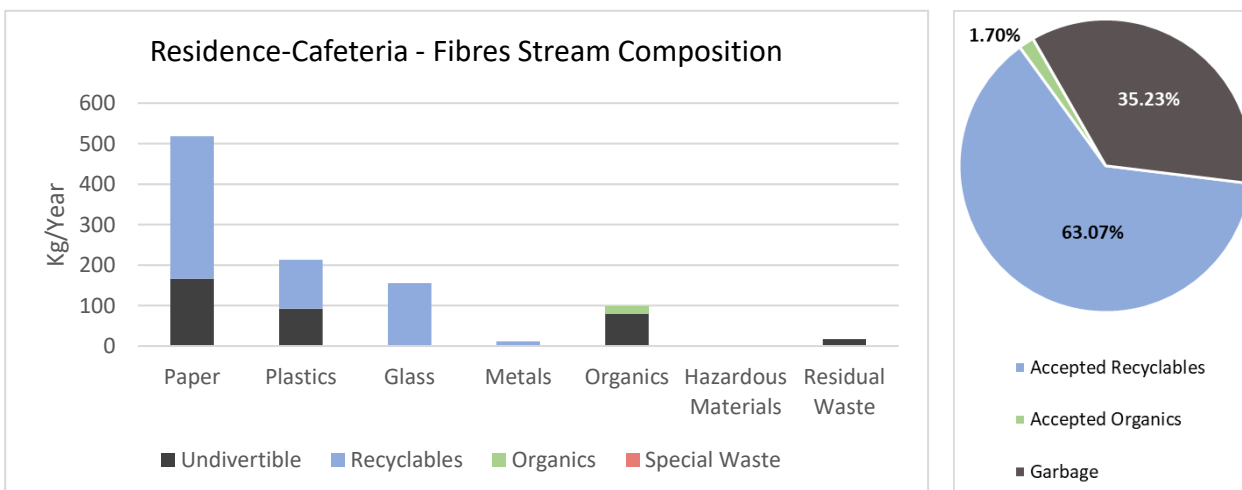


Figure 3.14 Breakdown of Residence Cafeteria Fibres Stream based on Material Category and Acceptance Criteria

3.5 Organics Stream Generation by Area

The following section outlines the results, in terms of organics stream generation weights by material category for each of the four (4) waste zones collected and audited. The figures in each zone illustrate the disposed waste by material category and the fraction of each that is recyclable, compostable or garbage according to the acceptance criteria.

Garbage in the organics stream represents contamination while recycling represents cross-contamination. Table 3.5 illustrates the proportion of the organics generated by waste zone.

Residence generated the most organics with 54.47% (39,017.76 kg/yr) of the total material disposed of in this stream, followed by Residence Cafeteria (19,485.67 kg/yr), Common Areas (10,484.99 kg/yr), and Food Areas (2,641.58 kg/yr).

Table 3.5 Total Organics by Area

Functional Area	Total (kg/yr)	kg/Person/yr	% of Total
Common Areas	10,484.99	0.48	14.64%
Food Areas	2,641.58	0.12	3.69%
Residence	39,017.76	1.80	54.47%
Residence-Cafeteria	19,485.67	0.90	27.20%
Total	71,630.00	3.31	100.00%

3.5.1 Common Areas - Organics

Approximately 10,484.99 kg of material is generated annually in the Common Areas organics stream. Figure 3.15 illustrates the breakdown of the stream by material category. The composition of organics stream in Common Areas consisted of accepted organic materials at 10,423.68 kg/yr (99.42%), and garbage at 61.32 kg/yr (0.58%).

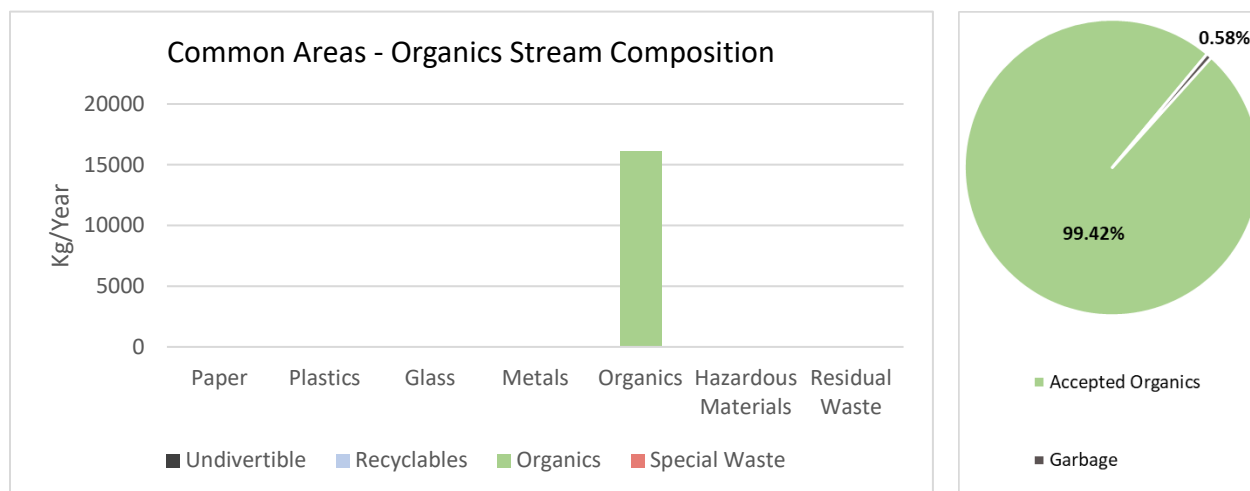


Figure 3.15 Breakdown of Common Areas Organics Stream based on Material Category and Acceptance Criteria

3.5.2 Food Areas - Organics

Approximately 2,641.58 kg of material is generated annually in the Food Areas' organics stream. Figure 3.16 illustrates the breakdown of the stream by material category. The composition of organics stream in Food Areas consisted of organics at 2,517.27 kg/yr, paper at 93.23 kg/yr, and residual waste at 31.08 kg/yr. Approximately 5.88% of the material disposed of within the organics stream is garbage which consisted of non-compostable paper and non-compostable organics (155.39 kg/yr).

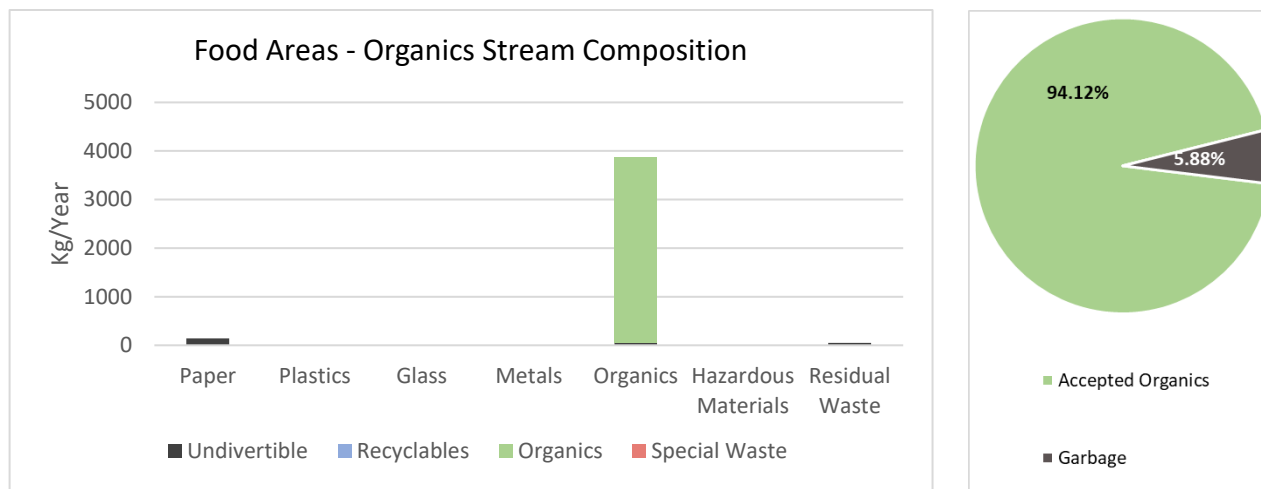


Figure 3.16 Breakdown of Food Areas Containers Stream based on Material Category and Acceptance Criteria

3.5.3 Residence - Organics

Approximately 39,017.76 kg of material is generated annually in the Residence organics stream. Figure 3.17 illustrates the breakdown of the stream by material category. The composition of organics stream in Residence majorly consisted of organics, at 22,855.06 kg/yr, and plastics at 8,712.70 kg/yr. Approximately 30.42% of the material disposed of within the organics stream is recyclables, which is considered cross contamination, while 13.27% was garbage with non-compostable paper and plastics (5,177.11 kg/yr) being the major contaminants.

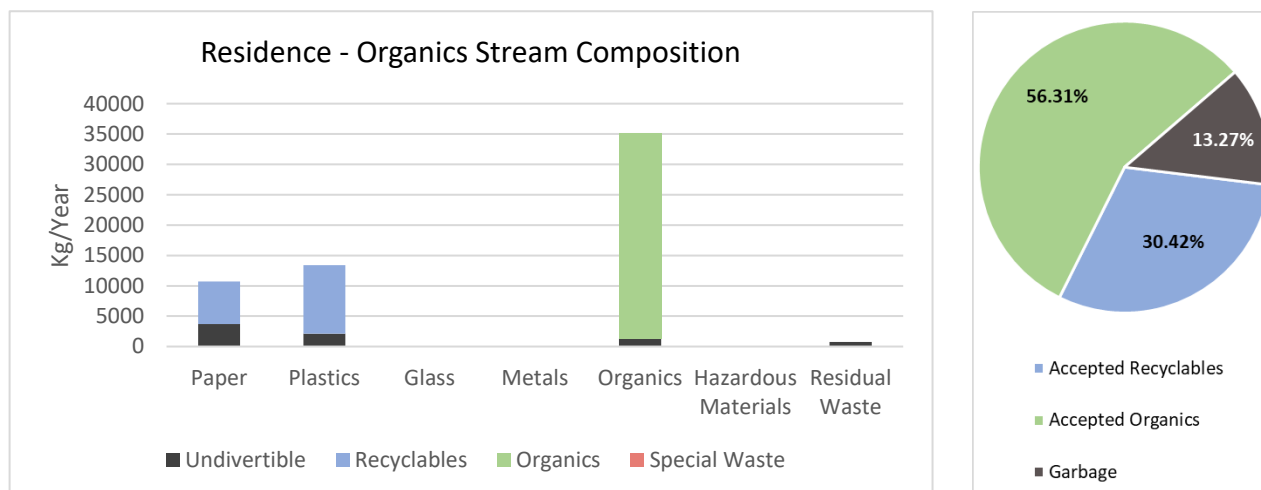


Figure 3.17 Breakdown of Residence Organics Stream based on Material Category and Acceptance Criteria

3.5.4 Residence Cafeteria - Organics

Approximately 19,485.67 kg of material is generated annually in the Residence Cafeteria organics stream. Figure 3.18 illustrates the breakdown of the stream by material category. The composition of organics stream in Residence Cafeteria majorly consisted of organics, at 17,308.50 kg/yr and plastics at 1,197.44 kg/yr. Approximately 8.66% of the material disposed of within the organics stream is recyclables, which is considered cross contamination, while 6.70% was garbage with non-compostable organics and plastics (1,306.30 kg/yr) being the major contaminants.

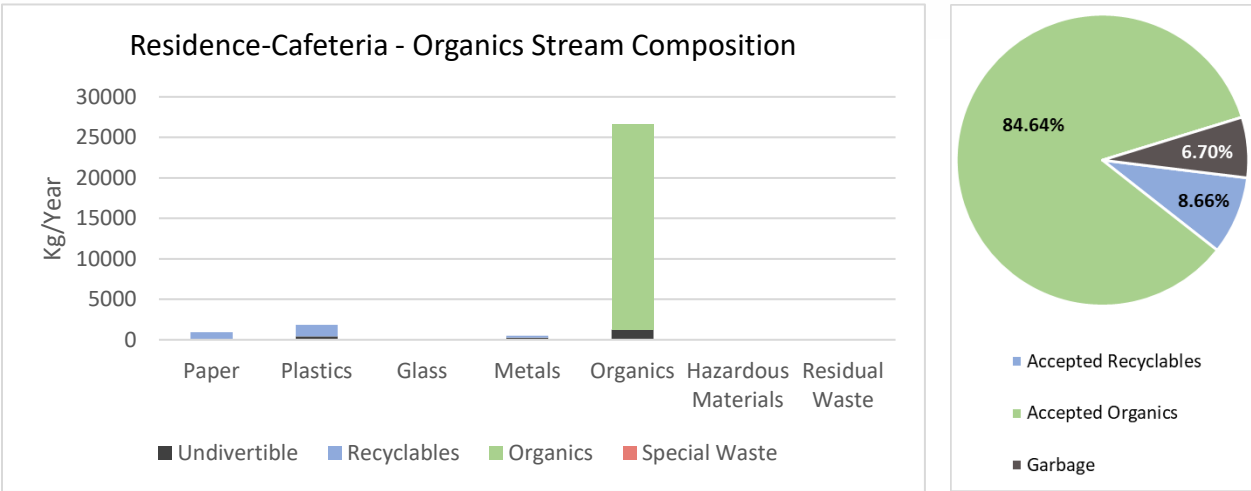


Figure 3.18 Breakdown of Residence Cafeteria Organics Stream based on Material Category and Acceptance Criteria

4.0 CONCLUSIONS

The waste audit results are meant to help gauge the performance of current waste management programs and practices, shedding light on successes and opportunities for improvement alike. The waste audit results suggest that organic materials are the primary contaminant in waste streams in most of the generating areas; it was noted that organic materials were commonly placed in the wrong bin (garbage and recycling). Food waste is of particular concern, as an organics program exists on site and bins are located strategically throughout the campus. Focus should be placed on initiatives surrounding organic waste recovery and waste reduction. Given below are some metrics used to determine the efficiency of current systems and information on major contaminants.

4.1 Diversion Rate

Annually, Humber College's North Campus diverts an estimated 470,631.73 kg of material, representing 61.94% of its waste, through its waste diversion programs. Table 4.1 provides a breakdown of these divertible materials by category. The maximum achievable diversion rate stands at 82.99%.

Approximately 159,980.57 kg of divertible materials are disposed of annually at North Campus. The primary contributor to this disposal, by weight, is organics, with 83,543.83 kg being disposed of in garbage annually.

Table 4.1 Divertible Materials Breakdown

Material Category	Total Material Generated (kg/yr)	Total Divertible Material Generated (kg/yr)	Diversion Rate (%)
Paper	159,108.25	81,327.87	51.11%
Plastics	164,803.24	111,532.00	67.68%
Glass	3,445.30	3,445.30	100.00%
Metals	30,745.82	26,605.18	86.53%
Organics	284,956.37	154,151.09	54.10%
Hazardous Materials	23,336.52	22,928.23	98.25%
Residual Waste	164,313.32	141,472.06	86.10%
Current Diversion Rate			61.94%
Maximum Achievable Diversion Rate			82.99%

Note: 'Divertible materials' refer to materials accepted in the campus's current diversion programs.

4.2 Capture Rate

The capture rate denotes the percentage of the total weight of a divertible material that was successfully collected and diverted through the appropriate waste diversion program. The overall capture rate for recyclable and compostable audited materials was determined to be 29.54%. Table 4.3 highlights the capture rates of recyclable and compostable materials based on the waste audit results.

Table 4.2 Capture Rates in Descending Order and Overall Capture Rates

Material Category	Capture Rate (%)
Inedible food waste	50.89%
Mixed paper	45.79%
Molded pulp	40.94%
Kraft paper	36.66%
Edible food waste	35.78%
Coffee filters & tea bags	34.12%
Glass	27.65%
Plastic film (recyclable)	26.56%
Carton-based packaging	21.58%
Plastic non-beverage containers (#1, #2, #5) non-black	16.56%
Boxboard	16.05%
Plastic beverage containers (#1, #2, #5) non-black	12.43%
Cardboard	9.37%
Non-expanded Polystyrene (#6)	7.72%
Aluminum cans	7.57%
Overall Capture Rate	29.54%

4.3 Top 5s

The tables below provide an overview of the categories that constitute the highest proportions within their respective waste streams, along with the contaminants identified in the recycling and organic waste streams, and the divertible materials detected within the garbage stream. Notably, edible food waste emerges as the top divertible in the garbage stream, comprising 23.24% of the total composition. It is noteworthy that food waste also ranks as the first and second highest contaminant in the containers and fibers streams, accounting for 18.27% and 5.01%, respectively. Additionally, coffee cups and paper towels are highlighted as significant contaminants in the containers and fibers streams. In the organics stream, plastic non-beverage containers emerge as the top contaminant, constituting 7.81% of the overall composition.

Table 4.3 Top 5 Summary

Top 5 Materials in Garbage Stream	%
Edible food waste	23.24%
Paper towels & napkins	18.12%
Boxboard	7.55%
Plastic non-beverage containers (#1, #2, #5) non-black	7.00%
Coffee cups	6.87%
Total	62.77%

Top 5 Divertibles in the Garbage Stream	%
Edible food waste	23.24%
Boxboard	7.55%
Plastic non-beverage containers (#1, #2, #5) non-black	7.00%
Inedible food waste	5.77%
Plastic beverage containers (#1, #2, #5) non-black	3.54%
Total	47.10%

Top 5 Materials in Containers Stream	%
Edible food waste	18.27%
Plastic non-beverage containers (#1, #2, #5) non-black	17.51%
Plastic beverage containers (#1, #2, #5) non-black	14.19%
Coffee cups	8.07%
Boxboard	6.86%
Total	64.90%

Top 5 Contaminants in the Containers Stream	%
Edible food waste	18.27%
Coffee cups	8.07%
Other paper	4.24%
Paper towels & napkins	4.00%
Other waste	2.81%
Total	37.39%

Top 5 Materials in Fibres Stream	%
Mixed paper	29.44%
Boxboard	15.47%
Other paper	10.10%
Glass	5.05%
Edible food waste	5.01%
Total	65.06%

Top 5 Contaminants in the Fibres Stream	%
Other paper	10.10%
Edible food waste	5.01%
Paper towels & napkins	4.32%
Soiled paper food packaging	3.92%
Plastic film (non-recyclable)	2.67%
Total	26.01%

Top 5 Materials in Organics Stream	%
Edible food waste	50.97%
Inedible food waste	20.63%
Plastic non-beverage containers (#1, #2, #5) non-black	7.81%
Kraft paper	3.05%
Other paper	2.91%
Total	85.37%

Top 5 Contaminants in the Organics Stream	%
Plastic non-beverage containers (#1, #2, #5) non-black	7.81%
Kraft paper	3.05%
Other paper	2.91%
Plastic beverage containers (#1, #2, #5) non-black	2.64%
Paper towels & napkins	2.50%
Total	18.92%

5.0 RECOMMENDATIONS

5.1 Improvements to current System and New Strategies

While the current waste management system on North Campus effectively captures materials and minimizes contamination, the audit results indicate that there is a lack of proper utilization of these systems by students and staff. To address this, the following recommendations are proposed to enhance participation:

5.1.1 Bin Placement and Operation

In certain areas of the campus, single garbage bins are still in use (Figure 5.3), which may not effectively capture different types of waste. Replacing these single bins with multi-stream bins (Figure 5.1) can significantly improve waste capture rates by providing students, employees, and visitors with the opportunity to properly sort recyclables, compostables, and non-recyclable waste, leading to better overall waste management.

Moreover, some high-traffic zones on campus, such as areas with seating arrangements and lockers, lack adequate waste disposal options (Figure 5.4). Identifying these areas and strategically placing waste bins or informative signage can help guide students and staff towards proper waste disposal practices.

Furthermore, the receptacles designated for collecting batteries frequently become contaminated with other types of waste, such as bottles and food packaging (Figure 5.2). To mitigate this issue, consider replacing or modifying these bins to create a disposal process that requires slightly more effort. For instance, opting for bin lids with smaller openings, or choosing bins that require a lid to be opened for disposal.



Figure 5.1 Current four-stream garbage receptacle in the campus

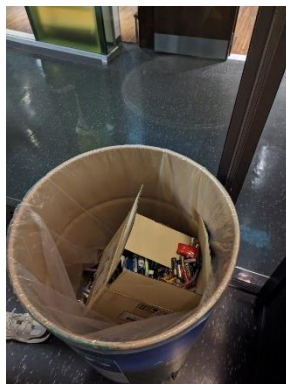


Figure 5.2 Contaminants in the Batteries only bin

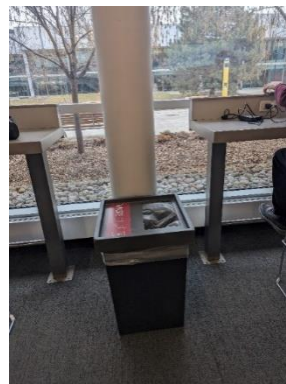


Figure 5.3 Single garbage bins inside the campus

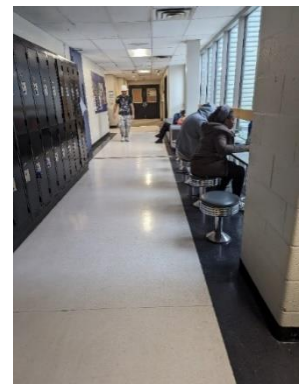


Figure 5.4 One of the high traffic spaces without any garbage bins or directions to garbage bins.

5.1.2 Signage

The existing signage at the college (Figure 5.5) is effective in terms of clarity and visibility, but it might not be attention-grabbing enough for individuals who are in a rush. To address this, the college could introduce multilingual signage that caters to the diverse demographics of its student body. By providing information in multiple languages commonly spoken by students, the signage becomes more inclusive and accessible to everyone.

One way to make these multilingual signs more engaging and appealing is by involving students from the arts and design department. Their creative input can result in visually captivating designs that not only convey the message effectively but also resonate with the student population. This collaborative approach not only enhances the aesthetic appeal of the signage but also fosters a sense of ownership and pride among students.

Priority areas for implementing such signage can include high-traffic zones like the cafeteria, where quick communication is essential. By strategically placing these multilingual signs in locations frequented by students, the college can ensure maximum visibility and comprehension. Overall, this initiative contributes to creating a more inclusive and engaging campus environment.

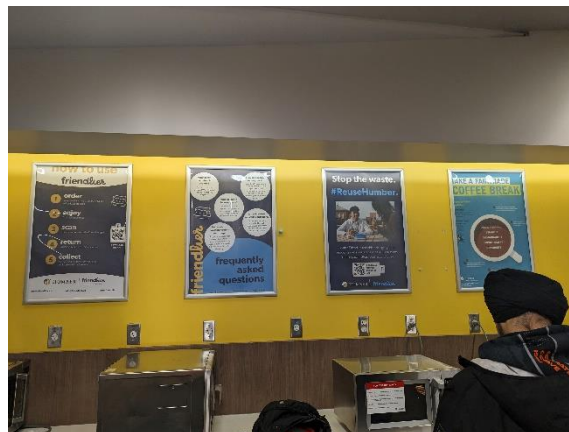


Figure 5.5 Current promotional materials displayed inside campus.

5.1.3 Students as Teachers

The college may choose to continue with having a team of students serve as educators for incoming students. This team would be responsible for conducting informative sessions on waste sorting and composting techniques during the initial weeks of the academic year.

The purpose of this is to educate new students about the importance of proper waste management and to provide them with practical guidance on how to sort their waste effectively and compost organic materials. The educational sessions can be conducted both on campus, perhaps in designated areas like common spaces or classrooms, and in campus Residences. By reaching students in various settings, the college can ensure widespread awareness and participation.

5.1.4 Free Store and Repair Workshops

Incorporating a free store within the campus is an effective strategy to improve waste diversion. This initiative operates on a donation-based system, where students and faculty can contribute items they no longer need, which are then made available to others at no cost. The store not only facilitates the reuse of goods, thereby reducing waste, but also serves as a financial boon for students in need of these items. It embodies the principles of sustainability and community, as it encourages a culture of sharing and environmental consciousness. While few reusable items were found in the audit sample, this initiative may create an opportunity to divert waste that may be disposed at other times of year or by other means (off campus charity shops, curbside waste collection programs etc.)

Additionally, consider organizing student volunteers or engage third party professionals to run repair workshops. Students and professionals in tech, fashion, or trades, or any person with a demonstrated special interest may assist

with workshops focused on repairing items such as clothing, bicycles, and electronics that students bring to the workshop. This initiative would engage students through experiential learning, teaching them new skills and creating community.

5.1.5 Expanding the “Friendlier Program” and Involvement

It is recommended that the College continue to explore expanding the reach and effectiveness of the Friendlier program. By collaborating with other dining establishments on campus, the College can introduce reusable packaging options for a wider range of food offerings. This expansion not only strengthens sustainability efforts but also provides students and staff with more choices for eco-friendly dining, thus catering to diverse preferences and dietary needs.

Furthermore, fostering relationships with campus organizations, faculty members, and student groups plays a pivotal role in garnering support and participation for the program's expansion. These stakeholders can serve as advocates for sustainability initiatives, helping to spread awareness and drive further momentum for the adoption of reusable packaging options across campus.

An analysis of waste audit results revealed that cold and hot beverage cups comprised a portion of the material audited. Leveraging the existing catalogue of Friendlier, which includes hot and cold beverage cups, presents an opportunity to make an impact on overall waste diversion efforts. By replacing current beverage containers with Friendlier cups, the College could have some impact on reducing the amount of single-use waste generated on campus.

5.2 Waste Reduction Work Plan

A waste reduction work plan is a step-by-step process for reducing the amount of waste material, based on the 3Rs' hierarchy of 'REDUCTION, REUSE and RECYCLING'. Such a process is suggested to reduce the amount of waste material sent for disposal. While this approach can be applied to all aspects of North Campus's operations, it is important to emphasize that no single 3Rs option will achieve a significant reduction in the amount of waste generated. Rather, it is a cumulative effect of all three initiatives that will result in overall waste reduction.

Reduction is the highest priority of the 3Rs' hierarchy. When you eliminate or reduce a waste stream you conserve raw materials and reduce energy, labour and disposal costs, which translate into lower operating costs.

Reuse is the second priority of the 3Rs followed by recycling. Reuse refers to the use of a product in its original form for its original or a different purpose.

Recycling is the process of forming new materials from used ones. There are obvious recycling options for materials such as metals, paper, cardboard, and plastics. Efforts should be continued in expanding the recycling programs at Humber College to include materials that have recycling potentials as highlighted in the waste reduction work plan to further reduce waste sent for disposal.

Through the waste reduction work plan, Humber College's operating costs could be reduced through reduced tonnage of waste sent for disposal, reduced number of pickups for disposal and reduced use of materials.

5.2.1 Environmental Purchasing Policies

An important component of any waste reduction work plan is the formulation of environmental purchasing policies that favour 'environmentally sound' products. Such products can be defined as having minimal or reduced negative

effect on the environment and would include any product that contains post-consumer recycled content, or is in turn, recyclable.

The purpose of an environmental purchasing policy is to support the purchase of recycled and environmentally preferred products to minimize waste disposal rates. Environmental purchasing policies can also play an important role in waste reduction by giving preference to reusable products. When in place, the policy outlines the purchase of products containing a certain percentage of recycled content (though many of the products currently purchased are).

Consider the following purchasing policies that are environmentally responsible:

- Purchase materials with recycled content.
- Consider the disposal options and recycling potential of all materials before purchasing.
- Adopt waste prevention, recycling and use of recycled materials as a priority.
- Ensure that all materials are packaged minimally – shipped, if possible in returnable containers from your suppliers.
- Contact suppliers to find out whether they offer an environmentally friendly line of products. If not, encourage them to do so, or switch to a supplier who does.
- Contractors and vendors should be encouraged to provide products and services which:
 - are produced from recycled materials,
 - can be recycled or re-used,
 - reduce waste and/or conserve natural resources.
- The following resources can be used to find suppliers of products that are environmentally friendly and/or manufactured with recycled content:
 - <http://www.greenseal.org/>
 - <http://www.epa.gov/saferchoice>

Purchasing policies should reflect measurable goals and objectives. The purchasing policy should also address the roles and responsibilities of suppliers. For example, it may be appropriate to require that supply contracts include provisions for suppliers to take back excess materials.

5.2.2 Implementing the Waste Reduction Work Plan

Increased diversion rates are possible by appointing someone to be responsible for monitoring the waste diversion programs (with assistance from an environmental committee). If possible, the committee should be made up of members from management and employee representatives meeting on a quarterly basis to discuss progress. The '3Rs habit' is easily developed, however, without continual promotion and enforcement, the habit can disappear.

The environmental committee would monitor the waste collection stations regularly and respond to any problems with contaminants in the recycling stream or recyclable materials found in the waste stream promptly. All aspects of the waste reduction work plan should be monitored on a continual basis, particularly during the early stages. It is important that responsibilities be assigned for the implementation of the waste reduction actions. Waste reduction goals with timelines should be posted and communicated to all staff. Ultimately, the success of the waste reduction work plan is a direct result of commitment and level of participation from all staff at Humber College. Staff should be encouraged to provide suggestions for improving the program.

The waste audit report should be displayed and made available for all employee and students to communicate to staff the types and amounts of waste generated and to encourage participation.

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DISCLAIMER

AET Group Inc. makes no warranty and assumes no liability for the information contained in this report outlining the waste audit results. These results reflect measurements made over 24 hours as described in the methodology. As such, waste generation measurements should be considered snapshots and may not accurately reflect conditions across Humber College's North Campus over time. These reported generation and diversion rates more accurately reflect the quantity of each material generated over 24 hours. In addition, diverted material data provided by Humber College is unaudited and AET Group assumes no responsibility for any inaccuracy in this data.

APPENDIX A WASTE AUDIT RESULTS



APPENDIX B

UNAUDITED RESULTS



Friendlier Program	Reused Containers
North Campus	132386
Estimated weight per container (kg)	0.105
Estimated weight of containers reused (kg)	13,900.53

	North Central Receiving	North - Residence	North - 110 Carrier Drive	30 Carrier dr	Total	Total
Materials	Annual Quantity (MT)					in kg
Garbage	166.3	75.05	61.12	3.04	305.51	305510
Cardboard	19.48	0	0	0	19.48	19480
Mixed papers (office, news, etc)	16.14	0	2.44	0.3	18.88	18880
Confidential papers/Shredding	31.31	1.72	6.88	0	39.91	39910
Scrap Metals	10.17	0	13.22	0	23.39	23390
Scrap Woods	17.1	0	53.68	0	70.78	70780
Organics - Food Wastes	61.86	9.54	0	0.23	71.63	71630
Yard Wastes	102.07	0	0	0	102.07	102070
Oil & Grease	0.514	0	0.194	0	0.708	708
Electronic Waste (scrap)	10.427635	0	2.59	0	13.017635	13017.635
Electronic Waste (refurbished)	7.88933209	0	1.54	0	9.42933209	9429.33209
Fluorescent bulbs	0.23223926	0	0	0	0.23223926	232.23926
Batteries	0.115212	0	0	0	0.115212	115.212
Printer Toner Cartridges	0.13381	0	0	0	0.13381	133.81
Used furniture/equipment (Waste)	6.9	0	0	0	6.9	6900
Used furniture/equipment (Recycled)	43.7	0	0	0	43.7	43700
Used furniture/equipment (Donated for reuse)	19.99	0	0	0	19.99	19990
PPE and gloves	0.102058	0	0	0	0.102058	102.058
Total	551.7242864	105.49	155.054	4.54	816.8082864	759,878.82
Total Without G/R/O	167.9304764	1.72	78.104	0	247.7544764	363,858.82

APPENDIX C
WASTE AUDIT CATEGORIES GUIDE



Material Categories	Acceptance Criteria R - Recycling G - Garbage O - Organics S - Special disposal	Notes
Paper		
Newsprint & flyers	R	Newspapers, flyers.
Shredded paper	R	
Mixed paper	R	Obligated and non-obligated paper.
Magazines & catalogues	R	
Carton-based packaging	R	Aseptic & gable top cartons including beverages, food, dairy, etc.
Boxboard	R	
Kraft paper	R	
Molded pulp	R	Coffee cup trays, molded pulp packaging
Cardboard	R	
Soiled paper food packaging	G	Compostable containers with food, soiled coffee trays
Coffee cups	G	
Other paper	G	Laminated paper, books, other non-recyclable paper
Plastic		
Plastic beverage containers (#1, #2, #5) non-black	R	
Plastic non-beverage containers (#1, #2, #5) non-black	R	
Non-expanded Polystyrene (#6)	R	Rigid
Expanded Polystyrene (#6)	G	Foam based
Plastic film (recyclable)	R	Flexible film packaging
Plastic film (non-recyclable)	G	Crinkly plastic wraps
Black plastics	G	All black plastic types
Other Plastics	G	
Glass		
Glass	R	Coloured/clear, beverage & non-beverage
Other glass	G	
Metal		
Aluminum cans	R	
Steel cans	R	
Aluminum Aerosol	S	
Other metal	G	
Wood		
Scrap Wood	G	Small pieces
Organic Waste		
Edible food waste	O	Leftovers and untouched food that could have been consumed.
Inedible food waste	O	Bones, peels, egg shells, etc.
Coffee filters & tea bags	O	
Yard Waste	O	
Paper towels & napkins	G	
Hazardous Waste		
Batteries	S	
Lamps and Bulbs	S	
E-waste	S	
Other HHW	S	
Residual Waste		
Textiles	G	
Other residual	G	Toiletries, cosmetics, etc.
PPE	G	
Coffee pods	G	
Sanitary	G	Feminine hygiene products & diapers.
Other waste	G	

APPENDIX D
MOE REPORT OF A WASTE AUDIT



Ministry of the Environment Waste Form

Report of a Waste Audit

Industrial, Commercial and Institutional Establishments

As required by O. Reg. 102/94

- This report must be prepared 6 months after becoming subject to O. Reg. 102/94 and a copy retained on file for at least five years after it is prepared, and be made available to the ministry upon request.
- For large construction and demolition projects, please refer to the forms included with "A Guide to Waste Audits and Waste Reduction Work Plans for Construction and Demolition Projects as Required Under Ontario Regulation 102/94" (revised July 2008)

I. General Information

Name of Owner and/or Operator of Entity(ies) and Company Name:

Humber College

Name of Contact Person:

Lindsay Walker

Telephone #:

416-675-6622

Email address: Lindsay.Walker@humber.ca

Street Address(es) of Entity(ies):

North Campus: 205 Humber College Boulevard

Municipality:

Toronto, Ontario

Type of Entity (check one)

Retail Shopping Establishments	<input type="checkbox"/>	Hotels and Motels	<input type="checkbox"/>
Retail Shopping Complexes	<input type="checkbox"/>	Hospitals	<input type="checkbox"/>
Office Buildings	<input type="checkbox"/>	Educational Institutions	<input checked="" type="checkbox"/>
Restaurants	<input type="checkbox"/>	Large Manufacturing Establishments	<input type="checkbox"/>

Note: O. Reg. 102/94 does not apply to multi-unit residential buildings.

II. Description of Entity

Provide a brief overview of the entity(ties):

Humber College's North Campus is located at 205 Humber College Boulevard in Toronto. The North Campus is Humber College's largest campus, hosting approximately 20,000 full time students and accommodating approximately 1000 students in residence. Along with traditional classrooms, Humber's North Campus is home to the Humber Spa, a variety of dining options, The Centre for Urban Ecology, and various athletics facilities including the Humber Golf Lab.

III. How Waste is Produced And Decisions Affecting the Production of Waste

For each category of waste that is produced at the entity(ies), explain how the waste will be produced and how management decisions and policies will affect the production of waste.

Categories of Waste	How Is the Waste Produced and What Management Decisions/Policies Affect Its Production?
Newsprint & flyers	Brought onto campus or generated on campus by staff/students
Shredded paper	Generated on campus by staff
Mixed paper	Brought onto campus or generated on campus by staff/students
Magazines & catalogues	Brought onto campus or generated on campus by staff/students
Carton-based packaging	Brought onto campus or generated on campus by staff/students
Boxboard	Brought onto campus or generated on campus by staff/students
Kraft paper	Brought onto campus or generated on campus by staff/students
Molded pulp	Brought onto campus or generated on campus by staff/students
Cardboard	Brought onto campus or generated on campus by staff/students
Soiled paper food packaging	Brought onto campus or generated on campus by staff/students
Coffee cups	Brought onto campus or generated on campus by staff/students
Other paper	Brought onto campus or generated on campus by staff/students
Plastic beverage containers (#1, #2, #5) non-black	Brought onto campus or generated on campus by staff/students
Plastic non-beverage containers (#1, #2, #5) non-black	Brought onto campus or generated on campus by staff/students
Non-expanded Polystyrene (#6)	Brought onto campus or generated on campus by staff/students
Expanded Polystyrene (#6)	Brought onto campus or generated on campus by staff/students
Plastic film (recyclable)	Brought onto campus or generated on campus by staff/students
Plastic film (non-recyclable)	Brought onto campus or generated on campus by staff/students
Black plastics	Brought onto campus or generated on campus by staff/students
Other Plastics	Brought onto campus or generated on campus by staff/students
Glass	Brought onto campus or generated on campus by staff/students
Other glass	Brought onto campus or generated on campus by staff/students
Aluminum cans	Brought onto campus or generated on campus by staff/students
Steel cans	Brought onto campus or generated on campus by staff/students
Aluminum Aerosol	Brought onto campus or generated on campus by staff/students
Other Non-Recyclable Metal	Brought onto campus or generated on campus by staff/students
Other Recyclable metal	Brought onto campus or generated on campus by staff/students
Edible food waste	Brought onto campus or generated on campus by staff/students
Inedible food waste	Brought onto campus or generated on campus by staff/students
Coffee filters & tea bags	Brought onto campus or generated on campus by staff/students
Yard Waste	Generated by operations on campus
Paper towels & napkins	Brought onto campus or generated on campus by staff/students
Batteries	Generated on campus by staff/students
Lamps and Bulbs	Generated on campus by staff/students
E-waste	Generated on campus by staff/students
Other HHW	Generated by operations on campus
Scrap Wood	Generated by operations on campus
Textiles	Generated on campus by staff/students
Other residual	Generated on campus by staff/students
PPE	Generated on campus by staff/students
Coffee pods	Generated on campus by staff/students
Sanitary	Generated on campus by staff/students
Other waste	Generated on campus by staff/students
Oil & Grease	Generated by operations on campus
Furniture/Equipment	Generated by operations on campus

IV. Management of Waste

For each category of waste listed below, indicate which waste items will be disposed or reused/recycled and how each item will be managed at the entity(ies).

Category	Waste to be Disposed	Reused or Recycled Waste
Newsprint & flyers	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Shredded paper	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Mixed paper	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Magazines & catalogues	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Carton-based packaging	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Boxboard	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Kraft paper	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Molded pulp	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Cardboard	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Soiled paper food packaging	Staff/Students may place in garbage	No recycling program implemented.
Coffee cups	Staff/Students may place in garbage	No recycling program implemented.
Other paper	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Plastic beverage containers (#1, #2, #5) non-black	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Plastic non-beverage containers (#1, #2, #5) non-black	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Non-expanded Polystyrene (#6)	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Expanded Polystyrene (#6)	Staff/Students may place in garbage	No recycling program implemented.
Plastic film (recyclable)	Staff/Students may place in garbage	No recycling program implemented.
Plastic film (non-recyclable)	Staff/Students may place in garbage	No recycling program implemented.
Black plastics	Staff/Students may place in garbage	No recycling program implemented.
Other Plastics	Staff/Students may place in garbage	No recycling program implemented.
Glass	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Other glass	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Aluminum cans	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Steel cans	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Aluminum Aerosol	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Other Non-Recyclable Metal	Staff/Students may place in garbage	No recycling program implemented.
Other Recyclable metal	Staff/Students may place in garbage	Staff/Students may place in recycling containers.
Edible food waste	Staff/Students may place in garbage	Staff/Students may place in organics containers.
Inedible food waste	Staff/Students may place in garbage	Staff/Students may place in organics containers.
Coffee filters & tea bags	Staff/Students may place in garbage	Staff/Students may place in organics containers.
Yard Waste	Staff/Students may place in garbage	Staff/Students may place in organics containers.
Paper towels & napkins	Staff/Students may place in garbage	No recycling program implemented.
Batteries	Staff/Students may place in garbage	Staff/Students may place in specialty recycling containers.
Lamps and Bulbs	Staff/Students may place in garbage	Staff/Students may place in specialty recycling containers.
E-waste	Staff/Students may place in garbage	Staff/Students may place in specialty recycling containers.
Other HHW	Staff may place in garbage	Staff may place in specialty recycling containers.
Scrap Wood	Staff may place in garbage	Staff may place in specialty recycling containers.
Textiles	Staff/Students may place in garbage	No recycling program implemented.
Other residual	Staff/Students may place in garbage	No recycling program implemented.
PPE	Staff/Students may place in garbage	Staff/Students may place in specialty recycling containers.
Coffee pods	Staff/Students may place in garbage	No recycling program implemented.
Sanitary	Staff/Students may place in garbage	No recycling program implemented.
Other waste	Staff/Students may place in garbage	No recycling program implemented.
Oil & Grease	Staff may place in garbage	Staff may place in recycling containers.
Furniture/Equipment	Staff may place in garbage	Staff may place in recycling containers.

Note: When completing this form, write "n/a" in the columns where the entity will not produce any waste for a category of waste.

V. Estimated Quantity of Waste Produced Annually

Categories of Waste	Estimated Amount of Waste produced (kg/yr)											
	Generated			Reused			Recycled			Disposed		
	"A" Base Year	"B" Current Year 2024	"C" Change (A-B)	"A" Base Year	"B" Current Year 2024	"C" Change (A-B)	"A" Base Year	"B" Current Year 2024	"C" Change (A-B)	"A" Base Year	"B" Current Year 2024	"C" Change (A-B)
Newsprint & flyers	10,900.00	155.64	-10,744.36	0.00	0.00	0.00	0.00	0.00	0.00	10,900.00	155.64	-10,744.36
Shredded paper	0.00	39,910.00	39,910.00	0.00	0.00	0.00	0.00	39,910.00	39,910.00	0.00	0.00	0
Mixed paper	178,400.00	12,139.13	-166,260.87	0.00	0.00	0.00	136,100.00	9,594.80	-126,505.20	42,300.00	2,544.34	-39,755.66
Magazines & catalogues	202,700.00	0.00	-202,700.00	0.00	0.00	0.00	0.00	0.00	0.00	202,700.00	0.00	-202,700.00
Carton-based packaging	0.00	4,551.00	4,551.00	0.00	0.00	0.00	0.00	2,190.63	2,190.63	0.00	2,360.37	2,360.37
Boxboard	0.00	26,849.75	26,849.75	0.00	0.00	0.00	0.00	9,507.55	9,507.55	0.00	17,342.20	17,342.20
Kraft paper	0.00	7,035.63	7,035.63	0.00	0.00	0.00	0.00	2,713.19	2,713.19	0.00	4,322.44	4,322.44
Molded pulp	0.00	4,193.99	4,193.99	0.00	0.00	0.00	0.00	2,647.09	2,647.09	0.00	1,546.90	1,546.90
Cardboard	135,800.00	22,918.13	-112,881.87	0.00	0.00	0.00	114,100.00	19,909.09	-94,190.91	21,700.00	3,009.04	-18,690.96
Soiled paper food packaging	0.00	1,305.05	1,305.05	0.00	0.00	0.00	0.00	739.72	739.72	0.00	565.33	565.33
Coffee cups	56,600.00	22,457.03	-34,142.97	0.00	0.00	0.00	0.00	6,684.86	6,684.86	56,600.00	15,772.17	-40,827.83
Other paper	0.00	17,592.90	17,592.90	0.00	0.00	0.00	0.00	7,199.36	7,199.36	0.00	10,393.54	10,393.54
Plastic beverage containers (#1, #2, #5) non-black	33,430.00	21,556.76	-11,873.24	0.00	0.00	0.00	18,220.00	13,430.09	-4,789.91	14,730.00	8,126.67	-6,603.33
Plastic non-beverage containers (#1, #2, #5) non-black	51,870.00	49,081.35	-3,268.65	0.00	13,900.53	13,900.53	23,180.00	19,090.35	-4,089.65	29,170.00	16,090.47	-13,079.53
Non-expanded Polystyrene (#6)	0.00	6,430.23	6,430.23	0.00	0.00	0.00	0.00	1,896.02	1,896.02	0.00	4,534.21	4,534.21
Expanded Polystyrene (#6)	5,200.00	0.00	-5,200.00	0.00	0.00	0.00	0.00	0.00	0.00	5,200.00	0.00	-5,200.00
Plastic film (recyclable)	32,300.00	1,901.67	-30,398.33	0.00	0.00	0.00	0.00	634.03	634.03	32,300.00	1,267.64	-31,032.36
Plastic film (non-recyclable)	115,600.00	8,544.11	-107,055.89	0.00	0.00	0.00	0.00	3,057.90	3,057.90	0.00	5,486.21	5,486.21
Black plastics	0.00	424.00	424.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	424.00	424.00
Other Plastics	0.00	6,035.11	-109,564.89	0.00	0.00	0.00	0.00	2,460.93	2,460.93	115,600.00	3,574.18	-112,025.82
Glass	50,900.00	3,445.30	-47,454.70	0.00	0.00	0.00	41,400.00	3,445.30	-37,954.70	9,500.00	0.00	-9,500.00
Other glass	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Aluminum cans	54,400.00	4,700.61	-49,699.39	0.00	0.00	0.00	41,400.00	3,120.57	-38,279.43	13,000.00	1,580.04	-11,419.96
Steel cans	300.00	257.89	-42.11	0.00	0.00	0.00	0.00	257.89	257.89	300.00	0.00	-300.00
Aluminum Aerosol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Other Non-Recyclable Metal	0.00	2,397.31	2,397.31	0.00	0.00	0.00	0.00	667.92	667.92	0.00	1,729.39	1,729.39
Other Recyclable metal	0.00	23,390.00	23,390.00	0.00	0.00	0.00	0.00	23,390.00	23,390.00	0.00	0.00	0
Edible food waste	664,630.00	104,681.39	-559,948.61	0.00	0.00	0.00	276,160.00	51,296.22	-224,863.78	485,000.00	53,385.18	-431,614.82
Inedible food waste	164,870.00	29,325.35	-135,544.65	0.00	0.00	0.00	68,340.00	16,064.82	-52,275.18	0.00	13,260.53	13,260.53
Coffee filters & tea bags	0.00	369.61	369.61	0.00	0.00	0.00	0.00	179.65	179.65	0.00	189.97	189.97
Yard Waste	0.00	102,610.56	102,610.56	0.00	0.00	0.00	0.00	102,327.89	102,327.89	0.00	282.67	282.67
Paper towels & napkins	95,300.00	47,261.45	-48,038.55	0.00	0.00	0.00	0.00	5,641.23	5,641.23	95,300.00	41,620.21	-53,679.79
Batteries	0.00	264.89	264.89	0.00	0.00	0.00	0.00	115.21	115.21	0.00	149.68	149.68
Lamps and Bulbs	0.00	232.24	232.24	0.00	0.00	0.00	0.00	232.24	232.24	0.00	0.00	0
E-waste	0.00	22,705.58	22,705.58	0.00	9,429.33	9,429.33	0.00	13,017.64	13,017.64	0.00	258.61	258.61
Other HHW	0.00	133.81	133.81	0.00	0.00	0.00	0.00	133.81	133.81	0.00	0.00	0
Scrap Wood	52,000.00	70,877.76	18,877.76	0.00	0.00	0.00	52,000.00	70,877.76	18,877.76	0.00	0.00	0
Textiles	0.00	3,794.79	3,794.79	0.00	0.00	0.00	0.00	378.81	378.81	0.00	3,415.97	3,415.97
Other residual	0.00	97.35	97.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	97.35	97.35
PPE	0.00	1,791.81	1,791.81	0.00	0.00	0.00	0.00	142.68	142.68	0.00	1,649.13	1,649.13
Coffee pods	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Sanitary	0.00	5,172.21	5,172.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,172.21	5,172.21
Other waste	193,700.00	11,989.41	-181,710.59	69,100.00	0.00	-69,100.00	72,200.00	2,555.17	-69,644.83	52,400.00	9,434.24	-42,965.76
Oil & Grease	0.00	708.00	708.00	0.00	0.00	0.00	0.00	708.00	708.00	0.00	0.00	0
Furniture/Equipment	0.00	70,590.00	70,590.00	0.00	19,990.00	19,990.00	0.00	50,600.00	50,600.00	0.00	0.00	0
Total	2,098,900.00	759,878.82	-1,339,021.18	69,100.00	43,319.86	-25,780.14	843,100.00	486,818.42	-356,281.58	1,186,700.00	229,740.54	-956,959.46
Percent Change (total C ÷ total A x 100)			-63.80%			-37.31%			-42.26%			-80.64%

* - Recycling weights from these material categories are represented by Mixed Recyclable Paper; ** - Recycling weights from these material categories represented by Mixed Recyclable Containers; § - PET / HDPE combined; ¶ - Aluminum / Steel containers combined.

Note: When completing this form, write "n/a" in the "Estimated Amount of Waste Produced" column where the entity will not produce any waste for a category of waste.

* Fill out these columns each year following the initial waste audit or baseline year to determine the progress that is being made by your waste reduction program.

VI. Extent to Which Materials or Products Used Or Sold By the Entity Consist of Recycled or Reused Materials or Products

Please answer the following questions:

- 1. Do you have a management policy in place that promotes the purchasing and/or use of materials or products that consist of recycled and/or reused materials or products? If yes, please describe.**

No we do not have a formal purchasing policy that promotes the purchase of materials made of recycled / reused materials. We are working on developing a procurement strategy.

- 2. Do you have plans to increase the extent to which materials or products used or sold* consist of recycled or reused materials or products? If yes, please describe.**

We have some initiatives but not formally outlined in one plan. Ex: we use 100% FSC post-consumer paper for campus print, we are also going to be working with food services to reduce the amount of food packaging as part of the Humber Food Strategy.

* Information regarding materials or products "sold" that consist of recycled or reused materials or products is only required from owner(s) of retail shopping establishments and the owner(s) or operator(s) of large manufacturing establishments.

Please attach any additional page(s) as required to answer the above questions.

I hereby certify that the information provided in this Report of Waste Audit is complete and correct.

Signature of authorized official:

Title:

Date:

APPENDIX E
MOE WASTE REDUCTION WORK PLAN



Ministry of the Environment Waste Form

Report of a Waste Reduction Work Plan

Industrial, Commercial and Institutional Establishments

As required by O. Reg. 102/94

This report must be prepared 6 months after becoming subject to O. Reg. 102/94 and a copy retained on file for at least five years after it is prepared, and be made available to the ministry upon request.

I. General Information

Name of Owner and/or Operator of Entity(ies) and Company Name:

Humber College

Name of Contact Person:

Lindsay Walker

Telephone #:

416-675-6622

Email address:

Lindsay.Walker@humber.ca

Street Address(es) of Entity(ies):

North Campus: 205 Humber College Boulevard

Municipality:

North Campus: Toronto, Ontario

Type of Entity (check one)

Retail Shopping Establishments

Hotels and Motels

Retail Shopping Complexes

Hospitals

Office Buildings

Educational Institutions

Restaurants

Large Manufacturing Establishments



Note: O. Reg. 102/94 does not apply to multi-unit residential buildings.

II. Description of Entity

Provide a brief overview of the entity(ties):

Humber College's North Campus is located at 205 Humber College Boulevard in Toronto. The North Campus is Humber College's largest campus, hosting approximately 20,000 full time students and accomodating approximately 1000 students in residence. Along with traditional classrooms, Humber's North Campus is home to the Humber Spa, a variety of dining options, The Centre for Urban Ecology, and various athletics facilities including the Humber Golf Lab.

III. Plans to Reduce, Reuse and Recycle Waste		
For each category of waste described in Part V of "Report of a Waste Audit" (on which this plan is based), explain what your plans are to reduce, reuse and recycle the waste, including: 1) how the waste will be source separated at the establishment, and 2) the programs to reduce, reuse and recycle all source separated waste.		
Waste Category (as stated in Part V of your "Report of a Waste	Source Separation and 3Rs Program	
Newsprint & flyers	Review placement of recycling receptacles throughout facility. Ensuring twinned beside garbage bins in all areas. Create new signs with large graphics identifying recyclable materials. Educate staff on waste management policies via presentations and e-mail communication.	
Shredded paper	(Same as newspaper)	
Mixed paper	(Same as newspaper)	
Magazines & catalogues	(Same as newspaper)	
Carton-based packaging	(Same as newspaper)	
Boxboard	(Same as newspaper)	
Kraft paper	(Same as newspaper)	
Molded pulp	(Same as newspaper)	
Cardboard	(Same as newspaper)	
Soiled paper food packaging	N/A	
Coffee cups	N/A	
Other paper	(Same as newspaper)	
Plastic beverage containers (#1, #2, #5)	(Same as newspaper)	
Plastic non-beverage containers (#1, #2, #5)	(Same as newspaper)	
Non-expanded Polystyrene (#6)	(Same as newspaper)	
Expanded Polystyrene (#6)	N/A	
Plastic film (recyclable)	(Same as newspaper)	
Plastic film (non-recyclable)	N/A	
Black plastics	N/A	
Other Plastics	N/A	
Glass	(Same as newspaper)	
Other glass	N/A	
Aluminum cans	(Same as newspaper)	
Steel cans	(Same as newspaper)	
Aluminum Aerosol	N/A	
Other Non-Recyclable Metal	N/A	
Other Recyclable metal	(Same as newspaper)	
Edible food waste	Review placement of organics receptacles throughout facility annually. Will continue to divert via program. Initiate discussion on reduction opportunities, and train all staff on new program. Ensure twinned beside garbage and recycle bins in the cafeteria and other areas where permitted.	
Inedible food waste	(Same as Edible food waste)	
Coffee filters & tea bags	(Same as Edible food waste)	
Yard Waste	(Same as Edible food waste)	
Paper towels & napkins	N/A	
Batteries	Will continue to divert via special recycling program. Initiate discussion on reduction opportunities.	
Lamps and Bulbs	Will continue to divert via special recycling program. Initiate discussion on reduction opportunities.	
E-waste	Will continue to divert via special recycling program. Initiate discussion on reduction opportunities.	
Other HHW	Will continue to divert via special recycling program. Initiate discussion on reduction opportunities.	
Scrap Wood	Will continue to divert via special recycling program. Initiate discussion on reduction opportunities.	
Textiles	N/A	
Other residual	N/A	
PPE	N/A	
Coffee pods	N/A	
Sanitary	N/A	
Other waste	N/A	
Oil & Grease	Will continue to divert via special recycling program. Initiate discussion on reduction opportunities.	
Furniture/Equipment	Will continue to divert via special recycling program. Initiate discussion on reduction opportunities.	
IV. Responsibility for Implementing The Waste Reduction Work Plan		
Identify who is responsible for implementing the Waste Reduction Work Plan at your entity(ies). If more than one person is responsible for implementation, identify each person who is responsible and indicate the part of the Waste Reduction Work Plan that each person is responsible for implementing.		
Name of Person	Responsibility	Phone Number
Lindsay Walker	Responsible for implementing the Waste Reduction Work Plan	416-675-6622

V.	Timetable for Implementing Waste Reduction Work Plan
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Provide a timetable indicating when each Source Separation and 3Rs program of the Waste Reduction Work Plan will be implemented.

Source Separation and 3Rs Program	Schedule for Completion
Newsprint & flyers	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Shredded paper	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Mixed paper	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Magazines & catalogues	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Carton-based packaging	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Boxboard	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Kraft paper	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Molded pulp	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Cardboard	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Soiled paper food packaging	N/A
Coffee cups	N/A
Other paper	N/A
Plastic beverage containers (#1, #2, #5) non-black	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Plastic non-beverage containers (#1, #2, #5) non-black	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Non-expanded Polystyrene (#6)	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Expanded Polystyrene (#6)	N/A
Plastic film (recyclable)	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Plastic film (non-recyclable)	N/A
Black plastics	N/A
Other Plastics	N/A
Glass	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Other glass	N/A
Aluminum cans	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Steel cans	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Aluminum Aerosol	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Other Non-Recyclable Metal	N/A
Other Recyclable metal	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Edible food waste	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Inedible food waste	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Coffee filters & tea bags	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Yard Waste	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Paper towels & napkins	N/A
Batteries	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Lamps and Bulbs	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
E-waste	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Other HHW	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Scrap Wood	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Textiles	N/A
Other residual	N/A
PPE	N/A
Coffee pods	N/A
Sanitary	N/A
Other waste	N/A
Oil & Grease	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.
Furniture/Equipment	3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.

VI. Communication to Staff, Customers, Guests and Visitors

Explain how the Waste Reduction Work Plan will be communicated to employees, customers, tenants, guests/visitors and students:

VII. Estimated Annual Waste Produced By Material Type And The Projected Annual Amount to be Diverted by the 3Rs					
Material Categories (as stated in Part III)	Estimated Annual Waste Produced * (kgs)	Projections to Reduce, Reuse or Recycle Waste/Yr (kgs)			Estimated Waste Diversion Rate ** (%)
		Reduce	Reuse	Recycle	
Newsprint & flyers	155.64	-	-	132.30	85%
Shredded paper	39,910.00	-	-	33,923.50	85%
Mixed paper	12,139.13	-	-	10,318.26	85%
Magazines & catalogues	0.00	-	-	0.00	85%
Carton-based packaging	4,551.00	-	-	3,868.35	85%
Boxboard	26,849.75	-	-	22,822.29	85%
Kraft paper	7,035.63	-	-	5,980.28	85%
Molded pulp	4,193.99	-	-	3,564.89	85%
Cardboard	22,918.13	-	-	19,480.41	85%
Soiled paper food packaging	1,305.05	131	-	-	10%
Coffee cups	22,457.03	2,246	-	-	10%
Other paper	17,592.90	-	-	14,953.97	85%
Plastic beverage containers (#1, #2, #5) non-black	21,556.76	-	-	18,323.24	85%
Plastic non-beverage containers (#1, #2, #5) non-black	49,081.35	-	-	29,448.81	60%
Non-expanded Polystyrene (#6)	6,430.23	-	-	5,465.70	85%
Expanded Polystyrene (#6)	0.00	-	-	-	N/A
Plastic film (recyclable)	1,901.67	-	-	950.84	50%
Plastic film (non-recyclable)	8,544.11	854	-	-	10%
Black plastics	424.00	42	-	-	10%
Other Plastics	6,035.11	604	-	-	10%
Glass	3,445.30	-	-	2,928.51	85%
Other glass	0.00	-	-	0.00	85%
Aluminum cans	4,700.61	-	-	3,995.52	85%
Steel cans	257.89	-	-	219.21	85%
Aluminum Aerosol	0.00	-	-	0.00	85%
Other Non-Recyclable Metal	2,397.31	240	-	-	10%
Other Recyclable metal	23,390.00	-	-	19,881.50	85%
Edible food waste	104,681.39	-	-	88,979.19	85%
Inedible food waste	29,325.35	-	-	24,926.55	85%
Coffee filters & tea bags	369.61	-	-	314.17	85%
Yard Waste	102,610.56	-	-	102,610.56	100%
Paper towels & napkins	47,261.45	4,726	-	-	10%
Batteries	264.89	-	-	264.89	100%
Lamps and Bulbs	232.24	-	-	232.24	100%
E-waste	22,705.58	-	-	22,705.58	100%
Other HHW	133.81	-	-	133.81	100%
Scrap Wood	70,877.76	-	-	70,877.76	100%
Textiles	3,794.79	-	-	-	N/A
Other residual	97.35	-	-	-	N/A
PPE	1,791.81	-	-	-	N/A
Coffee pods	0.00	-	-	-	N/A
Sanitary	5,172.21	-	-	-	N/A
Other waste	11,989.41	1,199	-	-	10%
Oil & Grease	708.00	-	-	708.00	100%
Furniture/Equipment	70,590.00	-	-	70,590.00	100%
Total	759,878.82	10,041	0	578,600	77%

* Estimated Waste Produced = Waste Diverted (3Rs) + Waste Disposed

** Estimated Waste Diversion Rate = Amount of Waste Diverted (3Rs) ÷ Estimated Waste Produced x 100%

I hereby certify that the information provided in this Waste Reduction Work Plan is complete and correct.

Signature of authorized official:

Date: