



Municipality of Dysart et al Depot Study

Fall 2022 Waste Composition Study Summary Report

Prepared for
Municipality of Dysart et al

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EXECUTIVE SUMMARY

AET Group Inc. (AET) conducted a residential depot waste composition study in the Municipality of Dysart et al, which included a three-day sampling period of 76 households equating to 701 generation days in the Fall season of 2022. The key findings of the study are as follows:

Depot Collection Results:

- Garbage Stream – an average of 1.30 bags were disposed per household per drop-off. Of the 98.5 bags collected, 97.97% was disposed in clear bags and 2.03% was disposed in dark/opaque bags.
- Fibres Recycling Stream – an average of 0.94 recycling bags/bag equivalent were disposed per household per drop-off. Of the 71.5 bags/bag equivalent collected, 78.32% was loose and 21.68% was bagged.
- Containers Recycling Stream – an average of 1.03 recycling bags/bag equivalent were disposed per household per drop-off. Of the 78 bags/bag equivalent collected, 29.49% was loose and 70.51% was bagged.

Garbage Stream Composition:

- Average quantity of material disposed in the garbage stream by a single-family household is 6.06 kg/hh/wk or 315.90 kg/hh/yr.
- Organic materials (currently accepted in the garbage stream, as there is no source separated organics program) represented 55.91% which equals 3.39 kg/hh/wk or 176.62 kg/hh/yr. This includes items such as food waste, yard waste and other organics.
- Recyclable materials (currently accepted in depot's recycling program) comprised 8.28% of the garbage stream by weight at 0.50 kg/hh/wk or 26.17 kg/hh/yr.

Fibres Recycling Stream Composition:

- Average quantity of material disposed in the fibres recycling stream by a single-family household is 1.80 kg/hh/wk or 93.95 kg/hh/yr.
- 4.84% of the fibres recycling stream is contamination.
- 2.45% of the fibres recycling stream is cross-contamination and should be placed in the containers recycling.

Containers Recycling Stream Composition:

- Average quantity of material disposed in the containers recycling stream by a single-family household is 2.22 kg/hh/wk or 115.54 kg/hh/yr.
- 25.68% of the containers recycling stream is contamination.
- 1.71% of the containers recycling stream is cross-contamination and should be placed in the fibres recycling.

Diversion Rates & Capture Rates:

- Single family households generate an average of 10.08 kg/hh/wk or 525.39 kg/hh/yr of waste (garbage, fibres recycling and containers recycling combined). Of that, a total of 3.37 kg/hh/wk or 175.69 kg/hh/yr is diverted from landfill, equaling a diversion rate of 33.44%.
- 87.22% of all acceptable recyclable fibres and containers materials were properly captured in the recycling streams (i.e. capture rate of 87.22%).

1.0 INTRODUCTION

1.1 Definitions

Capture Rate:	The capture rate is the percentage of a recyclable material collected and diverted of the total amount of that material generated.
Contamination Rate:	The percentage of misplaced material in a recycling or organics program that is not currently accepted in the program.
Diversion Rate:	The diversion rate is the percentage of the total waste generated that is diverted from disposal into the curbside recycling and organics program.
Divertible Material:	Materials that are accepted in a reduction, recycling or organics program which can be discarded in a non-garbage collection stream. Material that does not require disposal through landfill. This material is often referred to as recyclable material or compostable material. In the context of this report, divertible material refers only to materials currently accepted in the waste diversion program.
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.
Fibres Recycling Stream:	Material that is collected in the fibres stream for diversion rather than disposal.
Containers Recycling Stream:	Material that is collected in the containers stream for diversion rather than disposal
Bag Equivalents:	Ratio or value given to the amount of materials in a cart/bin/container/bag, to determine fullness. Value increases in increments of 25%, to a maximum fullness of 100% (full cart/bin/container/bag). It is based on the average size of the individual cart/bin/container/bag. For Dysart et al, auditors used a standard number of bags or equivalent rule of: 1 blue box = 1 bag; 1 garbage bin = 2 bag.

1.2 Background

Municipality of Dysart et al (Dysart) contracted AET Group Inc. (AET) to conduct a waste composition study (also referred to as a waste audit) in the Municipality of Dysart et al that focused on single family residential waste being dropped off at their municipal drop off depot. Material from single family residential sources were sampled over a three-day (October 12 to 14, 2022) sampling period during the Fall of 2022 at the Haliburton Landfill, located at 222 Industrial Park Rd, Dysart et al. The waste audit study included collecting and sorting garbage and recycling material (both fibres and containers) and maintaining a collection log noting property type, number of residential properties and generation days the material represents, the types and amounts of materials disposed, bag colour, disposal preference (whether the material was bagged or loose) and other diversion practices of each household.

1.3 Objectives

The objectives of the waste composition study were to:

- Collect accurate single-family residential waste composition data through the identification of types and quantities of generated waste;
- Calculate various performance measures such as generation, diversion, capture, contamination rates;
- Identify successes and challenges of waste management and diversion programs and
- Develop a seasonal report to detail the findings and provide recommendation for improvements to waste management and diversion programs.

2.0 APPROACH AND METHODOLOGY

2.1 Waste Sampling Process

AET's team collected garbage and recycling material equating to 701 generation days from single-family residential households over a three-day sampling period during the Fall of 2022. All garbage and recycling material being disposed of by residents was collected at the landfill on the first collection day, October 12, 2022. The collected material was moved to a centralized location where each waste stream was sorted separately.



Figure 2.1 Collected waste prior to auditing (Garbage and Recycling)

2.2 Residential Drop-off Log

Residential drop-off logs were maintained during the single-family residential depot collection of each household. Specific data including the number and colour of garbage and recycling bin/bag items disposed, preference (bagged or loose), other diversion practices as well as the property type and generation days of each household was recorded on site. In addition, all material was weighed on site.

An analysis of the collection log data provided total number of items disposed, total full bag equivalents, total number of households and bag equivalents per household for the study period.

2.3 Material Sorting Process

All material collected during the three-day sampling period was sorted and weighed by AET at the Haliburton Landfill located at 222 Industrial Park Road, Haliburton, Ontario. All collected garbage and recycling materials were

sorted and weighed separately. Samples were collected and sorted based on the material i.e., garbage, fibres, and containers.

Samples were sorted into 10 major waste groups, consisting of 130 individual sub-categories. The full list of sort categories can be found in Appendix B.

Separated/sorted waste was placed in blue boxes and totes, based on the 130 categories, and weighed individually. A digital scale, with precision to 0.01 kg, was used to weigh the sorted waste material. Once all the waste material was classified and weighed, it was disposed of in the appropriate recycling or garbage bins provided on-site

2.4 Assumptions & Calculations

This audit assumes that the selected households are representative of the composition of waste generated by single family residential properties in the Municipality of Dysart et al.

The following calculations were used to calculate the overall generation of waste.

Calculations:

Household Generation Days:

Number of households × Generation Period

Weekly Waste Generation (kg/hh/wk):

$$\left(\frac{\text{Sample Weight (kg)}}{\text{Household Generation Days}} \right) \times (7 \text{ Days})$$

Yearly Waste Generation (kg/hh/yr):

$$\left(\frac{\text{Sample Weight (kg)}}{\text{Household Generation Days}} \right) \times (365 \text{ Days})$$

Diversion Rate:

$$\left(\frac{\text{Weight of Accepted Material in Diversion Stream(s)}}{\text{Weight of all Material Generated}} \right) \times 100\%$$

Capture Rate:

$$\left(\frac{\text{Weight of Recyclable Material Diverted}}{\text{Weight of Recyclable Material Generated}} \right) \times 100\%$$

2.5 Observations and Notes from the Fall Season

The following notes summarize some observations made during the Fall seasonal audit:

- Total household waste generation days was 701 days.
- For fibres stream, most of the residents (approximately 78%) would bring their materials in bins (loose). The rest brought in grocery bags, corrugated boxes, or dog food/soil bags. While on the containers stream, most of the residents (residents (approximately 70%) would bring their materials in bags.
- This Fall season we did not have any case of mixed bins or bags in the fibers and recycling stream. This is a good sign that residents are separating the materials prior coming to the landfill.
- Some residents still mentioning wild animals as the biggest deterrents to home composting but would compost if there was a spot available at the landfill.
- Dysart implemented a textile recycling program in mid-August. Through this, purple bins are set up on site for residents to dispose of textiles. AET weighed this material separately while on site conducting the audit. A total of 19.70 kg of textiles was weighed from the households sampled. This material was not included in the calculations below.

3.0 RESULTS AND DISCUSSION

Results shown in this section are summarized into primary and secondary categories. Detailed audit sort results by material sub-category are available in Appendix A. Please note that for the purposes of this study, materials have been classified as 'recyclable', or 'non-divertible' based on their acceptance into the current recycling program.

For illustrative purposes, some of the results have been extrapolated to estimated generation rates of kilograms per household per week (kg/hh/wk) and kilograms per household per year (kg/hh/yr).

3.1 Depot Collection Results

A total of 76 households were sampled in the Fall season, totaling 701 household waste generation days over the course of the three-day seasonal audit.

Auditors collected information on property status, garbage bag type, disposal preference and additional home waste diversion practices. Table 3.1 illustrates the results of property type among households. Of the total 76 households, 93.42% were permanent residents, 5.26% were seasonal residents and 1.32% were short-term residents.

Table 3.1 Property Type Summary for Fall

Property Type:	# of Households	%
Permanent	71	93.42%
Seasonal	4	5.26%
Short-term	1	1.32%
Total	76	100.00%

Table 3.2 summarizes the drop-off details for the waste sample collection period. In total, 95.89% of households dropping off waste at the landfill are disposing waste from a single household. The remaining 4.11% of households dropping off waste at the landfill are disposing waste from more than one household.

Table 3.2 Drop off Details for Fall

Drop Off Details	Drop-Offs	%
Single Household Drop-off	70	95.89%
Multi Household Drop-off	3	4.11%
Total	73	100.00%

Table 3.3 summarizes the generation days per drop off. The most common waste drop-off interval is 7 days (once a week), accounting for 56.58%. A total of 17.11% of waste drop-offs represented 14 days (once every other week).

Table 3.3 Generation Days per Drop-Off for Fall

Generation Days	Number of Households Included	%
3 days	1	1.32%
4 days	3	3.95%
5 days	0	0.00%
6 days	2	2.63%
7 days	43	56.58%
14 days	13	17.11%
Greater than 14 days	5	6.58%
Between 8 and 13 days	9	11.84%
Total	76	100.00%

Table 3.4 illustrates the results of garbage bag type among households. Of the total 98.5 bags collected, 97.97% were clear and 2.03% were dark/opaque.

Table 3.4 Garbage Bag Type Summary for Fall

Garbage Bag Type	# of Bags	%
Clear	96.5	97.97%
Dark/Opaque	2	2.03%
Total	98.5	100.00%

Table 3.5 illustrates the results on the container disposal preference for fibres recycling. Of the 71.5 bags/bag equivalents collected, 21.68% was disposed of as bagged material and 78.32% was disposed as loose material.

Table 3.5 Fibres Disposal Summary for Fall

Fibres Disposal	# of Bags	%
Bagged	15.5	21.68%
Loose	56	78.32%
Total	71.5	100.00%

Table 3.6 illustrates the results on the container disposal preference for containers recycling. Of the 78 bags/bag equivalents collected, 70.51% was disposed of as bagged material and 29.49% was disposed as loose material.

Table 3.6 Containers Disposal Summary for Fall

Containers Disposal	# of Bags	%
Bagged	55	70.51%
Loose	23	29.49%
Total	78	100.00%

3.1.1 Disposal Rates

- Garbage Stream – an average of 1.30 bags were disposed per household per drop-off.

- Fibres Recycling Stream – an average of 0.94 recycling bags/bag equivalent were disposed per household per drop-off.
- Containers Recycling Stream – an average of 1.03 recycling bags/bag equivalent were disposed per household per drop-off.

3.2 Overall Waste Set-Out Profile

Table 3.7 illustrates the overall generation rates for all waste streams in the Municipality of Dysart et al. This information only assesses the weights of materials disposed in that particular stream. It does not show any contamination (i.e. recyclables in the garbage, non-divertible items in the recycling, etc.) placed in each stream. By weight, a total of 6.06 kg/hh/wk of garbage is disposed, 1.80 kg/hh/wk of fibres is disposed and 2.22 kg/hh/wk of containers is disposed at the depot.

Table 3.7 Waste Set-Out Rates

Material Stream	Weight (kg/hh/wk)	Weight (kg/hh/yr)	Percent of Total Material Generated (%)
Garbage	6.06	315.90	60.13%
Fibres	1.80	93.95	17.88%
Containers	2.22	115.54	21.99%
Total	10.08	525.39	100.00%

3.3 Overall Waste Generation Profile

The overall waste generation profile for the sampled Municipality of Dysart et al single-family households are shown in Figure 3.1. This overall waste generation profile includes the sampled garbage and recycling waste combined. Displayed is the overall amount of recycled materials (properly diverted from landfill), disposed organics, disposed special waste (HHW & depot materials), disposed non-divertible materials (true garbage) and disposed recyclables generated. It should be noted that the disposed special waste includes items that may have a disposal option at the depot and/or be accepted in the household hazardous waste events hosted by the Municipality of Dysart et al.

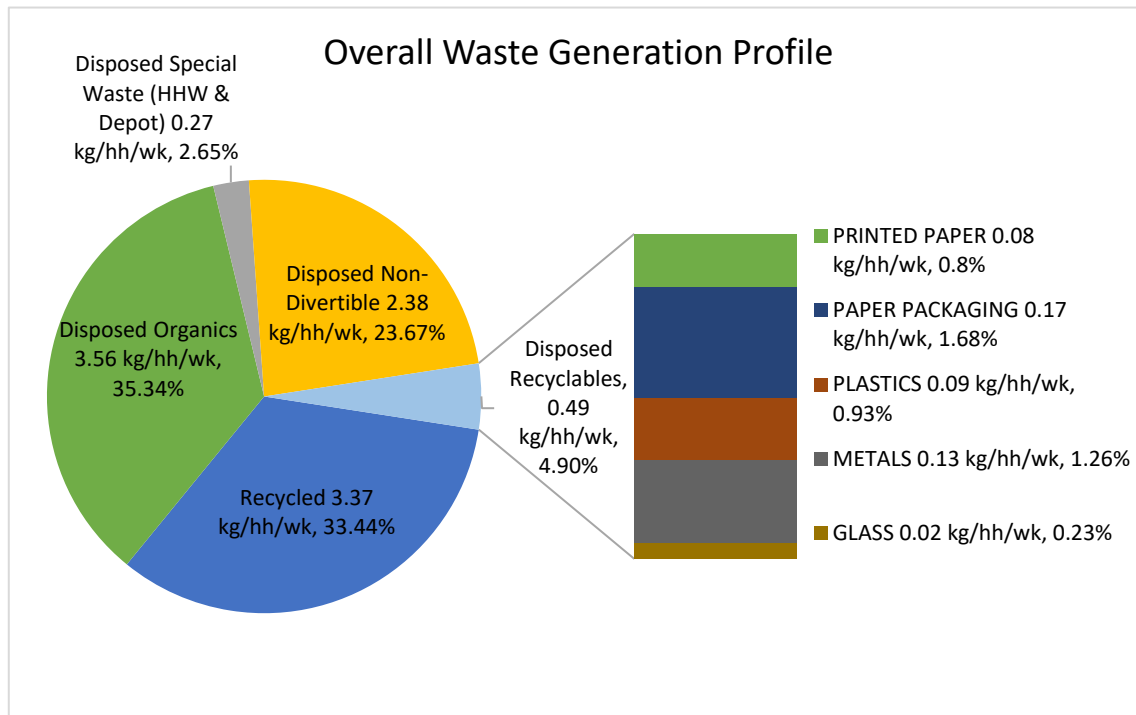


Figure 3.1 Overall Waste Generation Profile (kg/hh/wk)

As shown in Figure 3.1, an average of 35.34% consisted of disposed organics, 33.44% consisted of recycled material, 23.67% of waste generated by single-family households consisted of non-divertible material (true garbage), 4.90% consisted of disposed recyclable material (recycling that could be diverted) and the remaining 2.65% consisted of disposed special waste.

Municipality of Dysart et al had a residential diversion rate of 33.44% for the Fall season.

3.4 Garbage Stream Composition

The garbage generated by the sampled single-family households equated to 6.06 kg/hh/wk or 315.90 kg/hh/yr. Figure 3.2 shows the material composition of the garbage stream. Organic materials accounted for 55.91% (food waste accounted for 41.79% while yard waste and other organics accounted for 14.11%). Non-divertible materials accounted for 35.81%. The remaining 8.28% of the garbage stream consisted of recyclable materials.

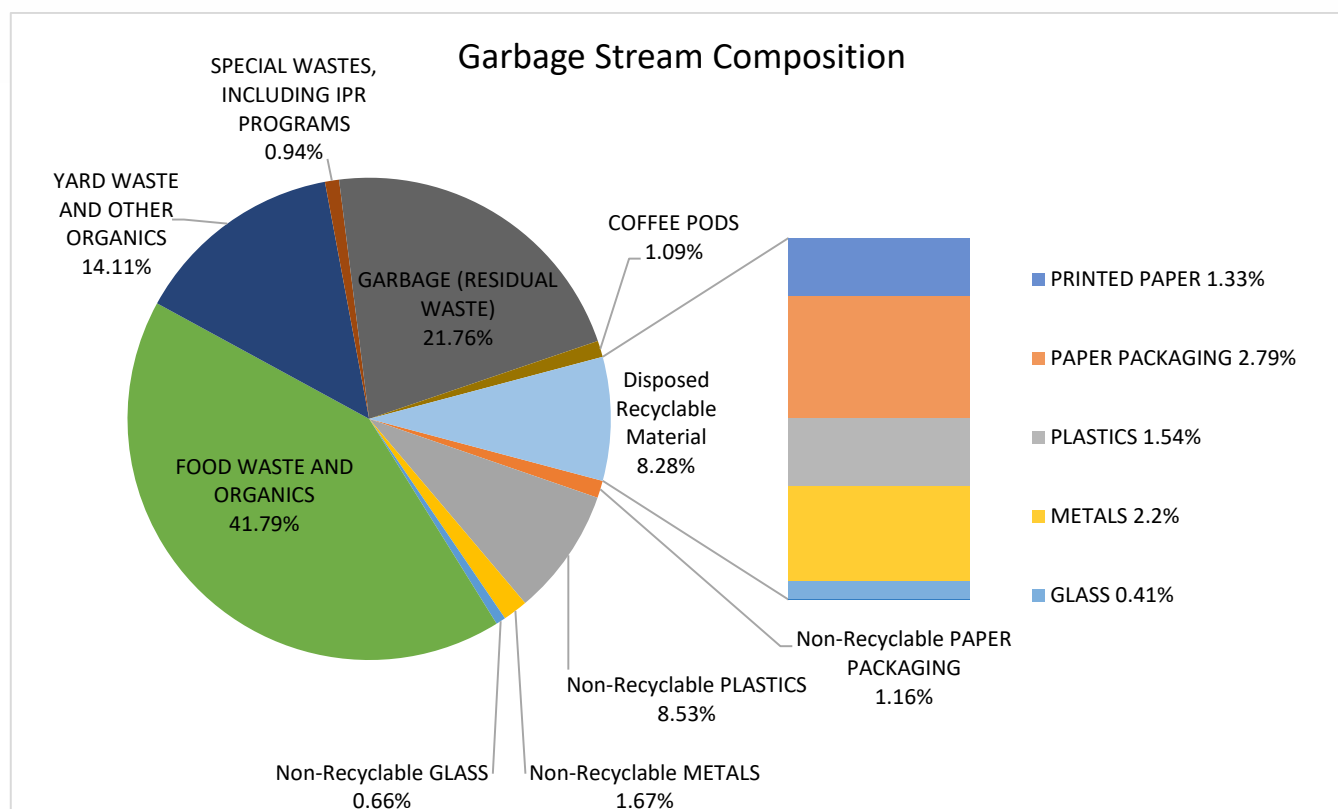


Figure 3.2 Garbage Stream Composition

Organics were the largest material category in the garbage stream, Table 3.8 provides a list of the most common organic items found in the garbage stream, the generation rates and percentage of the garbage stream.

Table 3.8 Most Common Organic Items in the Garbage

	Top 10 Organic Items in the Garbage	kg/hh/wk	kg/hh/yr	% of Stream
1	Unavoidable Fruits and Vegetables	1.01	52.75	16.70%
2	Tissue	0.63	33.07	10.47%
3	Leftover Meat and Fish	0.43	22.31	7.06%
4	Leftover Other	0.29	15.08	4.78%
5	Leftover Fruits and Vegetables	0.27	13.91	4.40%
6	Yard Waste	0.22	11.49	3.64%
7	Untouched Fruits and Vegetables	0.10	5.31	1.68%
8	Unavoidable Other	0.10	5.02	1.59%
9	Leftover Bakery	0.09	4.51	1.43%
10	Leftover Dairy	0.08	3.98	1.26%
	Total	3.21	167.44	53.00%

Table 3.9 and Table 3.10 provide a list of the most common recyclable fibre and container items found in the garbage stream, the generation rates and percentage of the garbage stream.

Table 3.9 Most Common Recyclable Fibres in the Garbage

	Top 10 Recyclable Fibres in the Garbage	kg/hh/wk	kg/hh/yr	% of Stream
1	Boxboard/Cores/Molded Pulp	0.08	3.95	1.25%
2	Other Printed Paper (Obligated)	0.04	2.31	0.73%
3	Polycoat Beverage Cups	0.03	1.82	0.58%
4	Corrugated Cardboard	0.03	1.32	0.42%
5	Other Paper Packaging (Non-Obligated)	0.01	0.71	0.23%
6	Newspapers - Daily and weekly	0.01	0.67	0.21%
7	Other Printed Paper (Non-Obligated)	0.01	0.62	0.20%
8	Ice Cream Containers and Other Bleached Long Polycoat	0.01	0.40	0.13%
9	Magazines and Catalogues	0.01	0.34	0.11%
10	Other Newspapers/Newsprint - Other	0.01	0.27	0.09%
	Total	0.24	12.41	3.93%

Table 3.10 Most Common Recyclable Containers in the Garbage

	Top 10 Recyclable Containers in the Garbage	kg/hh/wk	kg/hh/yr	% of Stream
1	Aluminum Foil & Foil Trays	0.05	2.56	0.81%
2	Other Rigid Plastic Packaging - Non- Beverage	0.04	1.85	0.59%
3	Steel Paint Cans	0.03	1.48	0.47%
4	Clear Glass - food and other products	0.02	1.21	0.38%
5	Steel Aerosol Container	0.02	1.07	0.34%
6	Other Paper Packaging (Non-Obligated)	0.01	0.71	0.23%
7	Aluminum Containers - Non-Alcoholic Beverage	0.01	0.65	0.21%
8	#5 Other PP Containers	0.01	0.56	0.18%
9	#1 PET Bottles - Clear - Non-Alcoholic Beverage	0.01	0.53	0.17%
10	#6 PS - Expanded Polystyrene	0.01	0.46	0.15%
	Total	0.21	11.09	3.51%

Figure 3.3 to Figure 3.6 provide examples of organic and recyclable materials found in the garbage stream.



Figure 3.3 Tissue waste in the Garbage Stream



Figure 3.4 Unavoidable Fruit and Vegetable waste in the Garbage Stream



Figure 3.5 Boxboard and Other Printed Paper in the Garbage Stream



Figure 3.6 Aluminum Foil and mix of Aluminum cans and Gable containers in the Garbage Stream

3.5 Fibres Stream Composition

The average generation rate for materials placed in the fibres recycling stream equated to 1.80 kg/hh/wk or 93.95 kg/hh/yr. Of this, recyclable fibres accounted for a total of 92.71%, cross-contaminating containers accounted for a total of 2.45%. The remaining 4.84% consisted of contamination (true garbage). Figure 3.7 provides a more detailed breakdown of the fibres recycling stream. Of the contamination, non-recyclable plastics (largely garbage bags, flexible film plastic, laminated films and durable plastic products) were the largest contamination at 1.70%. Non-recyclable paper packaging was the next largest contamination at 1.31%, followed by Yard waste and other organics at 1.29%. Garbage (residual waste), more specifically wood, insulation and textiles, at 0.28%, Food waste and organics, at 0.19%, and electronics, at 0.07%, all made small contributions to the contamination.

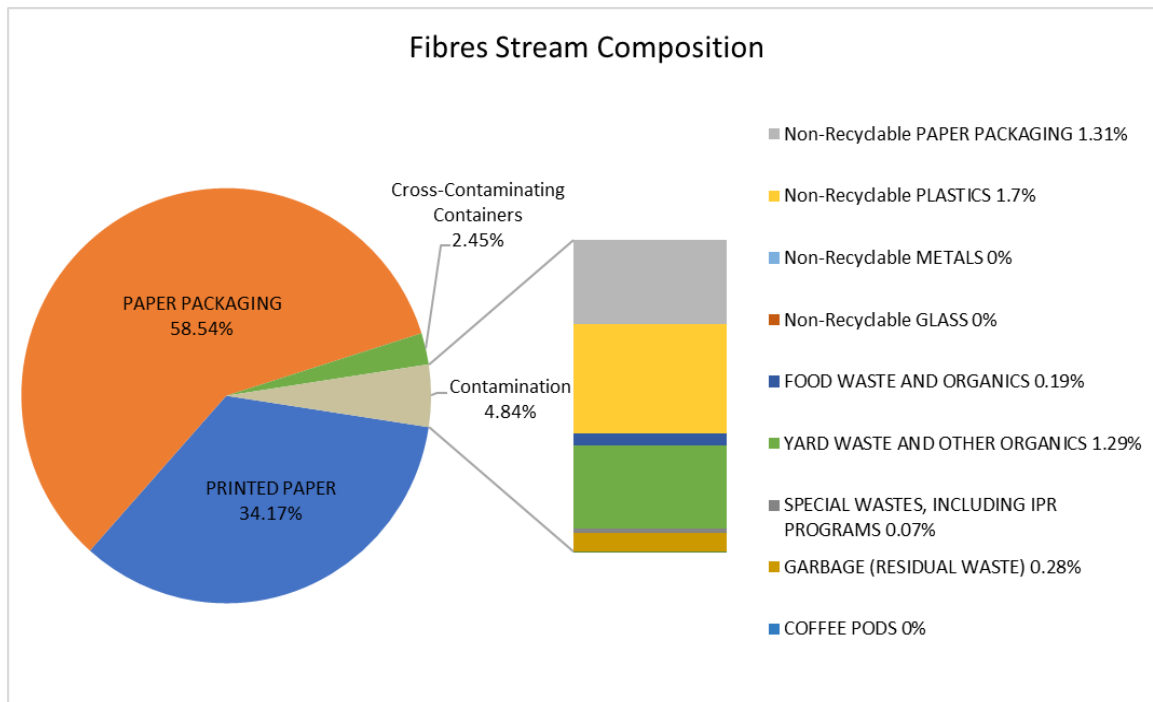


Figure 3.7 Fibres Stream Composition

Table 3.11 provides a list of the most common contaminants present in the fibres recycling stream, the generation rates and percentage of stream.

Table 3.11 Most Common Contaminants in the Fibres Recycling Stream

	Top 10 Contaminants in the Fibres Recycling Stream	kg/hh/wk	kg/hh/yr	% of Stream
1	Paper Laminate Packaging	0.02	1.23	1.31%
2	Yard Waste	0.01	0.68	0.73%
3	LDPE/HDPE Film - Products (non-packaging)	0.01	0.59	0.63%
4	Flexible Film Plastic – LDPE & HDPE	0.01	0.59	0.63%
5	Tissue	0.01	0.53	0.57%
6	Plastic Laminates and Other Film Packaging	0.006	0.33	0.35%
7	Other Waste	0.004	0.21	0.23%
8	Leftover Other	0.003	0.18	0.19%
9	Electronics	0.001	0.07	0.07%
10	Other Plastics - (non-packaging/durable)	0.001	0.07	0.07%
	Total	0.09	4.49	4.78%

Figure 3.8 to Figure 3.11 provides examples of contaminating and cross-contaminating materials found in the fibres recycling stream.



Figure 3.8 Flexible Film Plastic in the Fibres Recycling Stream.



Figure 3.9 Aluminum Containers (Alcoholic and non-alcoholic beverage) in the Fibres Recycling Stream



Figure 3.10 PET Bottles Beverage the Fibres Recycling Stream.



Figure 3.11 Tissue/Toweling in the Fibres Recycling Stream

3.6 Containers Stream Composition

The average generation rate for materials placed in the containers stream equated to 2.22 kg/hh/wk or 115.54 kg/hh/yr. Of this, recyclable containers accounted for a total of 72.61%, cross-contaminating fibres accounted for a total of 1.71%. The remaining 25.68% consisted of contamination (true garbage). Figure 3.12 provides a more detailed breakdown of the containers recycling stream.

Of the contamination, non-recyclable plastics was the largest (largely durable plastic products, flexible film plastic bags, garbage bags and plastic laminates and other film packaging), at 13.31%. Food waste and organics was the second largest contaminant (largely mixed other food) at 6.31%. Garbage (largely blinds, wood, lighter, case, ceramics and textiles), was the third largest contaminant, at 2.74%. Non-recyclable glass, at 1.70%, non-recyclable metals, at 0.59%, yard waste and other organics, at 0.33%, special wastes (car oil and electronics, at 0.30%), non-recyclable paper packaging, at 0.20% and coffee pods, at 0.19%, also made small contributions to the contamination.

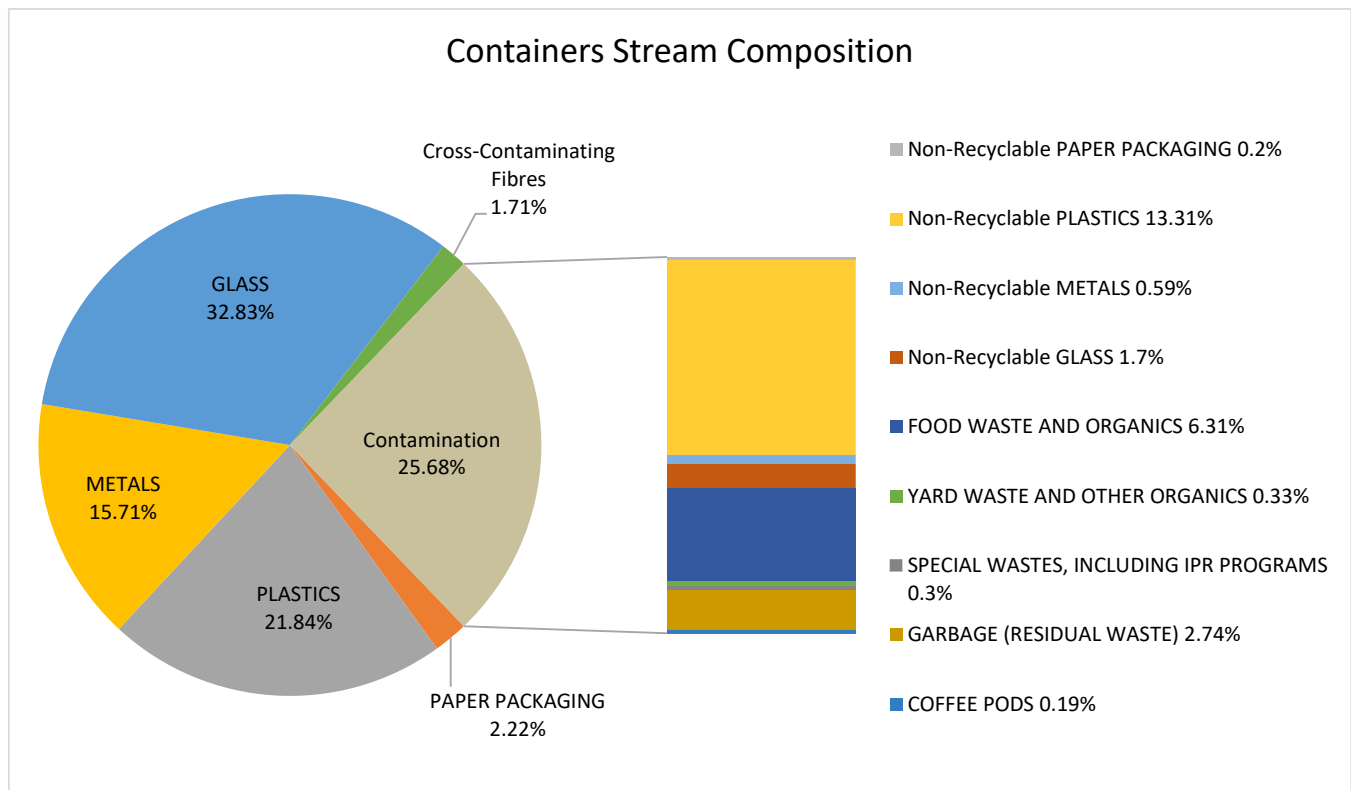


Figure 3.12 Containers Stream Composition

Table 3.12 provides a list of the most common contaminants present in the containers recycling stream, the generation rates and percentage of stream.

Table 3.12 Most Common Contaminants in the Containers Recycling Stream

	Top 10 Contaminants in the Containers Recycling Stream	kg/hh/wk	kg/hh/yr	% of Stream
1	Other Plastics - (non-packaging/durable)	0.11	5.57	4.82%
2	Flexible Film Plastic – LDPE & HDPE	0.09	4.64	4.02%
3	Untouched Other	0.06	2.93	2.53%
4	Leftover Other	0.06	2.93	2.53%
5	Other Waste	0.05	2.80	2.42%
6	LDPE/HDPE Film - Products (non-packaging)	0.05	2.47	2.14%
7	Other Glass - non-Blue Box	0.04	1.96	1.70%
8	Plastic Laminates and Other Film Packaging	0.04	1.91	1.65%
9	#2 HDPE Bottles and Jugs ≥ 5 L - All	0.01	0.75	0.65%
10	Other steel (non-packaging)	0.01	0.69	0.59%
	Total	0.51	26.63	23.05%

Figure 3.13 to Figure 3.16 provides examples of contaminating and cross-contaminating materials found in the containers recycling stream.

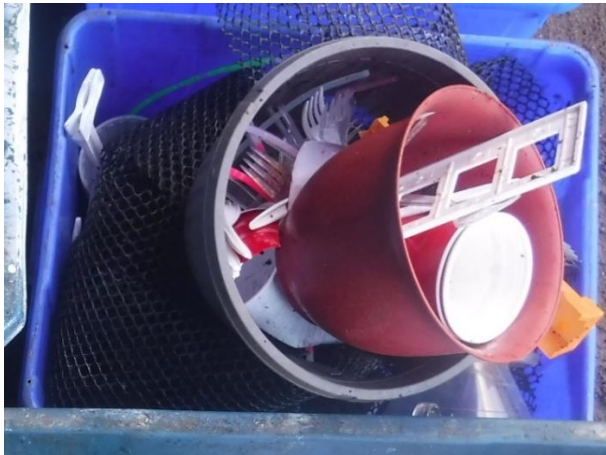


Figure 3.13 Other Plastics (non-packaging/durable) in the Containers Recycling Stream



Figure 3.14 Other Glass (non-blue box) in the Containers Recycling Stream



Figure 3.15 Boxboard/Cores/Molded Pulp in the Containers Recycling Stream



Figure 3.16 Flexible Film Plastic and Plastic Laminates in the Containers Recycling Stream

3.7 Capture Rates

The following section outlines Municipality of Dysart et al's capture rates for all recyclable materials included in the Municipality's recycling programs. The capture rates shown in Figure 3.17 have been determined by calculating the amount of each divertible material captured within the recycling streams compared to the overall amount of that specific material generated (disposed within the garbage and placed within the recycling streams together). The primary material with the lowest capture rate is metals, at 73.88%. The primary material with the highest capture rate is glass, at 96.92%. The capture rate for all recyclable materials is 87.22%.

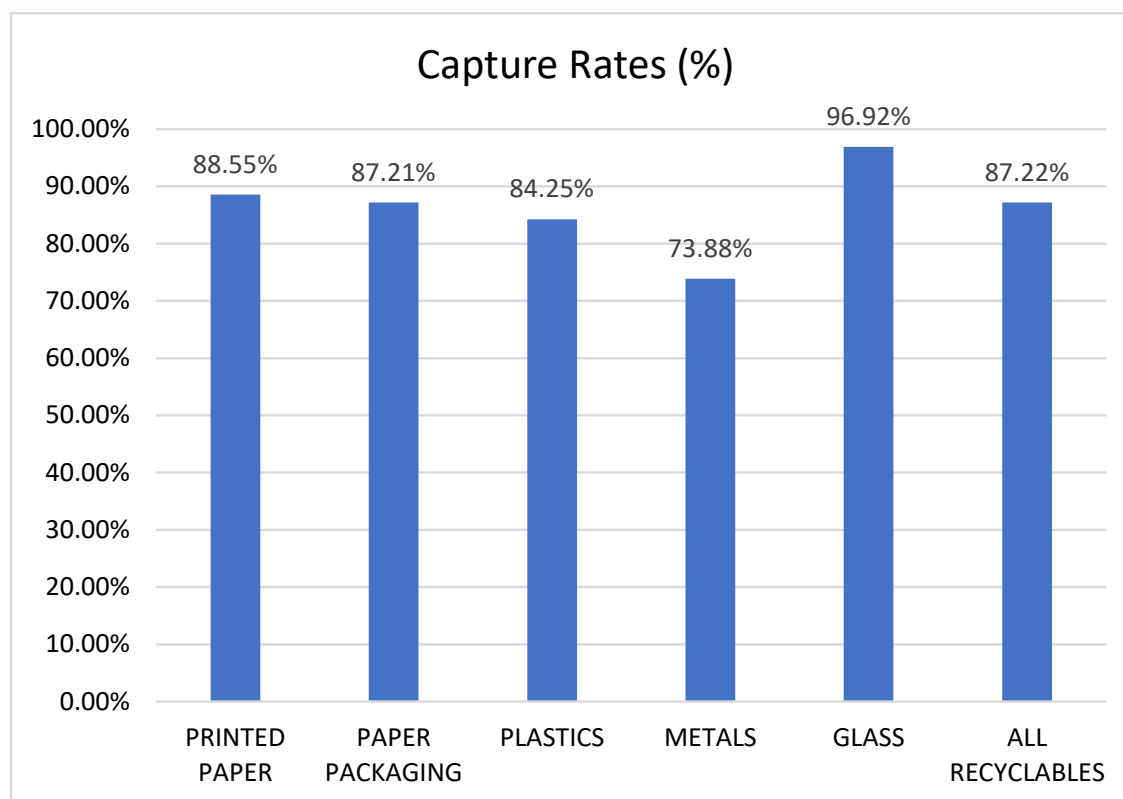


Figure 3.17 Capture Rates for Primary Material Categories

4.0 RECOMMENDATIONS

Presented are program recommendations for the Municipality of Dysart et al based on resident interaction and audit results in the Fall season. The Haliburton Landfill currently offers a variety of waste diversion programs which residents use, aside from this, some residents engage in other household waste diversion efforts as seen in Table 4.1. The diversion rate for the Haliburton Landfill was 33.44% in the Fall season.

Disposed organics accounted for 35.34% of overall waste in the Fall season. This amount decreased when compared with the summer season. The reduction of organics in waste was nearly 4%, when comparing to the summer season, at 39.01%.

Table 4.1 Other Household Diversion Efforts by Residents

Other Household Diversion Efforts	# of Households	%
Composting	22	28.95%
Terracycle	0	0.00%
Other	0	0.00%
None	54	71.05%
Total	76	100.00%

As seen above, 71.05% of all sampled households do not engage in other waste diversion practices while 28.95% participate in backyard composting. However, if we consider the 17 residents who mentioned interest in any kind of composting with the 22 already practicing it, the number of residents will reach 39 households or 51% of the sample. The amount of organic waste can be potentially reduced by:

- Providing residents alternatives of waste reductions by investing on educational topic, such as:
 - Food inventories at home;
 - Family meal plans;
 - The creation of cookbooks with recipes of how to use leftovers creatively;
 - Guides of how to save and eat leftovers safely;
 - The benefits of avoiding or reducing food waste.
- Running pilots to develop strategy for segregated food and organic waste collection targeting the largest produced food waste;
- Running simpler and cheaper pilots such as composting and/or anaerobic digestion to produce compost, biogas, heat, biofertilizers and other products;
- Providing residents with alternative options like home composters or community composting;
- Implementing a source separated organic program or providing a place where residents can compost or dispose organic material at the landfill.

No other source of diversion efforts was mentioned during the Fall season, such as burning paper, Terracycle and others.

Throughout the audit sampling period, auditors noted whether garbage was placed in clear bags or dark/opaque bags. A total of 2.03% of the garbage collected was in dark/opaque bags. This is a decrease from the summer season (5.79%) and shows more compliance with the clear garbage bag requirement. It is recommended that the landfill staff monitor and enforce the clear bag policy. This will ensure residents are aware of the policy and pay the appropriate fees if they choose to use dark/opaque bags.

When analysing the recycling disposal, it was noticed a substantial improvement throughout the seasons. During the summer season, 36.23% of the fibres stream and 79.46% of the container stream were bagged, while for Fall, 21.68% of fibres stream and 70.51% of containers stream were bagged. This is an improvement of nearly 15% for fibre stream and 9% containers stream. However, recycling streams can easily be stored and transported without the necessity of being bagged. It is recommended that the landfill staff monitor and educate the residents to reduce or reuse plastic bags in the recycling streams.

Enhancements to the Promotion & Education (P&E) program can assist the Municipality of Dysart et al in improving their current waste program. The overall goals should focus on the proper placement of recyclable materials, household hazardous waste disposal options, reduction in recycling stream contamination and cross-contamination and the clear bag program. Several outlets can be utilized to communicate the P&E program to residents. This can be done through social media, print advertising, site signage and a tax bill insert.

Dysart et al incorporated a textile diversion option to their landfill in August of 2022. Auditors noted that the purple textile recycling bin is located in a visible location for residents to spot when dropping off waste. Through the waste collection period, one household dropped off textiles to be recycled.

5.0 CONCLUSIONS

The following conclusions were made from the Fall seasonal residential depot audit completed in the Municipality of Dysart et al:

Depot Collection Results:

- Garbage Stream – an average of 1.30 bags were disposed per household per drop-off. Of the 98.5 bags collected, 97.97% was disposed in clear bags and 2.03% was disposed in dark/opaque bags.
- Fibres Recycling Stream – an average of 0.94 recycling bags/bag equivalent were disposed per household per drop-off. Of the 71.5 bags/bag equivalent collected, 78.32% was loose and 21.68% was bagged.
- Containers Recycling Stream – an average of 1.03 recycling bags/bag equivalent were disposed per household per drop-off. Of the 78 bags/bag equivalent collected, 29.49% was loose and 70.51% was bagged.

Garbage Stream Composition:

- Average quantity of material disposed in the garbage stream by a single-family household is 6.06 kg/hh/wk or 315.90 kg/hh/yr.
- Organic materials (currently accepted in the garbage stream, as there is no source separated organics program) represented 55.91% which equals 3.39 kg/hh/wk or 176.62 kg/hh/yr. This includes items such as food waste, yard waste and other organics.
- Recyclable materials (currently accepted in depot's recycling program) comprised 8.28% of the garbage stream by weight at 0.50 kg/hh/wk or 26.17 kg/hh/yr.

Fibres Recycling Stream Composition:

- Average quantity of material disposed in the fibres recycling stream by a single-family household is 1.80 kg/hh/wk or 93.95 kg/hh/yr.
- 4.84% of the fibres recycling stream is contamination.
- 2.45% of the fibres recycling stream is cross-contamination and should be placed in the containers recycling.

Containers Recycling Stream Composition:

- Average quantity of material disposed in the containers recycling stream by a single-family household is 2.22 kg/hh/wk or 115.54 kg/hh/yr.
- 30.20% of the containers recycling stream is contamination.
- 1.71% of the containers recycling stream is cross-contamination and should be placed in the fibres recycling.

Diversion Rates & Capture Rates:

- Single family households generate an average of 10.08 kg/hh/wk or 525.39 kg/hh/yr of waste (garbage, fibres recycling and containers recycling combined). Of that, a total of 3.37 kg/hh/wk or 175.69 kg/hh/yr is diverted from landfill, equaling a diversion rate of 33.44%.
- 87.22% of all acceptable recyclable fibres and containers materials were properly captured in the recycling streams (i.e. capture rate of 87.22%).

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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 study results. These results reflect measurements made over 3 days in the Fall season as described in the methodology. As such, waste generation measurements should be considered snapshots and may not reflect accurately conditions across the Municipality of Dysart et al over time. These reported generation, capture, diversion, and contamination rates more accurately reflect the quantity of each material generated over the study period and have been extrapolated to calculate weekly and yearly rates as outlined in the calculations.

APPENDIX A

WASTE AUDIT RESULTS



Residential Depot Audit Results - Dysart et al Fall 2022

		Municipality:	Dysart et al	Dysart et al	Dysart et al	Total Sampled Disposed (kg)	Disposed per Household per Week (kg/hh/wk)	Percent Composition (%)	Total Sampled Recycling (kg)	Recycled per Household per Week (kg/hh/wk)	Percent Composition (%)	Total Sampled Recycling (kg)	Recycled per Household per Week (kg/hh/wk)	Percent Composition (%)									
		Sample Area/Depot Location:	Haliburton	Haliburton	Haliburton																		
		Waste Stream:	Garbage	Fibres	Containers										Garbage	Garbage	Garbage	Fibres	Fibres	Fibres	Containers	Containers	Containers
		Date Collected (month/day/year):	10/12/2022	10/12/2022	10/12/2022																		
		Household Generation Days	701	701	701										701			701		701			
		Audit Supervisor:	Lucas V	Lucas V	Lucas V																		
		Notes:																					
Material Category	Accepted? F = Fibres C = Containers R = Single-Stream Recycling O = Organic W = Waste Depot = Alternate Drop-off Stream Deposit = Deposit Containers	Weight	Weight	Weight	Weight	Weight	Percentage	Weight	Weight	Percentage	Weight	Weight	Percentage										
		(kg)	(kg)	(kg)	(kg)	(kg/hh/wk)	(%)	(kg)	(kg/hh/wk)	(%)	(kg)	(kg/hh/wk)	(%)										
PRINTED PAPER																							
1	Newspapers - Daily and weekly	F	1.29	10.43	0.33	1.29	0.01	0.21%	10.43	0.10	5.78%	0.33	0.00	0.15%									
2	Other Newspapers/Newsprint - Other	F	0.52	8.46	0.47	0.52	0.01	0.09%	8.46	0.08	4.69%	0.47	0.00	0.21%									
3	Magazines and Catalogues	F	0.66	14.83	0.00	0.66	0.01	0.11%	14.83	0.15	8.22%	0.00	0.00	0.00%									
4	Directories / Telephone books	F	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%									
5	Other Printed Paper (Obligated)	F	4.43	5.21	0.08	4.43	0.04	0.73%	5.21	0.05	2.89%	0.08	0.00	0.04%									
6	Other Printed Paper (Non-Obligated)	F	1.19	22.73	0.00	1.19	0.01	0.20%	22.73	0.23	12.60%	0.00	0.00	0.00%									
TOTAL PRINTED PAPER			8.09	61.66	0.88	8.09	0.08	1.33%	61.66	0.62	34.17%	0.88	0.01	0.40%									
PAPER PACKAGING																							
1	Gable Top Containers - Food and other non-beverage	C	0.00	0.15	0.95	0.00	0.00	0.00%	0.15	0.00	0.08%	0.95	0.01	0.43%									
2	Gable Top Carton – Beverage non-dairy	C	0.00	0.09	0.18	0.00	0.00	0.00%	0.09	0.00	0.05%	0.18	0.00	0.08%									
3	Gable Top Carton – Dairy & Substitutes	C	0.23	0.94	0.85	0.23	0.00	0.04%	0.94	0.01	0.52%	0.85	0.01	0.38%									
4	Gable Top Containers - Alcoholic Beverage	Deposit	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%									
5	Aseptic Containers - Food and other non-beverage	C	0.05	0.26	0.92	0.05	0.00	0.01%	0.26	0.00	0.14%	0.92	0.01	0.41%									
6	Aseptic Carton – Beverage non-dairy	C	0.32	0.22	0.20	0.32	0.00	0.05%	0.22	0.00	0.12%	0.20	0.00	0.09%									
7	Aseptic Carton – Dairy & Substitutes	C	0.00	0.00	0.52	0.00	0.00	0.00%	0.00	0.00	0.00%	0.52	0.01	0.23%									
8	Aseptic Containers - Alcoholic Beverage	Deposit	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%									
9	Polycoat Beverage Cups	F	3.50	0.64	0.23	3.50	0.03	0.58%	0.64	0.01	0.35%	0.23	0.00	0.10%									
10	Spiral Wound Containers	C	0.60	0.39	1.31	0.60	0.01	0.10%	0.39	0.00	0.22%	1.31	0.01	0.59%									
11	Ice Cream Containers and Other Bleached Long Polycoat Fibre	F	0.76	0.86	0.49	0.76	0.01	0.13%	0.86	0.01	0.48%	0.49	0.00	0.22%									
12	Paper Laminate Packaging	W	7.06	2.37	0.44	7.06	0.07	1.16%	2.37	0.02	1.31%	0.44	0.00	0.20%									
13	Corrugated Cardboard	F	2.53	44.05	0.00	2.53	0.03	0.42%	44.05	0.44	24.41%	0.00	0.00	0.00%									
14	Boxboard/Cores/Molded Pulp	F	7.59	59.81	2.17	7.59	0.08	1.25%	59.81	0.60	33.15%	2.17	0.02	0.98%									
15	Other Paper Packaging (Non-Obligated)	F	1.37	0.27	0.03	1.37	0.01	0.23%	0.27	0.00	0.15%	0.03	0.00	0.01%									
TOTAL PAPER PACKAGING			24.01	110.05	8.29	24.01	0.24	3.96%	110.05	1.10	60.99%	8.29	0.08	3.74%									
PLASTICS																							
1	#1 PET Bottles and Jars - Clear - Non- Beverage	C	0.22	0.00	6.88	0.22	0.00	0.04%	0.00	0.00	0.00%	6.88	0.07	3.10%									
2	#1 PET Bottles and Jars - Coloured - Non-Beverage	C	0.06	0.00	0.51	0.06	0.00	0.01%	0.00	0.00	0.00%	0.51	0.01	0.23%									
3	#1 PET Bottles and Jars - Black - Non- Beverage	C	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%									
4	#1 PET Bottles - Clear - Non-Alcoholic Beverage	C	1.01	0.57	11.05	1.01	0.01	0.17%	0.57	0.01	0.32%	11.05	0.11	4.98%									
5	#1 PET Bottles - Coloured & Black- Non- Alcoholic Beverage	C	0.04	0.00	0.00	0.04	0.00	0.01%	0.00	0.00	0.00%	0.00	0.00	0.00%									
6	#1 PET Bottles - Clear – Alcoholic Beverage	Deposit	0.00	0.00	0.31	0.00	0.00	0.00%	0.00	0.00	0.00%	0.31	0.00	0.14%									
7	#1 PET Bottles - Coloured & Black- Alcoholic Beverage	Deposit	0.00	0.00	0.13	0.00	0.00	0.00%	0.00	0.00	0.00%	0.13	0.00	0.06%									
8	#1 PET Bottles and Jars ≥ 5 L - All	C	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%									
9	#1 PET Thermoform - Clear	C	0.73	0.05	6.84	0.73	0.01	0.12%	0.05	0.00	0.03%	6.84	0.07	3.08%									
10	#1 PET Thermoform - Coloured	C	0.12	0.00	0.72	0.12	0.00	0.02%	0.00	0.00	0.00%	0.72	0.01	0.32%									
11	#1 PET Thermoform - Black	C	0.08	0.00	0.19	0.08	0.00	0.01%	0.00	0.00	0.00%	0.19	0.00	0.09%									
12	#2 HDPE Bottles and Jugs (Natural) - Non-Beverage	C	0.19	0.00	2.69	0.19	0.00	0.03%	0.00	0.00	0.00%	2.69	0.03	1.21%									
13	#2 HDPE Bottles and Jugs (Coloured) - Non-Beverage	C	0.18	0.09	5.08	0.18	0.00	0.03%	0.09	0.00	0.05%	5.08	0.05	2.29%									
14	#2 HDPE Bottles and Jugs (Black) - Non- Beverage	C	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%									
15	#2 HDPE Bottles (Natural) - Non- Alcoholic Beverage - Non-dairy	C	0.00	0.00	0.06	0.00	0.00	0.00%	0.00	0.00	0.00%	0.06	0.00	0.03%									
16	#2 HDPE Bottles (Natural) - Non- Alcoholic Beverage - Dairy and Dairy Substitutes	C	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%									
17	#2 HDPE Bottles (Coloured & Black) - Non-Alcoholic Beverage - Non-dairy	C	0.00	0.00	0.47	0.00	0.00	0.00%	0.00	0.00	0.00%	0.47	0.00	0.21%									
18	#2 HDPE Bottles (Coloured and Black) - Non-Alcoholic Beverage - Dairy and Dairy Substitutes	C	0.07	0.07	0.64	0.07	0.00	0.01%	0.07	0.00	0.04%	0.64	0.01	0.29%									
19	#2 HDPE Bottles (Natural) - Alcoholic Beverage	Deposit	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%									
20	#2 HDPE Bottles (Coloured & Black) - Alcoholic Beverage	Deposit	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%									
21	#2 HDPE Bottles and Jugs ≥ 5 L - All	W	0.00	0.00	1.44	0.00	0.00	0.00%	0.00	0.00	0.00%	1.44	0.01	0.65%									
22	#2 Other HDPE Containers	C	0.00	0.00	0.08	0.00	0.00	0.00%	0.00	0.00	0.00%	0.08	0.00	0.04%									
23	Flexible Film Plastic – LDPE & HDPE	W	16.55	1.14	8.91	16.55	0.17	2.73%	1.14	0.01	0.63%	8.91	0.09	4.02%									
24	LDPE/HDPE Film - Products (non-packaging)	W	9.44	1.14	4.74	9.44	0.09	1.56%	1.14	0.01	0.63%	4.74	0.05	2.14%									
25	#5 PP Bottles - Non-Beverage	C	0.02	0.00	0.36	0.02	0.00	0.00%	0.00	0.00	0.00%	0.36	0.00	0.16%									
26	#5 PP Bottles - Non-Alcoholic Beverage	C	0.12	0.00	0.20	0.12	0.00	0.02%	0.00	0.00	0.00%	0.20	0.00	0.09%									
27	#5 PP Bottles - Alcoholic Beverage	Deposit	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%									
28	#5 Other PP Containers	C	1.08	0.00	4.34	1.08	0.01	0.18%	0.00	0.00	0.00%	4.34	0.04	1.96%									
29	#5 Other PP Containers (Black)	C	0.11	0.00	2.66	0.11	0.00	0															

Municipality: Sample Area/Depot Location: Waste Stream: Date Collected (month/day/year): Household Generation Days Audit Supervisor: Notes:			Dysart et al	Dysart et al	Dysart et al	Total Sampled Disposed (kg)	Disposed per Household per Week (kg/hh/wk)	Percent Composition (%)	Total Sampled Recycling (kg)	Recycled per Household per Week (kg/hh/wk)	Percent Composition (%)	Total Sampled Recycling (kg)	Recycled per Household per Week (kg/hh/wk)	Percent Composition (%)	
			Haliburton	Haliburton	Haliburton										
			Garbage	Fibres	Containers	Garbage	Garbage	Garbage	Fibres	Fibres	Fibres	Containers	Containers	Containers	
			10/12/2022	10/12/2022	10/12/2022										
			701	701	701	701			701			701			
			Lucas V	Lucas V	Lucas V										
Material Category		Accepted? F = Fibres C = Containers R = Single-Stream Recycling O = Organic W = Waste Depot = Alternate Drop-off Stream Deposit = Deposit Containers	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg/hh/wk)	Percentage (%)	Weight (kg)	Weight (kg/hh/wk)	Percentage (%)	Weight (kg)	Weight (kg/hh/wk)	Percentage (%)	
10	Untouched Dried Food	W	2.86	0.00	0.20	2.86	0.03	0.47%	0.00	0.00	0.00%	0.20	0.00	0.09%	
11	Untouched Fruits and Vegetables	W	10.20	0.00	0.00	10.20	0.10	1.68%	0.00	0.00	0.00%	0.00	0.00	0.00%	
12	Untouched Other	W	2.03	0.00	5.62	2.03	0.02	0.33%	0.00	0.00	0.00%	5.62	0.06	2.53%	
13	Unavoidable Bakery	W	0.37	0.00	0.00	0.37	0.00	0.06%	0.00	0.00	0.00%	0.00	0.00	0.00%	
14	Unavoidable Meat and Fish	W	7.20	0.00	0.07	7.20	0.07	1.19%	0.00	0.00	0.00%	0.07	0.00	0.03%	
15	Unavoidable Dairy	W	0.02	0.00	0.00	0.02	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	
16	Unavoidable Dried Food	W	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	
17	Unavoidable Fruits and Vegetables	W	101.31	0.00	1.03	101.31	1.01	16.70%	0.00	0.00	0.00%	1.03	0.01	0.46%	
18	Unavoidable Other	W	9.64	0.00	0.00	9.64	0.10	1.59%	0.00	0.00	0.00%	0.00	0.00	0.00%	
	TOTAL FOOD WASTE AND ORGANICS		253.57	0.34	14.00	253.57	2.53	41.79%	0.34	0.00	0.19%	14.00	0.14	6.31%	
	YARD WASTE AND OTHER ORGANICS														
1	Yard Waste	W	22.07	1.31	0.00	22.07	0.22	3.64%	1.31	0.01	0.73%	0.00	0.00	0.00%	
2	Grass clippings	W	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	
3	Compostable Certified Bags	W	0.05	0.00	0.00	0.05	0.00	0.01%	0.00	0.00	0.00%	0.00	0.00	0.00%	
4	Tissue	W	63.51	1.02	0.74	63.51	0.63	10.47%	1.02	0.01	0.57%	0.74	0.01	0.33%	
	TOTAL YARD WASTE AND OTHER ORGANICS		85.63	2.33	0.74	85.63	0.86	14.11%	2.33	0.02	1.29%	0.74	0.01	0.33%	
	SPECIAL WASTES, INCLUDING IPR PROGRAMS														
1	Household batteries (single-use and rechargeable)	Depot	0.30	0.00	0.00	0.30	0.00	0.05%	0.00	0.00	0.00%	0.00	0.00	0.00%	
2	Hazardous & Special Products	Depot	0.23	0.00	0.41	0.23	0.00	0.04%	0.00	0.00	0.00%	0.41	0.00	0.18%	
3	Electronics	Depot	3.75	0.13	0.18	3.75	0.04	0.62%	0.13	0.00	0.07%	0.18	0.00	0.08%	
4	Tires	Depot	1.27	0.00	0.00	1.27	0.01	0.21%	0.00	0.00	0.00%	0.00	0.00	0.00%	
5	Medications and Sharps	Depot	0.16	0.00	0.08	0.16	0.00	0.03%	0.00	0.00	0.00%	0.08	0.00	0.04%	
6	Biohazardous/Medical Waste	W	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	
	TOTAL SPECIAL WASTES, INCLUDING IPR PROGRAMS		5.71	0.13	0.67	5.71	0.06	0.94%	0.13	0.00	0.07%	0.67	0.01	0.30%	
	GARBAGE (RESIDUAL WASTE)														
1	Carpet	Depot	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	
2	Construction & Demolition Waste	Depot	8.75	0.00	0.00	8.75	0.09	1.44%	0.00	0.00	0.00%	0.00	0.00	0.00%	
3	Ceramics	W	1.17	0.00	0.52	1.17	0.01	0.19%	0.00	0.00	0.00%	0.52	0.01	0.23%	
4	Diapers	W	21.73	0.00	0.00	21.73	0.22	3.58%	0.00	0.00	0.00%	0.00	0.00	0.00%	
5	Other Electrical devices	W	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	
6	Other Metal	Depot	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	
7	Other Waste	W	38.20	0.41	5.37	38.20	0.38	6.30%	0.41	0.00	0.23%	5.37	0.05	2.42%	
8	Pet Waste	W	31.77	0.00	0.00	31.77	0.32	5.24%	0.00	0.00	0.00%	0.00	0.00	0.00%	
9	Sanitary Products	W	3.65	0.00	0.00	3.65	0.04	0.60%	0.00	0.00	0.00%	0.00	0.00	0.00%	
10	Textiles	W	26.72	0.09	0.19	26.72	0.27	4.40%	0.09	0.00	0.05%	0.19	0.00	0.09%	
	TOTAL GARBAGE (RESIDUAL WASTE)		131.99	0.50	6.08	131.99	1.32	21.76%	0.50	0.00	0.28%	6.08	0.06	2.74%	
	COFFEE PODS														
1	Plastic #5 PP - Full	W	5.08	0.00	0.26	5.08	0.05	0.84%	0.00	0.00	0.00%	0.26	0.00	0.12%	
2	Plastic #5 PP - Empty	W	0.08	0.00	0.12	0.08	0.00	0.01%	0.00	0.00	0.00%	0.12	0.00	0.05%	
3	Plastic #6 PS - Full	W	0.19	0.00	0.00	0.19	0.00	0.03%	0.00	0.00	0.00%	0.00	0.00	0.00%	
4	Plastic #6 PS - Empty	W	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	
5	Unmarked Plastics - Full	W	0.12	0.00	0.00	0.12	0.00	0.02%	0.00	0.00	0.00%	0.00	0.00	0.00%	
6	Unmarked Plastics - Empty	W	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	
7	Aluminium - Full	W	0.14	0.00	0.00	0.14	0.00	0.02%	0.00	0.00	0.00%	0.00	0.00	0.00%	
8	Aluminium - Empty	W	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	
9	Compostable	W	1.03	0.00	0.04	1.03	0.01	0.17%	0.00	0.00	0.00%	0.04	0.00	0.02%	
	TOTAL COFFEE PODS		6.64	0.00	0.42	6.64	0.07	1.09%	0.00	0.00	0.00%	0.42	0.00	0.19%	
	Total Recyclable Fibre Material		23.84	167.29	3.80	23.84	0.24	3.93%	167.29	1.67	92.71%	3.80	0.04	1.71%	
	Total Recyclable Container Material		25.62	3.49	120.61	25.62	0.26	4.22%	3.49	0.03	1.93%	120.61	1.20	54.35%	
	Total Depot Material		24.58	0.13	1.99	24.58	0.25	4.05%	0.13	0.00	0.07%	1.99	0.02	0.90%	
	Total Deposit Return Material		0.80	0.93	40.51	0.80	0.01	0.13%	0.93	0.01	0.52%	40.51	0.40	18.26%	
	Total Non-Divertible Material		531.86	8.60	54.99	531.86	5.31	87.66%	8.60	0.09	4.77%	54.99	0.55	24.78%	
	Total		606.70	180.44	221.90	606.70	6.06	100.00%	180.44	1.80	100.00%	221.90	2.22	100.00%	

APPENDIX B
WASTE AUDIT CATEGORIES GUIDE



Dysart et al Waste Audit Categories Guide

Material Category	Accepted Stream:	Description / Examples
PRINTED PAPER		
Newspapers - Daily and weekly	F	Daily and weekly newspapers published by the Canadian Newspaper Association (CNA) and the Ontario Community Newspapers Association (OCNA); Haliburton Echo, Minden Times, County Life, The Highlander No inserts, flyers and magazines from newspapers.
Other Newspapers/Newsprint - Other	F	Non OCNA/CNA publications (e.g. TV guides, Auto Trader, Real Estate News) plus inserts and flyers from OCNA/CNA newspapers made of newsprint. Consult Stewardship Ontario's list of OCNA/CNA publications.
Magazines and Catalogues	F	Glossy magazines, catalogues, calendars, annual reports and product manuals (must be bound, i.e. stapled or glued).
Directories / Telephone books	F	Telephone books and other directories such as the Yellow Pages
Other Printed Paper (Obligated)	F	Mixed fine paper, bills and statements, ad mail, etc. Includes non- newsprint flyers and advertising, promotional calendars. Includes shredded paper as high probability it was obligated paper (bills and statements).
Other Printed Paper (Non-Obligated)	F	Writing paper, office paper , soft or hard covered books, paper envelopes (blank), gift cards, purchased calendars, gift wrap, construction paper, photographs
PAPER PACKAGING		
Gable Top Containers - Food and other non-beverage	C	Polycoat containers with a gable shaped top for foods, sugar, molasses etc.
Gable Top Carton – Beverage non-dairy	C	Non-alcoholic non-dairy beverage polycoat cartons e.g. gable-top cartons that contained juices
Gable Top Carton – Dairy & Substitutes	C	Milk and milk substitutes in gable-top polycoat cartons e.g. Milk and soy milk, coconut milk, almond milk, etc.
Gable Top Containers - Alcoholic Beverage	Deposit	Polycoat containers with a gable shaped top for alcoholic beverages
Aseptic Containers - Food and other non-beverage	C	Polycoat fibre and foil containers (e.g. Tetra Pak) for soup, sauces etc.
Aseptic Carton – Beverage non-dairy	C	Non-alcoholic non-dairy beverage aseptic cartons e.g. gable-top cartons that contained juices
Aseptic Carton – Dairy & Substitutes	C	Milk and milk substitutes in aseptic cartons e.g. Milk and soy milk, coconut milk, almond milk, etc.
Aseptic Containers - Alcoholic Beverage	Deposit	Polycoat fibre and foil containers (e.g. Tetra Pak) for wine and other spirits
Polycoat Beverage Cups	F	Hot beverage/food containers, with polycoat on inside only, including coffee cups, soup cups/bowls, chili cups etc. Cold beverage/food containers with polycoat on both sides including fountain drinks, take-out ice cream cups.
Spiral Wound Containers	C	Polycoat or paper containers with steel bottoms include chip containers, frozen concentrate juices, pre-packaged cookie dough, etc. May also have foil and/or plastic on ends.
Ice Cream Containers and Other Bleached Long Polycoat Fibre	F	Polycoated paper ice cream containers, typically with a lid, excluding boxboard folded ice cream boxes. Food containers with white fibre and a rolled or folded rim, includes Michelina's frozen food, KFC tubs.
Paper Laminate Packaging	W	Paper with aluminum foil, paper with plastic, multi-layered paper - Includes microwave popcorn bags, some cookie bags, dog food bags, paper granola bar wrappers, laminated paper carry out bags, etc.
Corrugated Cardboard	F	Includes micro-flute corrugated containers, pizza boxes, waxed corrugated containers, electronic product boxes such as television and computer boxes, boxes used to direct mail for residential consumers. Kraft paper bags and wrap, grocery or retail bags, potato bags, some pet food bags, includes brown, white, and coloured Kraft paper and bags. No bags with bonded plastic or foil liners/layers/coatings.
Boxboard/Cores/Molded Pulp	F	Boxboard, paperboard, cereal box, shoe box, frozen food box, cores from toilet paper/ toweling/gift wrap, etc. Includes wet-strength boxboard, fast food, ice cream boxes, cartons such as fry/onion ring boxes and paper plates. Molded pulp packaging such as egg cartons, drink trays, other trays, molded pulp flower pots/trays, etc.
Other Paper Packaging (Non-Obligated)	F	Corrugated moving boxes that can be clearly identified as branded products, paper compost & leaf and yard bags

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Material Category	Accepted Stream:	Description / Examples
PLASTICS		
#1 PET Bottles and Jars - Clear - Non- Beverage	C	Clear and translucent #1 plastic bottles and jars for foods and other consumer products such as cooking oil, honey, dish soap, shampoos, etc.
#1 PET Bottles and Jars - Coloured - Non-Beverage	C	Solid colour #1 plastic bottles and jars for foods and other consumer products such as cooking oil, honey, dish soap, shampoos, etc. Does not include black PET.
#1 PET Bottles and Jars - Black - Non- Beverage	C	Black #1 plastic bottles and jars for foods and other consumer products such as cooking oil, honey, dish soap, shampoos, etc.
#1 PET Bottles - Clear - Non-Alcoholic Beverage	C	Clear and translucent #1 plastic bottles for non-alcoholic beverages such as pop and juice
#1 PET Bottles - Coloured & Black- Non- Alcoholic Beverage	C	Solid colour and black #1 plastic bottles for non-alcoholic beverages such as pop and juice.
#1 PET Bottles - Clear – Alcoholic Beverage	Deposit	Clear and translucent #1 plastic bottles alcoholic beverages
#1 PET Bottles - Coloured & Black- Alcoholic Beverage	Deposit	Solid colour and black #1 plastic bottles for alcoholic beverages such as vodka or other spirits
#1 PET Bottles and Jars ≥ 5 L - All	C	#1 plastic bottles and jars ≥ 5 L
#1 PET Thermoform - Clear	C	#1 clamshells, #1 egg cartons, #1 trays, #1 blister packaging, #1 drink cups, etc.
#1 PET Thermoform - Coloured	C	#1 coloured PET microwaveable trays, etc. Does not include black PET.
#1 PET Thermoform - Black	C	#1 black PET microwaveable trays, etc.
#2 HDPE Bottles and Jugs (Natural) - Non-Beverage	C	Natural #2 plastic bottles and jugs for laundry soap, shampoo, windshield washer fluid, etc.
#2 HDPE Bottles and Jugs (Coloured) - Non-Beverage	C	Coloured #2 plastic bottles and jugs for laundry soap, shampoo, windshield washer fluid, etc. Does not include black HDPE.
#2 HDPE Bottles and Jugs (Black) - Non- Beverage	C	Black #2 plastic bottles and jugs for laundry soap, shampoo, windshield washer fluid, etc.
#2 HDPE Bottles (Natural) - Non- Alcoholic Beverage - Non-dairy	C	Natural #2 plastic bottles and jugs for non-alcoholic beverages such as juice
#2 HDPE Bottles (Natural) - Non- Alcoholic Beverage - Dairy and Dairy Substitutes	C	Natural #2 plastic bottles and jugs for non-alcoholic beverages such as milk and milk substitutes (almond and soy milk)
#2 HDPE Bottles (Coloured & Black) - Non-Alcoholic Beverage - Non-dairy	C	Coloured and Black #2 plastic bottles and jugs for non-alcoholic non- dairy beverages such as juice, etc.
#2 HDPE Bottles (Coloured and Black) - Non- Alcoholic Beverage - Dairy and Dairy Substitutes	C	Coloured and Black #2 plastic bottles and jugs for non-alcoholic beverages such as milk and milk substitutes (almond and soy milk)
#2 HDPE Bottles (Natural) - Alcoholic Beverage	Deposit	Natural #2 plastic bottles and jugs for alcoholic beverages such as wine, beer or spirits.
#2 HDPE Bottles (Coloured & Black) - Alcoholic Beverage	Deposit	Coloured and Black #2 plastic bottles and jugs for alcoholic beverages such as wine, beer or spirits.
#2 HDPE Bottles and Jugs ≥ 5 L - All	W	#2 plastic bottles and jugs equal to or greater than 5 L
#2 Other HDPE Containers	C	Other #2 containers such as margarine and yogurt containers made from HDPE
Flexible Film Plastic – LDPE & HDPE	W	HDPE & LDPE film, dry cleaning bags, bread bags, frozen food bags, milk bags, toilet paper and paper towel over-wrap, lawn seed bags, grocery and retail carry-out bags Non-packaging HDPE & LDPE film (e.g. kitchen catchers, sandwich and freezer bags, etc.) goes in LDPE/HDPE Film - Products (non- packaging)
LDPE/HDPE Film - Products (non-packaging)	W	garbage bags, kitchen catchers, zip lock bags, leaf bags
#5 PP Bottles - Non-Beverage	C	# 5 plastic bottles for food and consumer products such as shampoos, sauces, etc.
#5 PP Bottles - Non-Alcoholic Beverage	C	# 5 plastic bottles for non-alcoholic beverages
#5 PP Bottles - Alcoholic Beverage	Deposit	# 5 plastic bottles for alcoholic beverages
#5 Other PP Containers	C	# 5 containers such as margarine and yogurt containers and other containers made from PP, including tubs and lids with resin codes #5 PP
#5 Other PP Containers (Black)	C	Black # 5 containers made from PP, including tubs and lids with resin codes #5 PP
#6 PS - Expanded Polystyrene	C	# 6 Foam take-out containers such as drink cups, large, white or coloured packaging foam, meat trays, etc.
#6 PS - Expanded Polystyrene (Black)	W	Black # 6 Foam take-out containers such as drink cups, large, black packaging foam, meat trays, etc.

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Material Category	Accepted Stream:	Description / Examples
#6 PS - Non-expanded Polystyrene - Non-beverage	C	#6 Polystyrene clear clamshell containers such as berry and muffin containers, opaque clamshell containers such as food take-out containers, yogurt containers, rigid trays, small milk or cream containers for hot beverages, cold drink cups.
#6 PS Non-expanded Polystyrene Bottles - Non-Alcoholic Beverage - Non- Dairy	C	#6 Non-expanded Polystyrene bottles for Non-alcoholic non- dairy beverages. Note, there will likely be minimal containers found in this category. This includes #PS containers for beverages like orange juice and water and typically have an aluminum foil lid.
#6 PS Non-expanded Polystyrene Bottles - Non-Alcoholic Beverage - Dairy and Dairy Substitutes	C	#6 Non-expanded Polystyrene bottles for Non-alcoholic dairy and dairy substitute beverages. Note, there will likely be minimal containers found in this category.
#6 PS Non-expanded Polystyrene Bottles - Alcoholic Beverage	Deposit	#6 Non-expanded Polystyrene bottles for Alcoholic beverages. Note, there will likely be minimal containers found in this material category.
#6 PS - Non-expanded Polystyrene (Black)	C	#6 Polystyrene black rigid trays or any other black containers.
Plastic Laminates and Other Film Packaging	W	Laminated plastic film and bags that are at least 85% plastic (by weight). Includes chip bags, vacuum sealed bags, cereal liners, candy wraps, pasta bags, boil in a bag, plastic based food pouches, etc.
Other Rigid Plastic Packaging - Non- Beverage	C	Other rigid containers (#3, #4 & #7), non-PET blister packaging, unmarked/coded packaging, plant pots and trays, pails etc.
Other Rigid Plastic Packaging - Non- Beverage (Black)	C	Other black rigid containers (#3, #4 & #7), non-PET blister packaging, unmarked/coded packaging, plant pots and trays, pails etc.
Other Rigid Plastic Packaging - Non-Alcoholic Beverage Bottles	C	#3, #4, #7 & unmarked/coded plastic bottles for Non-alcoholic beverages
Other Rigid Plastic Packaging - Alcoholic Beverage Bottles	Deposit	#3, #4, #7 & unmarked/coded plastic bottles for Alcoholic beverages
Large HDPE & PP Pails & Lids	W	Equal to or greater than 5 litres and less than 25 litres
Other Plastics - (non-packaging/durable)	W	Rubbermaid tubs, toys etc.
METALS		
Aluminum- Food Containers	C	Pet food cans, food cans (e.g., sardine cans)
Aluminum Containers - Non-Alcoholic Beverage	C	Beverage cans for non-alcoholic drinks such as pop and water, etc.
Aluminum Containers – Alcoholic Beverage	Deposit	Beverage cans for alcoholic drinks such as beer, ciders, coolers, etc.
Aluminum Foil & Foil Trays	C	Aluminum foil wrap, pie plates, baking trays, etc.
Aluminum Aerosols	C	Aluminum aerosol containers, hair products, etc.
Other Aluminum (non-packaging)	Depot	Aluminum siding, baking trays etc.
Steel Food Cans	C	Soup, beans, peaches cans, etc.
Steel - Non-Alcoholic Beverage	C	Apple juice and other non-alcoholic beverages
Steel - Alcoholic Beverage	Deposit	Steel Alcoholic beverage cans (Sapporo)
Steel Paint Cans	C	Empty paint cans
Steel Aerosol Container	C	Empty spray paint cans, cooking oil, whipped cream, etc.
Other steel (non-packaging)	Depot	Non-packaging steel products including baking trays, frying pans etc.
GLASS		
Clear Glass - food and other products	C	Food containers such as pickle jars, salsa jars and dairy tubs, cosmetic containers for creams
Clear Glass - Non-Alcoholic Beverage	C	Bottles for pop, water, juice and other non-alcoholic beverages
Clear Glass - Alcoholic Beverage	Deposit	Wine bottles, spirit bottles, single-serve cooler bottles, beer bottles
Coloured Glass - food and other products	C	Food containers such as pickle jars, salsa jars and dairy tubs, cosmetic containers for creams
Coloured Glass - Non-Alcoholic Beverage	C	Bottles for pop, water, juice and other non-alcoholic beverages
Coloured Glass - Alcoholic Beverage	Deposit	Wine bottles, spirit bottles, single-serve cooler bottles, beer bottles
Other Glass - non-Blue Box	W	Dishes, ceramics, window glass
FOOD WASTE AND ORGANICS		
Leftover Bakery	W	Bread, cookies, muffins, pies, rolls, etc.
Leftover Meat and Fish	W	Lunch meat, etc.
Leftover Dairy	W	Eggs, milk, cheese, etc.
Leftover Dried Food	W	Breakfast cereal, rice, etc.
Leftover Fruits and Vegetables	W	Partially eaten apple, carrot, etc.
Leftover Other	W	
Untouched Bakery	W	Bread still in bags, etc.
Untouched Meat and Fish	W	Meat still in packaging, etc.
Untouched Dairy	W	Yogurt still in cup, etc.
Untouched Dried Food	W	Breakfast cereal, etc.
Untouched Fruits and Vegetables	W	Grapes, lettuce, etc.
Untouched Other	W	

Dysart et al Waste Audit Categories Guide

Material Category	Accepted Stream:	Description / Examples
Unavoidable Bakery	W	Bread crusts
Unavoidable Meat and Fish	W	Bones, skin
Unavoidable Dairy	W	Cheese rinds
Unavoidable Dried Food	W	
Unavoidable Fruits and Vegetables	W	Apple cores, banana skins, carrot peels, etc.
Unavoidable Other	W	
YARD WASTE AND OTHER ORGANICS		
Yard Waste	W	Brush, branches, wood chips, house plants, leaves, cool ashes
Grass clippings	W	Grass clippings
Compostable Certified Bags	W	BPI Certified Compostable bags
Tissue	W	Tissue/towelling including paper towels, napkins, tissue.
SPECIAL WASTES, INCLUDING IPR PROGRAMS		
Household batteries (single-use and rechargeable)	Depot	Materials designated under O. Reg. 30/20 Batteries
Hazardous & Special Products	Depot	Materials designated under O. Reg. 387/16 Municipal Hazardous or Special Waste, and/or O. Reg. 449/21 Hazardous and Special Products
Electronics	Depot	ITT/AV materials designated under Phase 1 of O. Reg. 522/30 Electrical and Electronic Equipment
Tires	Depot	Materials designated under O. Reg. 225/18 Tires
Medications and Sharps	Depot	Prescription drugs, over-the-counter medications, natural health products, sharps (needles, syringes, lancets)
Biohazardous/Medical Waste	W	Medical waste
GARBAGE (RESIDUAL WASTE)		
Carpet	Depot	Carpeting, underlay, mats
Construction & Demolition Waste	Depot	Lumber, cut wood, drywall, ceramic tiles, plaster, etc.
Ceramics	W	Ceramic plates, cups, plant pots, etc.
Diapers	W	Diapers, children and adult
Other Electrical devices	W	Microwaves, vacuums, small household appliances, coffee makers, can openers, etc., sewing machine, air conditioners, curling irons, hot plates, fan, hair dryer, iron, kettle, electrical tools, etc.
Other Metal	Depot	Scrap metal, copper pipes, hardware, BBQ parts, etc.
Other Waste	W	Materials not classified elsewhere, vacuum bags, candles, furnace filters, etc.
Pet Waste	W	animal feces, bedding, litter
Sanitary Products	W	Sanitary products, hygiene products, etc.
Textiles	W	Clothing, shoes, mats, drapery, sheets, etc.
COFFEE PODS		
Plastic #5 PP - Full	W	#5 PP full coffee pods
Plastic #5 PP - Empty	W	#5 PP empty coffee pods
Plastic #6 PS - Full	W	#6 PS full coffee pods
Plastic #6 PS - Empty	W	#6 PS empty coffee pods
Unmarked Plastics - Full	W	Unmarked Plastics full coffee pods
Unmarked Plastics - Empty	W	Unmarked Plastics empty coffee pods
Aluminium - Full	W	Aluminum full coffee pods
Aluminium - Empty	W	Aluminum empty coffee pods
Compostable	W	Compostable coffee pods