Ryerson University
2018 Solid Non-Hazardous Waste Audit

Prepared for:

Ryerson University
350 Victoria Street
Toronto, Ontario, M5B 2K3

Prepared by:

Waste Reduction Group Inc
801 King Street West, Unit PH#20
Toronto, Ontario, M5V 3C9
Phone (416) 823-4554

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Executive Summary

Ryerson University retained the services of Waste Reduction Group Inc to conduct a solid non-hazardous waste audit at its campus located in Toronto, Ontario. Twenty-four hour samples of waste were collected from three (3) different areas on campus, consisting of approximately 545 kg of garbage. The collected samples were audited over one (1) day in June 2018. The following list summarizes the overall garbage composition determined from the audit:

- Non-recyclable 32.8%
- Organic Waste 13.7%
- Paper Towels: 12.1%
- Mixed Papers: 9.3%
- Mixed Containers: 7.8%
- Scrap Metals: 6.6%
- Cardboard 5.9%
- LDPE (#4 Plastic) films: 5.0%
- Coffee Cups: 3.3%
- Electronic wastes: 1.4%
- Scrap Woods & Styrofoam: Each = 1.0%

Through discussions with Ryerson University personnel, estimates of the annual amounts of solid non-hazardous waste materials disposed, reduced, reused, recycled and composted were determined. Waste diversion programs implemented on campus include cardboard, mixed papers, confidential papers, mixed containers, scrap woods/pallets/furniture, organics, oil & grease, fluorescent bulbs, refundable containers, recovered recyclables, electronic wastes, batteries, yard wastes, textbook donations and clothing donations. The following table summarizes the annual quantities of waste materials generated, reduced, reused, recycled, composted and disposed in 2017.

Annual Quantities of Materials Diverted & Disposed

Material	Total Annual Amount	
	Metric Tonnes	Percent
Disposed to Landfill	960.92	60.1%
Materials Recycled/Reused	549.24	34.3%
Materials Composted	89.10	5.6%
Total Waste Generated	**1599.26**	**100%**

Based on the total annual amount of waste generated and materials diverted from landfill, the 2017 waste diversion rate through existing programs at Ryerson University was determined to be approximately 40%. The Ministry of the Environment, Conservation & Parks (MECP) provincial objective for waste diversion rate is 60%. Ryerson University's management team are committed to improving the facility's waste diversion rate in order to minimize the amount of materials disposed to landfill.

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1 Introduction

Ryerson University (RU) retained the services of Waste Reduction Group Inc to conduct a solid non-hazardous waste audit in 2018 at its campus located in Toronto, Ontario. The waste audit examined representative samples of waste from three (3) different areas on campus over a one (1) day period in June 2018. The goal of the waste audit was to gain an understanding of the quantities and composition of solid non-hazardous wastes generated on campus.

RU is a multi-building community that has approximately 36,503 Full-Time Equivalent (FTE) students (2016/17; Refer to Appendix A) and staff that generate waste and divertible materials. RU took the initiative to conduct a solid non-hazardous waste audit with the intent of complying with O.Reg. 102/94, to confirm compliance with O.Reg.103/94 and to further improve upon their present waste reduction, reuse and recycling initiatives.

1.1 Purpose

The purpose of the solid non-hazardous waste audit was to:

- Comply with Part X of O.Reg. 102/94 'Waste Audits and Waste Reduction Work Plans', which requires the operator of an educational institution with more than 350 students enrolled per year, to conduct an annual waste audit and prepare and implement a waste reduction work plan (Refer to Appendix A for a partial excerpt of O.Reg.102/94);

- Confirm compliance with Section 14 of O.Reg.103/94 'Industrial, Commercial and Institutional Source Separation Programs' and Part X 'Educational Institutions' of the Schedule attached to the Regulation (Refer to Appendix A for a partial excerpt of O.Reg.103/94).

- Determine the annual waste diversion rate for RU resulting from existing waste reduction, reuse, and recycling programs;

- Identify point of generation and quantify composition of wastes at RU;

- Identify any additional opportunities for waste reduction and diversion that may exist at RU;

- Address any specific concerns or opportunities identified during the study.

1.2 Scope of Work

To satisfy the purpose of the waste audit, the following scope of work was completed:

- Collected data pertaining to waste composition on June 1, 2018.

- Determined the total quantity of waste materials diverted from landfill by RU through current reduction, reuse, and recycling programs;

- Completed a Waste Audit Report (per MECP protocol) that addressed the amount, nature and composition of the waste, the manner by which the waste was generated, including

management decisions and policies that relate to the production of waste, and the way in which the waste is managed on campus; and

- Completed a Waste Reduction Work Plan (per MECP protocol) regarding plans to reduce, reuse and recycle waste on campus. The report set out who will implement each part of the plan, when each part will be implemented and what the expected results shall be.

2 Methodology

Discussions were held with RU personnel to review existing waste management and recycling programs implemented on campus. Based on previous waste audit experience and information gathered by RU, a waste audit schedule was developed. The waste audit was performed over one (1) day in June 2018, as summarized in Table 1:

Table 1: Waste Audit Sample Schedule

Date	Building/Location
June 1, 2018	60 Gould
June 1, 2018	21 Gerrard
June 1, 2018	133 Mutual

In coordination with the RU staff, twenty-four hour samples of waste were collected from each of the identified buildings and/or locations on the waste audit schedule. The collected bags of labelled wastes were brought to a designated collection and waste audit area by RU staff. The weights of waste materials from each building and functional area were recorded. Refer to Appendix A for a copy of the Scale Calibration Certificate.

Waste materials were then unloaded, sorted into individual waste categories, weighted, re-bagged and disposed of in the appropriate garbage or recycling bins. Waste samples were sorted by a qualified team from Waste Reduction Group. Materials source separated by RU for recycling were not collected and categorized during the audit however the annual quantity of all diverted materials was reviewed and included in the audit results.

Waste material categories were established prior to the audit based on O.Reg.103/94 requirements for source separation at educational institutions, including:

- Aluminum food or beverage cans (including cans made primarily of aluminum);
- Cardboard (corrugated);
- Fine paper;
- Glass bottles and jars for food or beverages;
- Newsprint; and
- Steel food or beverage cans (including cans made primarily of steel).

In addition to these standard categories other important waste streams such as other mixed containers (PET, HDPE, polypropylene, gable top, aseptic), organic wastes, paper towels, mixed

plastics, Styrofoam, yard waste, electronic waste, scrap wood, scrap metal and special wastes (i.e. batteries, bulbs and ballasts) were included depending on what auditors found in the samples.

3 Waste Audit Results

3.1 Garbage Quantities & Distribution

A key aspect of O. Reg. 102/94 is for waste generators to gain a good understanding of the areas of their operation that generate the most waste, how it is generated, as well as the waste composition. One can use this information to focus their recycling and waste reduction efforts efficiently and effectively.

Table 2 summarizes the quantity and distribution of waste materials collected for the waste audit.

Table 2: Quantity & Distribution of Waste Audit Sample

Building Name/Location	Waste Audit Sample	
	Sample Weight (kg)	Distribution (%)
60 Gould	235.64	43.2%
21 Gerrard	179.23	32.9%
133 Mutual	130.08	23.9%
Total	544.95	100.0%

The breakdown per functional area per building is summarized in Tables 3, 4 and 5 for 60 Gould, 21 Gerrard and 133 Mutual respectively.

Table 3: 60 Gould - Waste Audit Sample Distribution

Functional Area	Waste Audit Sample	
	Sample Weight (kg)	Distribution (%)
Unlabelled & Loose Items	123.68	52.5%
Kerr Hall - Office	44.23	18.8%
Kerr Hall - Classroom	25.41	10.8%
Kerr Hall - Washroom	17.51	7.4%
Kerr Hall - Kitchen	16.44	7.0%
Kerr Hall - Lab	8.37	3.6%
Total	235.64	100.0%

Table 4: 21 Gerrard - Waste Audit Sample Distribution

Functional Area	Waste Audit Sample	
	Sample Weight (kg)	Distribution (%)
380 VIC - Kitchen	36.99	20.6%
RAC - Office	32.02	17.9%
Unlabelled	30.01	16.7%
POD - Classroom	29.81	16.6%
POD - Office	23.41	13.1%
POD - Washroom	13.97	7.8%
POD - Service Hall	5.94	3.3%

380 VIC - Office	4.36	2.4%
RAC - Classroom	2.03	1.1%
RAC - Washroom	0.69	0.4%
Total	179.23	100.0%

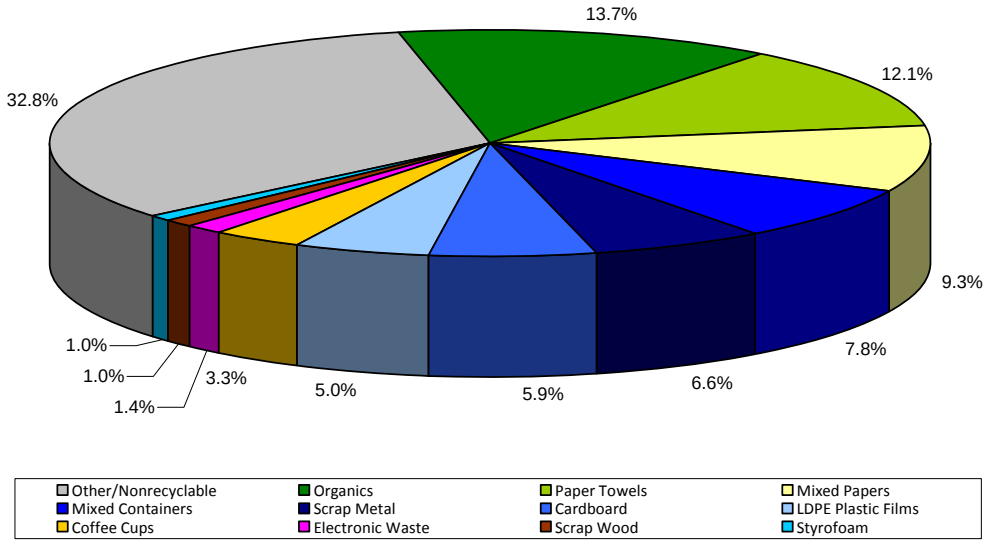
Table 5: 133 Mutual - Waste Audit Sample Distribution

Functional Area	Waste Audit Sample	
	Sample Weight (kg)	Distribution (%)
Bagged Sample	89.66	68.9%
Unlabelled & Loose Items	40.42	31.1%
Total	130.08	100.0%

3.2 Garbage Composition

The total weight of waste collected and sorted for the audit was approximately 545 kg. Figure 1 summarizes the overall combined garbage composition from the waste audit.

Figure 1: Overall Garbage Composition



Summary tables for each building, including waste composition, weights and percentages, are included in Appendix B. Table 6 summarizes the largest primary categories (i.e. >5%) of waste materials per building based on the total amount of garbage sorted for the waste audit:

Table 6: Primary Material Categories per Building

Building	Percent of Sample (By Weight)	Non-recyclable	Organics	Paper Towels	Mixed Papers	Mixed Containers	Scrap Metals	Cardboard	LDPE Films
60 Gould	43.2%	24.6%	13.1%	14.8%	9.4%	9.3%	5.7%	8.9%	6.0%
21 Gerrard	32.9%	29.1%	20.7%	15.0%	12.8%	7.8%			5.7%
133 Mutual	23.9%	53.0%	5.4%			5.2%	17.2%		
Total	100.0%	32.8%	13.7%	12.1%	9.3%	7.8%	6.6%	5.9%	5.0%

Organic food wastes were found in high quantities in all areas of the university that were audited. An organics program is implemented in some areas on campus. Results suggest that RU may benefit from expanding the existing program in order to capture more organic materials.

Paper towels were found in high quantities in most areas of the university that were audited. It is recommended that RU investigate the feasibility of implementing a paper towel program on campus. Paper towels can often be mixed with organic programs, depending on hauler requirements for collection. Alternatively, RU may wish to investigate the feasibility of installing air hand dryers in order to minimize the amount of paper towels purchased.

Finally, high quantities of mixed papers and mixed containers were found in the garbage stream from all areas of the campus that were audited. RU has implemented recycling programs for mixed papers and mixed containers. Results suggest that better collection systems, improved labels, program promotion and/or improved student/employee/cleaner education may be required to capture more of these materials.

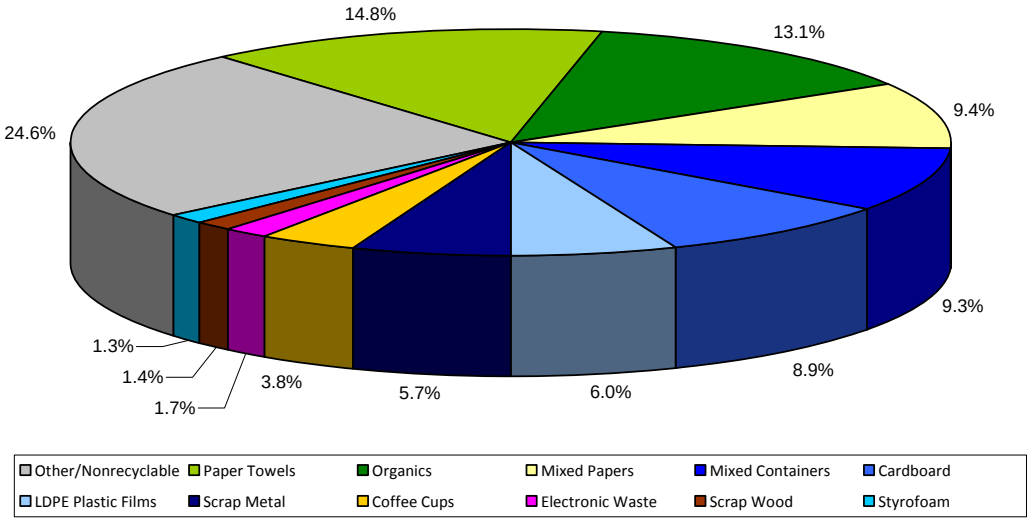
3.3 Garbage Composition per Audit Location

The garbage composition determined based on 24-hour sample results for each building is presented below.

3.3.1 60 Gould

Figure 2 summarizes the overall garbage composition determined at 60 Gould.

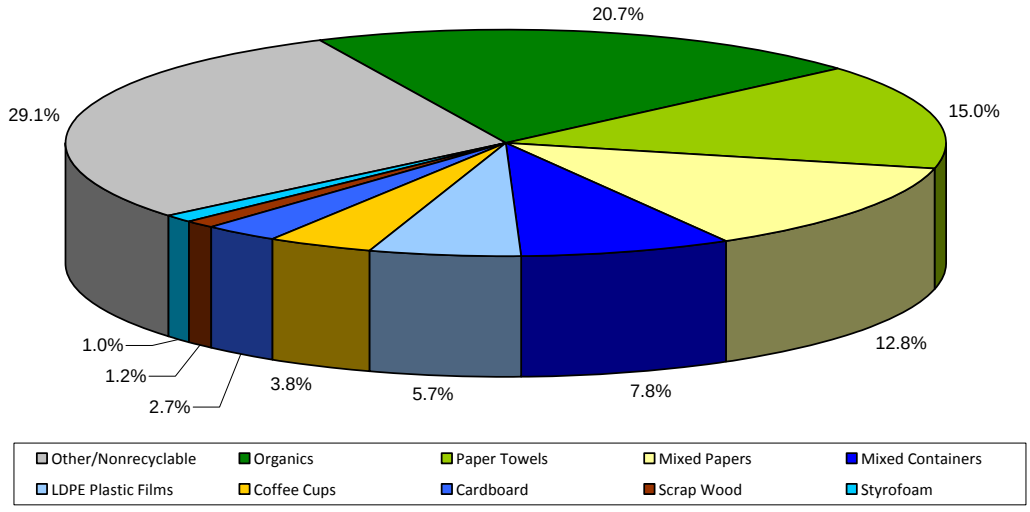
Figure 2: 60 Gould Garbage Composition



3.3.2 21 Gerrard

Figure 3 summarizes the overall garbage composition determined at 21 Gerrard.

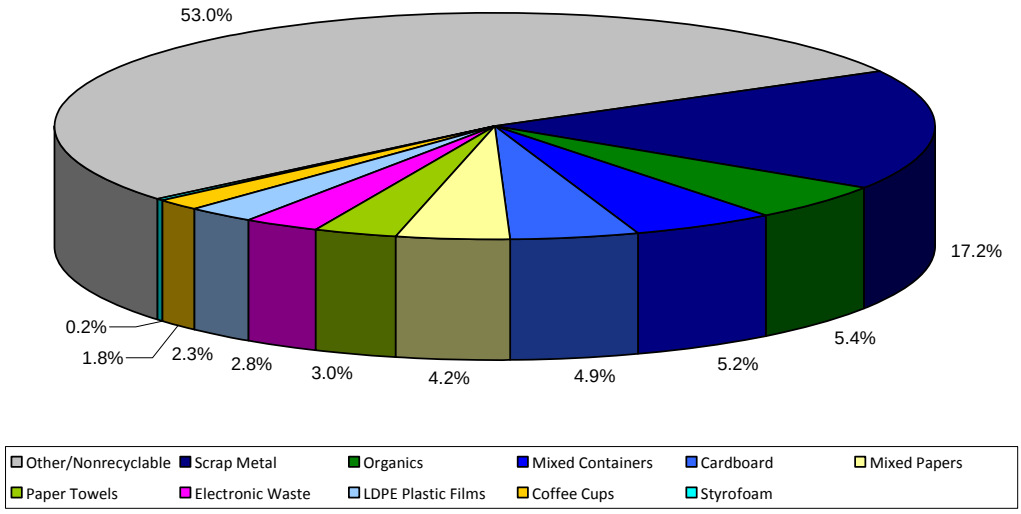
Figure 3: 21 Gerrard Garbage Composition



3.3.3 133 Mutual

Figure 4 summarizes the overall garbage composition determined at 133 Mutual.

Figure 4: 133 Mutual Garbage Composition



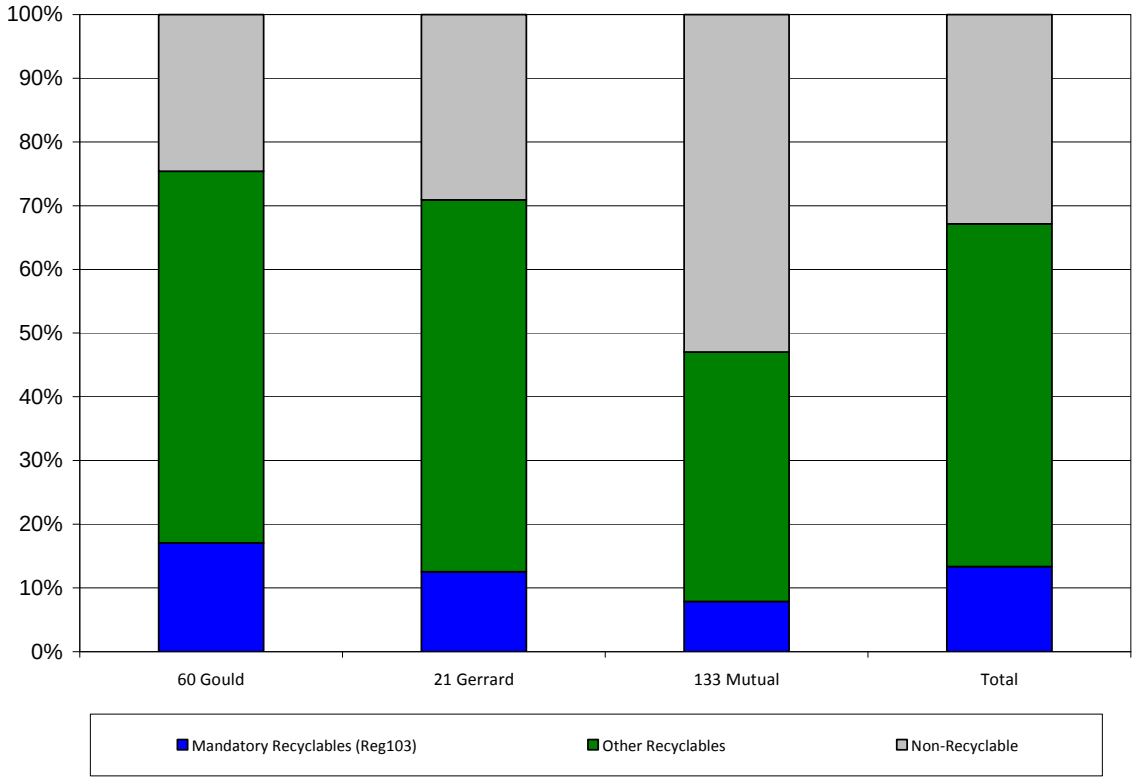
3.4 Percentage of Recyclables in Garbage

O.Reg. 103/94 requires that 'educational institutions' source separate the following materials (at a minimum):

- Aluminum food or beverage cans (including cans made primarily of aluminum);
- Cardboard (corrugated);
- Fine paper;
- Glass bottles and jars for food or beverages;
- Newsprint; and
- Steel food or beverage cans (including cans made primarily of steel).

Figure 5 summarizes the quantity of these 'mandatory recyclable' materials found in the waste audit garbage samples compared to 'other recyclable' materials (i.e. organics, paper towels, etc) and 'non-recyclable' materials.

Figure 5: Percent Recyclables in Garbage Stream



The data suggests that RU has a fairly low 'mandatory' recyclable content (i.e. 13.4%) in the combined garbage of the university. The main 'mandatory' recyclable materials were cardboard, fine papers and newsprint. 'Other Recyclables' represented 53.8% of the sample and consisted mainly of organics, paper towels, scrap metals and plastic films. Non-recyclables represented approximately 32.8% of the sample.

4 Diversion Programs & Waste Systems

4.1 Waste Diversion Programs

Waste diversion programs have been implemented at RU to reduce/reuse/recycle/compost a wide range of materials. Table 7 summarizes the estimated annual amount of waste materials diverted from landfills due to waste diversion programs implemented at the university.

Table 7: 2017 Waste Diversion Summary

Waste Material	Diversion Program	Total Diversion	
		Metric Tonnes	Percent
Mixed Containers - Residence	Reused	106.53	16.7%
Mixed Papers - Main Campus	Recycle	104.07	16.3%
Cardboard - Main Campus	Recycle	69.37	10.9%
Organics - Main Campus	Compost	67.32	10.5%
Cardboard – Residence	Recycle	51.83	8.1%
Mixed Containers - Main Campus	Recycle	48.80	7.6%
Recovered Recyclables - Main Campus	Recycle	44.82	7.0%
Confidential Papers - Main Campus	Recycle	28.80	4.5%
Refundable Containers - Main Campus	Reuse	27.00	4.2%
Mixed Papers – Residence	Recycle	26.64	4.2%
Organics - Residence	Compost	21.78	3.4%
Oil & Grease - Main Campus	Recycle	16.32	2.6%
Scrap Wood/Pallets/Furniture - Main	Recycle	13.56	2.1%
Bulbs & Ballasts - Residence	Recycle	6.37	1.0%
Recovered Recyclables - Residence	Recycle	5.13	0.8%
Total Waste Material Diverted		**638.34**	**100%**

Waste diversion programs have also been implemented on-site for electronic wastes, batteries, yard wastes, textbook donations and clothing donations. It is recommended that RU monitor the quantities of these materials diverted from landfill so they may be included in the University's future waste diversion rate calculations.

Therefore, the total amount of waste material diverted from landfill in 2017 was approximately 638 metric tonnes. Evidence of annual quantity data obtained from RU and/or service providers is provided in Appendix B. Waste diversion programs implemented on campus exceed the minimum requirements of O.Reg.103/94 for educational institutions.

4.2 Waste Disposal Systems

Regular solid non-hazardous waste is collected across campus by RU staff and placed in either front-end bins or compactors located at designated waste handling areas. Waste Connections is responsible for the collection of waste as required depending on the waste generating area. The total quantity of solid non-hazardous waste disposed to landfill in 2017 was estimated to be approximately 960.92 metric tonnes.

5 Waste Diversion Rate

Waste Diversion Rate is the percentage of waste materials that a facility diverts from landfill due to reduce, reuse and recycling (i.e. 3Rs) initiatives versus the total amount of waste generated (i.e. 3Rs plus disposed). According to the MECP, Waste Diversion Rate is calculated as follows:

$$Waste\ Diversion\ Rate = \frac{Total\ \ Waste\ Diverted\ (3Rs)}{Total\ \ Waste\ \ Generated} * 100\%$$

Based on the total annual amount of waste generated and materials reduced, reused and recycled, the 2017 waste diversion rate was determined to be approximately 40%. Table 8 summarizes the quantities of wastes diverted and disposed. RU's 2017 waste diversion rate is less than the MECP provincial objective of 60% waste diversion.

Table 8: Quantities of Materials Diverted & Disposed

Material	Total Waste	
	Metric Tonnes	Percent
Disposed to Landfill	960.92	60.1%
Materials Recycled/Reused	549.24	34.3%
Materials Composted	89.10	5.6%
Total Waste Generated	**1599.26**	**100%**
WASTE DIVERSION RATE		**39.9%**

6 Waste Audit Summary & Waste Reduction Work Plan

Refer to Appendix C and Appendix D for the Waste Audit Summary and the Waste Reduction Work Plan respectively. The last page of each set of forms in the appendices need to be signed by an authorized person at the University.

According to O.Reg. 102/94, the Waste Reduction Work Plan (Appendix D) or a summary of the plan must be posted at the University in a place where staff/students can review it. If a summary is posted, the entire Work Plan should also be made available for review by any staff/student upon request.

7 Conclusions & Recommendations

Based on the results of the solid non-hazardous waste audit conducted for RU, the following conclusions can be made. Recommendations presented below are intended to assist RU in maximizing their waste diversion potential.

- In 2017, it was estimated that RU disposed of approximately 960.92 tonnes of solid waste in landfills. Approximately 638.34 tonnes of waste materials were diverted through existing waste diversion programs. This represents a waste diversion rate of approximately 40%. The provincial objective is 60% waste diversion.
- RU maintains waste diversion programs for cardboard, mixed papers, confidential papers, mixed containers, scrap woods/pallets/furniture, organics, oil & grease, fluorescent bulbs, refundable containers, recovered recyclables, electronic wastes, batteries, yard wastes, textbook donations and clothing donations. These programs exceed the minimum requirements of O.Reg.103/94 for educational institutions.
- Waste diversion programs have been implemented on-site for electronic wastes, batteries, yard wastes, textbook donations and clothing donations. It is recommended that RU monitor the quantities of these materials diverted from landfill so they may be included in the University's future waste diversion rate calculations.

- RU has a fairly low 'mandatory' recyclable content (i.e. 13.4%) in the combined garbage of the university. The main 'mandatory' recyclable materials were cardboard, fine papers and newsprint. 'Other Recyclables' represented 53.8% of the sample and consisted mainly of organics, paper towels, scrap metals and plastic films. Non-recyclables represented approximately 32.8% of the sample.
- Based on the waste audit results, it was estimated that approximately 13.7% (or 131.79 tonnes) of solid waste disposed to landfill consisted of organic materials (i.e. food wastes). Organics were found in relatively high amounts in garbage streams from all buildings that were audited. An organics compost program exists at RU in some designated areas. The results suggest that an expanded program, improved collection systems, improved signage and/or student/staff education programs may be required to improve the capture rate of this material. Organics are not a mandatory recyclable material per O.Reg.103/94.
- Based on the waste audit results, it was estimated that approximately 12.1% (or 115.90 tonnes) of solid waste disposed to landfill consisted of paper towels. RU may wish to investigate the feasibility of implementing a paper towel recycling program. Often it can be combined with an existing cardboard and/or organics program depending on hauler requirements. Alternatively, RU may wish to investigate the feasibility of replacing paper towels with automatic air dryers and/or reusable linen rolls. Paper towels are not a mandatory recyclable per O.Reg.103/94.
- Based on the waste audit results, it was estimated that approximately 9.3% (or 89.44 tonnes) of solid waste disposed to landfill consisted of mixed papers (fine papers, newsprint, boxboard, etc). A mixed paper recycling program exists at RU. This data suggests that better collection systems, improved signage and/or student/staff education programs may be required to improve the capture rate of this material. Fine papers and newsprint are mandatory recyclables per O.Reg.103/94.
- Based on the waste audit results, it was estimated that approximately 7.8% (or 75.15 tonnes) of solid waste disposed to landfill consisted of mixed containers (aluminum cans, glass jars, plastic bottles, tetra packs, milk cartons, etc). A mixed container recycling program exists at RU. The data suggests that better collection systems, improved signage and/or student/staff education programs may be required to improve the capture rate of this material. Glass, aluminum and steel food and beverage containers are mandatory recyclables per O.Reg.103/94.
- It is recommended that RU conduct studies to add and improve reduction and reuse weights to improve the university's diversion rate. For example, waste reduction credits can be calculated for the university's double-sided printing policy, refillable water bottle stations and lug-a-mug programs if implemented.
- Continue to make use of multi-compartment containers (i.e. recycling depots) for waste collection and recycling as much as possible. Remove all "solitary" waste bins on campus. We recommend only having waste bins that are attached to or close to multi-compartment recycling containers.
- It is recommended that signs be continually updated on all garbage and recycling bins to assist students/staff in sorting wastes easily and correctly. Signs should be easily visible and

instructive, such as those having pictograms. Signs are a very effective method of increasing participation, reducing contamination and increasing capture rate.

- Ensure RU's Environmental Policy is clearly visible in all common areas throughout campus. Emphasize RU's commitment to environmental stewardship in its newsletters, brochures, annual reports and contracts. Regular newsletters promoting the school's waste reduction programs, goals and concerns will increase student/staff cooperation.
- Continue to increase awareness of current recycling programs through staff and student education programs. Such programs can include brief training programs as well as placement of posters in strategic locations around campus, and posting information regarding campus goals and recycling, reuse, and reduction rates at the school. A suggestion box or email address may be helpful in communicating student/staff concerns and suggestions when developing or changing existing diversion programs.
- It is important that all staff and students at RU be made aware of all available recycling programs. RU staff should provide easy access to contact information for questions and/or help regarding the various recycling programs. The recycling programs should have as much consistency as possible across campus.
- Throughout the year, waste should be collected in clear plastic garbage bags instead of black garbage bags. This practice allows cleaning staff to monitor waste collection, as well as to ensure that separated waste streams are disposed of in the correct containers/areas. Some of our clients find it beneficial to use clear bags that have a slight blue tint for use in recycling containers.
- Support and encourage the purchase and use of "environmentally friendly", reusable or recyclable materials and packaging, and/or those that contain recycled content.
- In order to be successful, the waste diversion program must have the full support of RU's management team.
- According to O.Reg. 102/94, the Waste Reduction Work Plan (Appendix D) or a summary of the plan must be posted at the facility in a place where it can be viewed. If a summary of the work plan is posted, the full Work Plan must be made available for review upon request by any of the university's staff or students.
- The waste audit report and waste reduction work plan must be retained on file for a minimum of five years.
- A waste audit report and waste reduction work plan must be conducted and updated annually.

Appendix A

Supporting Documentation

The University Planning Office (UPO) manages the development and implementation of activities related to the University's academic plan, enrolment planning and academic budget planning. The UPO also undertakes policy research, survey research, data analysis, performance measurement and institutional research project oversight.

Using the links in the left panel, this website provides access to key statistics and information about Ryerson, including survey reports and performance measures — and some quick facts for easy reference, below.

Student Enrolment Overview, 2016-17	Headcount Enrolment	Full-time Equivalent Enrolment
Ryerson University	44,507	36,502.7
Yeates School of Graduate Studies	**2,629**	**2,119.6**
Doctoral	477	451.2
Master's	2,128	1,656.0
Professional Master's Diploma	24	12.4
Undergraduate Programs	**35,166**	**31,574.9**
Faculty of Arts	4,457	3,924.8
Faculty of Communication and Design	5,394	5,173.1
Faculty of Community Services	6,552	5,335.8
Faculty of Engineering and Architectural Science	5,085	4,650.4
Faculty of Science	2,886	2,692.4
Ted Rogers School of Management	10,792	9,798.4
Chang School of Continuing Education	**6,712**	**2,808.2**
Degree Credit Courses	4,137	1,780.8
Non Credit Courses	2,575	1,027.4

Note: Headcount enrolment counts the number of students registered on November 1st while full-time equivalent enrolment takes into account each student's course load as a proportion of the applicable full course load. For example, a student taking 50% of a full course load counts as 0.5 in the full-time equivalent column and 1 in the headcount column. Full-time equivalent enrolment is measured across the three terms in the academic year: Spring/Summer, Fall, and Winter.

Partial copy of
O.Reg.102/94

Environmental Protection Act
Loi sur la protection de l'environnement

ONTARIO REGULATION 102/94

WASTE AUDITS AND WASTE REDUCTION WORK PLANS

Consolidation Period: From March 3, 1994 to the e-Laws currency date.

No amendments.

This Regulation is made in English only.

PART I
GENERAL

1. In this Regulation,

"waste" means municipal waste as defined in Regulation 347 of the Revised Regulations of Ontario, 1990;

"waste audit" means a study relating to waste;

"waste reduction work plan" means a plan to reduce, reuse and recycle waste. O. Reg. 102/94, s. 1.

2. A waste audit required under this Regulation shall address,

(a) the amount, nature and composition of the waste;

(b) the manner by which the waste gets produced, including management decisions and policies that relate to the production of waste; and

(c) the way in which the waste is managed. O. Reg. 102/94, s. 2.

3. (1) A waste reduction work plan required under this Regulation shall include, to the extent that is reasonable, plans to reduce, reuse and recycle waste and shall set out who will implement each part of the plan, when each part will be implemented and what the expected results are.

(2) In developing the work plan, regard shall be had to the following principles:

1. Reduction is the first objective.
2. If reduction is not possible, then reuse is the next objective.
3. If reduction and reuse are not possible, then recycling is the final objective. O. Reg. 102/94, s. 3.

4. A person who is required under this Regulation to prepare a report of a waste audit or a waste reduction work plan shall prepare it on a form provided by the Ministry or in the same format as such a form. O. Reg. 102/94, s. 4.

5. (1) A person who is required under this Regulation to prepare a report of a waste audit or a waste reduction work plan shall retain a copy of the report or plan for at least five years after it was prepared.

(2) A person who is required under this Regulation to prepare a report of a waste audit or a waste reduction work plan shall submit to the Director, on request, the required report or plan, within seven days of the Director requesting them. O. Reg. 102/94, s. 5.

6. (1) A person who becomes subject to an obligation under this Regulation to prepare a report of a waste audit or a waste reduction work plan shall do so within six months of becoming subject to the obligation.

(2) This section does not apply with respect to updated reports or plans.

(3) This section does not apply with respect to obligations of a builder under Part IV or a demolisher under Part V. O. Reg. 102/94, s. 6.

7. (1) A new owner or operator to whom this Regulation applies is not required to conduct a new waste audit or prepare a new waste reduction work plan if an audit or work plan was conducted or prepared by a previous owner or operator and the new owner or operator updates the audit and work plan as required under this Regulation.

(2) This section does not apply with respect to a builder under Part IV or a demolisher under Part V. O. Reg. 102/94, s. 7.

8. (1) A person who has an obligation to conduct a waste audit and prepare a report under Part II, III, VI, VII, VIII, IX, X or XI in respect of more than one retail shopping establishment, retail shopping complex, building, restaurant, hotel or motel, hospital, location or campus of an educational institution, or site of a manufacturing establishment, may conduct a single

50. The waste reduction work plan shall include measures for communicating the plan to the operator's employees who work at the hospital and, as a minimum, those measures shall require,

(a) that the plan or a summary be posted in places where most employees will see it; and

(b) if a summary is posted, that any employee who requests to look at the plan be allowed to do so. O. Reg. 102/94, s. 50.

PART X
EDUCATIONAL INSTITUTIONS

51. (1) This Part applies to the operator of an educational institution in respect of a location or campus of the institution if, at the location or campus, at any time during the calendar year, more than 350 persons are enrolled.

(2) This Part continues to apply in respect of a location or campus for the two calendar years following the last year in which more than 350 persons were enrolled at the location or campus. O. Reg. 102/94, s. 51.

52. (1) The operator shall conduct a waste audit covering the waste generated by the operation of the institution at the location or campus. The audit shall also address the extent to which materials or products used consist of recycled or reused materials or products.

(2) After conducting the waste audit, the operator shall prepare a written report of the audit.

(3) In every year following the initial waste audit, the operator shall update the audit and prepare an updated written report. O. Reg. 102/94, s. 52.

53. (1) The operator shall prepare a written waste reduction work plan, based on the waste audit, to reduce, reuse and recycle waste generated by the operation of the institution at the location or campus.

(2) In every year following the preparation of the initial waste reduction work plan, the operator shall prepare an updated written plan. O. Reg. 102/94, s. 53.

54. The operator shall implement the waste reduction work plan as updated. O. Reg. 102/94, s. 54.

55. The waste reduction work plan shall include measures for communicating the plan to the operator's employees who work at the location or campus and, as a minimum, those measures shall require,

(a) that the plan or a summary be posted in places where most employees will see it; and

(b) if a summary is posted, that any employee who requests to look at the plan be allowed to do so. O. Reg. 102/94, s. 55.

PART XI
LARGE MANUFACTURING ESTABLISHMENTS

56. (1) This Part applies to the owner or operator of a site that is a manufacturing establishment.

(2) This Part does not apply to an owner of a site in a particular calendar year if,

(a) during the two preceding calendar years there was no calendar month in which the hours worked by the persons employed at the site exceeded 16,000 hours; and

(b) the owner is able to demonstrate this fact, within seven days of a request from the Director, through evidence satisfactory to the Director.

(3) Copies of the records related to hours of employment maintained under section 11 of the *Employment Standards Act* shall be deemed to be sufficient evidence of hours worked at a site if the copies are certified by the owner or the owner's representative as to the accuracy of the records.

(4) In this Part,

"owner" includes the operator of a manufacturing establishment but does not include a landlord;

"site" means one property and includes nearby properties owned or leased by the same person where passage from one property to another involves crossing, but not travelling along, a public highway. O. Reg. 102/94, s. 56.

57. (1) The owner shall conduct a waste audit covering the waste generated by the operation of the establishment at the site. The audit shall also address the extent to which materials or products used or sold consist of recycled or reused materials or products.

(2) After conducting the waste audit, the owner shall prepare a written report of the audit.

(3) In every year following the initial waste audit, the owner shall update the audit and prepare an updated written report. O. Reg. 102/94, s. 57.

58. (1) The owner shall prepare a written waste reduction work plan, based on the waste audit, to reduce, reuse and recycle waste generated by the operation of the establishment.

(2) In every year following the preparation of the initial waste reduction work plan, the owner shall prepare an updated written plan. O. Reg. 102/94, s. 58.

Environmental Protection Act
Loi sur la protection de l'environnement

Partial copy of O.Reg.103/94

ONTARIO REGULATION 103/94

INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL SOURCE SEPARATION PROGRAMS

Consolidation Period: From March 3, 1994 to the e-Laws currency date.

No amendments.

This Regulation is made in English only.

SOURCE SEPARATION PROGRAMS

1. In this Regulation,

"Northern Ontario" means the territorial districts of Algoma, Cochrane, Kenora, Manitoulin, Nipissing, Parry Sound, Rainy River, Sudbury, Thunder Bay and Timiskaming and The Regional Municipality of Sudbury;

"source separation program" means a program to facilitate the source separation of waste for reuse or recycling. O. Reg. 103/94, s. 1.

2. (1) A source separation program required under this Regulation must include,

(a) the provision of facilities for the collection, handling and storage of source separated wastes described in subsection (2) adequate for the quantities of anticipated wastes;

(b) measures to ensure that the source separated wastes that are collected are removed;

(c) the provision of information to users and potential users of the program,

(i) describing the performance of the program,

(ii) encouraging effective source separation of waste and full use of the program;

(d) reasonable efforts to ensure that full use is made of the program and that the separated waste is reused or recycled.

(2) The source separated waste referred to in clause (1) (a) is waste that has been source separated from other kinds of waste and that consists solely of waste from one or more of the following categories:

1. The categories of waste set out in the part of the Schedule applicable to the person required to implement the source separation program.

2. The categories of waste set out in Schedule 1, 2 or 3 of Ontario Regulation 101/94 that the source separation program accepts.

(3) A source separation program required under this Regulation must provide for all the categories of waste set out in the part of the Schedule applicable to the person required to implement the program except for categories of waste that cannot be reasonably anticipated. O. Reg. 103/94, s. 2.

3. Source separation programs required by this Regulation are exempt from sections 27, 40 and 41 of the Act. O. Reg. 103/94, s. 3.

4. (1) A source separation program that is not required by this Regulation is exempt from sections 27, 40 and 41 of the Act if,

(a) the program is restricted to waste generated at a single site;

(b) the program only accepts waste that has been source separated from other kinds of waste and that consists solely of waste from one or more of the categories of waste set out in Schedule 1, 2 or 3 of Ontario Regulation 101/94;

(c) the program includes everything set out in subsection 2 (1).

(2) For the purposes of clause (1) (c), the reference to source separated waste in clause 2 (1) (a) shall be deemed to be a reference to the waste described in clause (1) (b). O. Reg. 103/94, s. 4.

RETAIL SHOPPING ESTABLISHMENTS

5. (1) This section applies to the owner of an establishment that sells goods or services at retail to persons who come to the establishment if,

(a) the establishment occupies premises with a floor area of at least 10,000 square metres; or

(b) the establishment occupies premises in a complex in respect of which section 6 applies and the owner of the establishment is solely responsible for the establishment's waste management.

(2) The owner shall implement a source separation program for the wastes generated by the establishment or shall ensure that such a program is implemented.

(3) This section applies only in respect of an establishment located within a local municipality that has a population of at least 5,000.

(4) This section takes effect with respect to an establishment in Northern Ontario on July 1, 1996. O. Reg. 103/94, s. 5.

RETAIL SHOPPING COMPLEXES

6. (1) This section applies to the owner of a complex that contains premises occupied by establishments that sell goods or services at retail to persons who come to the establishments if the total floor area of such premises is at least 10,000 square metres.

(2) The owner shall implement a source separation program for the wastes generated at the complex or shall ensure that such a program is implemented.

(3) The source separation program need not provide for the waste generated in the operation of an establishment in the complex if section 5 applies to the owner of the establishment.

(4) This section applies only in respect of a complex located in a local municipality that has a population of at least 5,000.

(5) This section takes effect with respect to a complex in Northern Ontario on July 1, 1996. O. Reg. 103/94, s. 6.

(c) a building in respect of which section 9 applies;

(d) a hotel or motel in respect of which section 12 applies;

(e) a hospital in respect of which section 13 applies;

(f) a location or campus of an educational institution in respect of which section 14 applies.

(4) This section does not apply to an owner of a restaurant in a particular calendar year if,

(a) during the two preceding calendar years there was no year in which the gross sales for all restaurants operated by the owner in Ontario equalled or exceeded $3,000,000; and

(b) the owner is able to demonstrate this fact, within seven days of a request from the Director, through evidence satisfactory to the Director.

(5) Copies of the records related to purchase and sale maintained under subsection 5 (1) of Regulation 1013 of the Revised Regulations of Ontario, 1990 shall be deemed to be sufficient evidence of the gross sales of a restaurant if the copies are certified by the owner or the owner's representative as to the accuracy of the records.

(6) This section applies only in respect of a restaurant located within a local municipality that has a population of at least 5,000.

(7) This section takes effect with respect to a restaurant in Northern Ontario on July 1, 1996. O. Reg. 103/94, s. 11.

HOTELS AND MOTELS

12. (1) The owner of a hotel or motel that has more than seventy-five units shall implement a source separation program for the wastes generated by the operation of the hotel or motel or shall ensure that such a program is implemented.

(2) This section applies only in respect of a hotel or motel located within a local municipality that has a population of at least 5,000.

(3) This section takes effect with respect to a hotel or motel in Northern Ontario on July 1, 1996. O. Reg. 103/94, s. 12.

HOSPITALS

13. (1) The operator of a public hospital classified as a class A, B or F hospital in Regulation 964 of the Revised Regulations of Ontario, 1990 shall implement a source separation program for the wastes generated by the operation of the hospital or shall ensure that such a program is implemented.

(2) This section applies only in respect of a public hospital located within a local municipality that has a population of at least 5,000.

(3) This section takes effect with respect to a public hospital in Northern Ontario on July 1, 1996. O.Reg. 103/94, s. 13.

EDUCATIONAL INSTITUTIONS

14. (1) This section applies to the operator of an educational institution in respect of a location or campus of the institution if, at the location or campus, at any time during the

calendar year, more than 350 persons are enrolled.

(2) The operator shall implement a source separation program for the waste generated by the operation of the institution at the location or campus or shall ensure that such a program is implemented.

(3) This section continues to apply in respect of a location or campus for the two calendar years following the last year in which more than 350 persons were enrolled at the location or campus.

(4) This section applies only in respect of a location or campus located within a local municipality that has a population of at least 5,000.

(5) This section takes effect with respect to a location or campus in Northern Ontario on July 1, 1996. O. Reg. 103/94, s. 14.

LARGE MANUFACTURING ESTABLISHMENTS

15. (1) This section applies to the owner or operator of a site that is a manufacturing establishment.

(2) The owner shall implement a source separation program for the waste generated by the operation of the establishment at the site or shall ensure that such a program is implemented.

(3) This section does not apply to an owner of a site in a particular calendar year if,

(a) during the two preceding calendar years there was no calendar month in which the hours worked by the persons employed at the site exceeded 16,000 hours; and

(b) the owner is able to demonstrate this fact, within seven days of a request from the Director, through evidence satisfactory to the Director.

(4) Copies of the records related to hours of employment maintained under section 11 of the *Employment Standards Act* shall be deemed to be sufficient evidence of hours worked at a site if the copies are certified by the owner or the owner's representative as to the accuracy of the records.

(5) In this section,

"owner" includes the operator of a manufacturing establishment but does not include a landlord;

"site" means one property and includes nearby properties owned or leased by the same person where passage from one property to another involves crossing, but not travelling along, a public highway. O. Reg. 103/94, s. 15.

TRANSITION

16. Except as otherwise provided, a person who, upon the coming into force of this Regulation, or at any time within twelve months after the coming into force of this Regulation, becomes subject to an obligation with respect to the implementation of a source separation program shall fulfil the obligation within twelve months after the coming into force of this Regulation. O.Reg. 103/94, s. 16.

SCHEDULE
WASTES TO BE PROVIDED FOR IN SOURCE SEPARATION PROGRAMS

2. Cardboard (corrugated).
3. Fine paper.
4. Glass bottles and jars for food or beverages.
5. Newsprint.
6. Polyethylene terephthalate bottles for food or beverages (including bottles made primarily of polyethylene terephthalate).
7. Steel food or beverage cans (including cans made primarily of steel).

PART IX
HOSPITALS

(referred to in section 13)

1. Aluminum food or beverage cans (including cans made primarily of aluminum).
2. Cardboard (corrugated).
3. Fine paper.
4. Glass bottles and jars for food or beverages.
5. Newsprint.
6. Steel food or beverage cans (including cans made primarily of steel).

PART X
EDUCATIONAL INSTITUTIONS

(referred to in section 14)

1. Aluminum food or beverage cans (including cans made primarily of aluminum).
2. Cardboard (corrugated).
3. Fine paper.
4. Glass bottles and jars for food or beverages.
5. Newsprint.
6. Steel food or beverage cans (including cans made primarily of steel).

PART XI
LARGE MANUFACTURING ESTABLISHMENTS

(referred to in section 15)

1. Aluminum.
2. Cardboard (corrugated).
3. Fine paper.
4. Glass.
5. Newsprint.

RYERSON
WASTE AUDIT

Site observations and Recommendations

60 GOULD

SIGNAGE AND LABELS

- The waste bins at this location are not properly labelled
- Black bags were also used in some recycling bins as opposed to the mandatory clear bags
- The garbage bins depicted on this slide are properly labeled but lack pictorial examples of acceptable waste for each compartment

- The fine paper waste bin was not labeled
- This could result in confusion and contamination

PROXIMITY

- The garbage and recycling bins outside are placed separately- with the garbage bins closer to the path making them more accessible
- Individuals will always choose the closest waste disposal outlet so having the recycling and garbage bins together will promote recycling

21 GERRARD

CONTAMINATION

- This site had upgraded waste disposal bins with some pictorial examples
- Upon examination of the contents in each bin, it was discovered that there was a lot of coffee cup contamination

CURB THE TREND

- Coffee cup contamination continued throughout this site
- More detailed or coffee cup specific signage may be useful to help individuals identify recyclable materials

133 MUTUAL

CONVENIENCE

- All bins should be coherently covered
- Individuals are more likely to choose the convenience of an open bin- leading to waste contamination

SMALL CHANGES, GREAT IMPACT!

- Label all waste disposal units
- Use correct waste disposal bags ex. Black or clear
- Place garbage and recycling bins in close proximity to each other
- Place pictorial signs in areas with high levels of contamination

Appendix B

Waste Audit Data

Waste Audit Report

Ryerson University

Waste Reduction Group Project P0860

Table B1: Garbage Sample Summary - By Building

Sample #	Location	Waste Audit Date	Sample	
			kg	%
1	60 Gould	01-Jun-18	235.64	43.2%
2	21 Gerrard	01-Jun-18	179.23	32.9%
3	133 Mutual	01-Jun-18	130.08	23.9%
Total			544.95	100.0%

Table B2: Garbage Sample Summary - By Building

Waste Generating Area		60 Gould		21 Gerrard		133 Mutual		Total	
Sample Date		Jun. 1/18		Jun. 1/18		Jun. 1/18			
Sample Size		235.64		179.23		130.08		544.95	
Percent of Sample Size		43.2%		32.9%		23.9%		100.0%	
		kg	%	kg	%	kg	%	kg	%
Mixed Containers	PET (#1)	3.22	1.4%	2.79	1.6%	1.86	1.4%	7.87	1.4%
	HDPE (#2)	1.48	0.6%	1.09	0.6%	0.43	0.3%	3.00	0.6%
	PP (#5)	5.03	2.1%	3.15	1.8%	1.23	0.9%	9.41	1.7%
	PS (#6)	3.77	1.6%	2.20	1.2%	0.83	0.6%	6.80	1.2%
	Glass	2.15	0.9%	0.38	0.2%	0.00	0.0%	2.53	0.5%
	Aluminum	2.82	1.2%	1.68	0.9%	0.59	0.5%	5.09	0.9%
	Steel	0.57	0.2%	0.33	0.2%	0.28	0.2%	1.18	0.2%
	Gable Top	1.64	0.7%	1.31	0.7%	1.04	0.8%	3.99	0.7%
	Aseptic	1.14	0.5%	1.08	0.6%	0.53	0.4%	2.75	0.5%
Mixed Papers	Fine Paper	8.68	3.7%	9.65	5.4%	2.28	1.8%	20.61	3.8%
	Newspaper	4.95	2.1%	5.51	3.1%	0.75	0.6%	11.21	2.1%
	Boxboard	4.40	1.9%	2.31	1.3%	0.69	0.5%	7.40	1.4%
	Other Fibres	4.22	1.8%	5.56	3.1%	1.72	1.3%	11.50	2.1%
Cardboard		21.03	**8.9%**	4.90	2.7%	6.34	4.9%	32.27	**5.9%**
Paper Towels		34.82	**14.8%**	26.96	**15.0%**	3.95	3.0%	65.73	**12.1%**
Coffee Cups		8.87	3.8%	6.80	3.8%	2.38	1.8%	18.05	3.3%
Organics		30.76	**13.1%**	37.02	**20.7%**	6.96	**5.4%**	74.74	**13.7%**
LDPE Plastic Films		14.22	**6.0%**	10.27	**5.7%**	2.98	2.3%	27.47	**5.0%**
Styrofoam		3.06	1.3%	1.84	1.0%	0.32	0.2%	5.22	1.0%
Plastic Strapping		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Scrap Wood		3.27	1.4%	2.24	1.2%	0.00	0.0%	5.51	1.0%
Scrap Metal		13.52	**5.7%**	0.00	0.0%	22.37	**17.2%**	35.89	**6.6%**
Electronic Waste		4.09	1.7%	0.00	0.0%	3.64	2.8%	7.73	1.4%
Bulbs		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Batteries		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Printer Toners		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Other/Nonrecyclable		57.93	**24.6%**	52.16	**29.1%**	68.91	**53.0%**	179.00	**32.8%**
QAQC Check		235.64	100.0%	179.23	100.0%	130.08	100.0%	544.95	100.0%
Mixed Containers		21.82	**9.3%**	14.01	**7.8%**	6.79	**5.2%**	42.62	**7.8%**
Mixed Papers		22.25	**9.4%**	23.03	**12.8%**	5.44	4.2%	50.72	**9.3%**
Mandatory Recyclables (Reg103)		40.2	17.1%	22.5	12.5%	10.2	7.9%	72.9	13.4%
Other Recyclables		137.51	58.4%	104.62	58.4%	50.93	39.2%	293.06	53.8%
Non-Recyclable		57.9	24.6%	52.2	29.1%	68.9	53.0%	179.0	32.8%
QAQC Check		TRUE	100.0%	TRUE	100.0%	TRUE	100.0%	TRUE	100.0%

Note: Highlighted cells represent those items identified in Table 6 of report.

Table B3: Overall Garbage Composition (Ranked)

Waste Composition	%	Annual		Divert?	Est.
		960.92	MT	Y/N	Amount[1]
Other/Nonrecyclable	32.8%	315.63	MT	No	
Organics	13.7%	131.79	MT	Yes	79.07
Paper Towels	12.1%	115.90	MT	Yes	69.54
Mixed Papers	9.3%	89.44	MT	Yes	53.66
Mixed Containers	7.8%	75.15	MT	Yes	45.09
Scrap Metal	6.6%	63.29	MT	Yes	37.97
Cardboard	5.9%	56.90	MT	Yes	34.14
LDPE Plastic Films	5.0%	48.44	MT	Yes	29.06
Coffee Cups	3.3%	31.83	MT	Yes	19.10
Electronic Waste	1.4%	13.63	MT	Yes	8.18
Scrap Wood	1.0%	9.72	MT	Yes	5.83
Styrofoam	1.0%	9.20	MT	Yes	5.52
QAQC Check	100.0%	960.92	MT		375.82

[1] *Assumed 60% capture rate of materials in garbage stream.*

Table B4: Overall Mixed Container Summary

Material	kg	%	Disposed	Recycled
			MT	MT
			75.15	155.33
PET (#1)	7.87	18.5%	13.88	28.68
HDPE (#2)	3.00	7.0%	5.29	10.93
PP (#5)	9.41	22.1%	16.59	34.30
PS (#6)	6.80	16.0%	11.99	24.78
Glass	2.53	5.9%	4.46	9.22
Aluminum	5.09	11.9%	8.98	18.55
Steel	1.18	2.8%	2.08	4.30
Gable Top	3.99	9.4%	7.04	14.54
Aseptic	2.75	6.5%	4.85	10.02
Total	42.62	100.0%	75.15	155.33

Table B5: Overall Mixed Paper Summary

Material	kg	%	Disposed	Recycled
			MT	MT
			89.44	130.71
Fine	20.61	40.6%	36.34	53.11
Newsprint	11.21	22.1%	19.77	28.89
BoxBoard	7.40	14.6%	13.05	19.07
Other	11.50	22.7%	20.28	29.64
Total	50.72	100.0%	89.44	130.71

Waste Audit Report

Ryerson University

Waste Reduction Group Project P0860

Table B6: Annual Waste Management & Diversion Summary

Material Stream	3Rs or Disposed	2017 Total[1]		
		kg	MT	%
Garbage - Main Campus	Disposed		863.95	89.9%
Garbage - Residence	Disposed		96.97	10.1%
Sub-Total			***960.92***	60.1%
Cardboard - Main Campus	Recycled		69.37	10.9%
Cardboard - Residence	Recycled		51.83	8.1%
Mixed Papers - Main Campus	Recycled		104.07	16.3%
Mixed Papers - Residnece	Recycled		26.64	4.2%
Confidential Papers - Main Campus	Recycled		28.80	4.5%
Mixed Containers - Main Campus	Recycled		48.80	7.6%
Mixed Containers - Residence	Recycled		106.53	16.7%
Scrap Wood/Pallets/Furniture - Main	Recycled		13.56	2.1%
Recovered Recyclables - Main Campus	Recycled		44.82	7.0%
Recovered Recyclables - Residence	Recycled		5.13	0.8%
Bulbs & Ballasts - Residence	Recycled		6.37	1.0%
Oil & Grease - Main Campus	Recycled		16.32	2.6%
Organics - Main Campus	Composted		67.32	10.5%
Organics - Residence	Composted		21.78	3.4%
Refundable Containers	Reused		27.00	4.2%
Sub-Total			***638.34***	***39.9%***
Total Generated			1599.26	100.0%
Total Recycled			522.24	32.7%
Total Reused			27.00	1.7%
Total Composted			89.10	5.6%
Total Disposed			960.92	60.1%
Achieved Waste Diversion Rate				***39.9%***
Additioanl Recyclable Materials in Wastes Disposed to Landfill (MT)				*375.8*
Potential Waste Diversion Rate				***63.4%***

Notes:

1: Annual Values provided by Client.

Table B7: 60 Gould - Garbage Sample Summary (Jun 1, 2018)

Waste Generating Area		Kerr Hall - Office		Kerr Hall - Lab		Kerr Hall - Kitchen		Kerr Hall - Washroom		Kerr Hall - Classroom		Unlabelled & Loose Items		Total	
Sample Size		44.23		8.37		16.44		17.51		25.41		123.68		235.64	
Percent of Sample Size		18.8%		3.6%		7.0%		7.4%		10.8%		52.5%		100.0%	
		kg	%	kg	%	kg	%	kg	%	kg	%	kg	%	kg	%
Mixed Containers	PET (#1)	0.63	1.4%	0.21	2.5%	0.24	1.5%	0.18	1.0%	0.25	1.0%	1.71	1.4%	3.22	1.4%
	HDPE (#2)	0.15	0.3%	0.00	0.0%	0.15	0.9%	0.00	0.0%	0.13	0.5%	1.05	0.8%	1.48	0.6%
	PP (#5)	0.58	1.3%	0.14	1.7%	0.34	2.1%	0.08	0.5%	0.47	1.8%	3.42	2.8%	5.03	2.1%
	PS (#6)	0.83	1.9%	0.19	2.3%	0.28	1.7%	0.14	0.8%	0.22	0.9%	2.11	1.7%	3.77	1.6%
	Glass	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	2.15	1.7%	2.15	0.9%
	Aluminum	0.37	0.8%	0.11	1.3%	0.12	0.7%	0.05	0.3%	0.31	1.2%	1.86	1.5%	2.82	1.2%
	Steel	0.05	0.1%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.52	0.4%	0.57	0.2%
	Gable Top	0.24	0.5%	0.00	0.0%	0.35	2.1%	0.00	0.0%	0.12	0.5%	0.93	0.8%	1.64	0.7%
	Aseptic	0.13	0.3%	0.00	0.0%	0.22	1.3%	0.00	0.0%	0.05	0.2%	0.74	0.6%	1.14	0.5%
Mixed Papers	Fine Paper	2.84	6.4%	0.22	2.6%	0.31	1.9%	0.26	1.5%	1.62	6.4%	3.43	2.8%	8.68	3.7%
	Newspaper	1.88	4.3%	0.38	4.5%	0.48	2.9%	0.21	1.2%	0.53	2.1%	1.47	1.2%	4.95	2.1%
	Boxboard	1.05	2.4%	0.29	3.5%	0.37	2.3%	0.23	1.3%	0.28	1.1%	2.18	1.8%	4.40	1.9%
	Other Fibres	1.42	3.2%	0.37	4.4%	0.85	5.2%	0.25	1.4%	0.81	3.2%	0.52	0.4%	4.22	1.8%
Cardboard		0.63	1.4%	0.31	3.7%	0.00	0.0%	0.00	0.0%	0.67	2.6%	19.42	15.7%	21.03	8.9%
Paper Towels		5.52	12.5%	1.16	13.9%	1.48	9.0%	13.49	77.0%	2.52	9.9%	10.65	8.6%	34.82	14.8%
Coffee Cups		2.44	5.5%	0.32	3.8%	0.47	2.9%	0.24	1.4%	1.02	4.0%	4.38	3.5%	8.87	3.8%
Organics		6.82	15.4%	0.53	6.3%	6.89	41.9%	0.85	4.9%	3.25	12.8%	12.42	10.0%	30.76	13.1%
LDPE Plastic Films		3.36	7.6%	0.92	11.0%	0.87	5.3%	0.31	1.8%	1.92	7.6%	6.84	5.5%	14.22	6.0%
Styrofoam		0.56	1.3%	0.32	3.8%	0.25	1.5%	0.13	0.7%	0.36	1.4%	1.44	1.2%	3.06	1.3%
Plastic Strapping		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Scrap Wood		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	3.27	2.6%	3.27	1.4%
Scrap Metal		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	13.52	10.9%	13.52	5.7%
Electronic Waste		0.45	1.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	3.64	2.9%	4.09	1.7%
Bulbs		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Batteries		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Printer Toners		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Other/Nonrecyclable		14.28	32.3%	2.90	34.6%	2.77	16.8%	1.09	6.2%	10.88	42.8%	26.01	21.0%	57.93	24.6%
QAQC Check		44.23	100.0%	8.37	100.0%	16.44	100.0%	17.51	100.0%	25.41	100.0%	123.68	100.0%	235.64	100.0%
Mixed Containers		2.98	6.7%	0.65	7.8%	1.70	10.3%	0.45	2.6%	1.55	6.1%	14.49	11.7%	21.82	9.3%
Mixed Papers		7.19	16.3%	1.26	15.1%	2.01	12.2%	0.95	5.4%	3.24	12.8%	7.60	6.1%	22.25	9.4%
Mandatory Recyclables (Reg103)		5.8	13.0%	1.0	12.2%	0.9	5.5%	0.5	3.0%	3.1	12.3%	28.9	23.3%	40.2	17.1%
Other Recyclables		24.18	54.7%	4.45	53.2%	12.76	77.6%	15.90	90.8%	11.40	44.9%	68.82	55.6%	137.51	58.4%
Non-Recyclable		14.3	32.3%	2.9	34.6%	2.8	16.8%	1.1	6.2%	10.9	42.8%	26.0	21.0%	57.9	24.6%
QAQC Check		TRUE	100.0%	TRUE	100.0%	TRUE	100.0%	TRUE	100.0%	TRUE	100.0%	TRUE	100.0%	TRUE	100.0%

Waste Audit Report

Ryerson University

Waste Reduction Group Project P0860

Table B8: 21 Gerrard - Garbage Sample Summary (June 1, 2018)

Waste Generating Area		POD - Office		POD - Washroom		POD - Classroom		POD - Service Hall		380 VIC - Office		380 VIC - Kitchen		RAC - Office		RAC - Classroom		RAC - Washroom		Unlabelled		Total	
Sample Size		23.41		13.97		29.81		5.94		4.36		36.99		32.02		2.03		0.69		30.01		179.23	
Percent of Sample Size		13.1%		7.8%		16.6%		3.3%		2.4%		20.6%		17.9%		1.1%		0.4%		16.7%		100.0%	
		kg	%	kg	%	kg	%	kg	%	kg	%	kg	%	kg	%	kg	%	kg	%	kg	%	kg	%
Mixed Containers	PET (#1)	0.35	1.5%	0.13	0.9%	0.38	1.3%	0.21	3.5%	0.08	1.8%	0.28	0.8%	0.58	1.8%	0.05	2.5%	0.00	0.0%	0.73	2.4%	2.79	1.6%
	HDPE (#2)	0.11	0.5%	0.00	0.0%	0.09	0.3%	0.00	0.0%	0.00	0.0%	0.38	1.0%	0.21	0.7%	0.02	1.0%	0.00	0.0%	0.28	0.9%	1.09	0.6%
	PP (#5)	0.35	1.5%	0.15	1.1%	0.48	1.6%	0.15	2.5%	0.20	4.6%	0.62	1.7%	0.45	1.4%	0.13	6.4%	0.00	0.0%	0.62	2.1%	3.15	1.8%
	PS (#6)	0.28	1.2%	0.11	0.8%	0.32	1.1%	0.08	1.3%	0.16	3.7%	0.47	1.3%	0.46	1.4%	0.05	2.5%	0.00	0.0%	0.27	0.9%	2.20	1.2%
	Glass	0.00	0.0%	0.00	0.0%	0.38	1.3%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.38	0.2%
	Aluminum	0.21	0.9%	0.08	0.6%	0.34	1.1%	0.06	1.0%	0.05	1.1%	0.25	0.7%	0.43	1.3%	0.03	1.5%	0.00	0.0%	0.23	0.8%	1.68	0.9%
	Steel	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.33	0.9%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.33	0.2%
	Gable Top	0.18	0.8%	0.00	0.0%	0.22	0.7%	0.00	0.0%	0.00	0.0%	0.52	1.4%	0.28	0.9%	0.00	0.0%	0.00	0.0%	0.11	0.4%	1.31	0.7%
	Aseptic	0.24	1.0%	0.00	0.0%	0.21	0.7%	0.00	0.0%	0.00	0.0%	0.39	1.1%	0.24	0.7%	0.00	0.0%	0.00	0.0%	0.00	0.0%	1.08	0.6%
Mixed Papers	Fine Paper	1.15	4.9%	0.25	1.8%	1.05	3.5%	3.55	59.8%	0.51	11.7%	0.73	2.0%	1.65	5.2%	0.28	13.8%	0.00	0.0%	0.48	1.6%	9.65	5.4%
	Newspaper	0.47	2.0%	0.36	2.6%	0.57	1.9%	0.38	6.4%	1.50	34.4%	0.54	1.5%	0.87	2.7%	0.00	0.0%	0.00	0.0%	0.82	2.7%	5.51	3.1%
	Boxboard	0.32	1.4%	0.16	1.1%	0.38	1.3%	0.13	2.2%	0.22	5.0%	0.17	0.5%	0.46	1.4%	0.08	3.9%	0.00	0.0%	0.39	1.3%	2.31	1.3%
	Other Fibres	0.73	3.1%	0.05	0.4%	1.44	4.8%	0.22	3.7%	0.34	7.8%	0.62	1.7%	0.73	2.3%	0.11	5.4%	0.00	0.0%	1.32	4.4%	5.56	3.1%
Cardboard		0.44	1.9%	0.08	0.6%	0.39	1.3%	0.00	0.0%	0.33	7.6%	0.00	0.0%	0.24	0.7%	0.00	0.0%	0.00	0.0%	3.42	11.4%	4.90	2.7%
Paper Towels		2.26	9.7%	11.20	80.2%	3.51	11.8%	0.26	4.4%	0.17	3.9%	1.97	5.3%	3.06	9.6%	0.21	10.3%	0.58	84.1%	3.74	12.5%	26.96	15.0%
Coffee Cups		0.67	2.9%	0.17	1.2%	1.31	4.4%	0.33	5.6%	0.15	3.4%	1.18	3.2%	1.47	4.6%	0.18	8.9%	0.02	2.9%	1.32	4.4%	6.80	3.8%
Organics		2.65	11.3%	0.20	1.4%	3.43	11.5%	0.21	3.5%	0.00	0.0%	20.63	55.8%	4.02	12.6%	0.30	14.8%	0.00	0.0%	5.58	18.6%	37.02	20.7%
LDPE Plastic Films		1.52	6.5%	0.32	2.3%	2.05	6.9%	0.20	3.4%	0.12	2.8%	1.28	3.5%	2.32	7.2%	0.13	6.4%	0.04	5.8%	2.29	7.6%	10.27	5.7%
Styrofoam		0.35	1.5%	0.03	0.2%	0.31	1.0%	0.00	0.0%	0.00	0.0%	0.53	1.4%	0.45	1.4%	0.03	1.5%	0.00	0.0%	0.14	0.5%	1.84	1.0%
Plastic Strapping		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Scrap Wood		0.43	1.8%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.43	1.3%	0.00	0.0%	0.00	0.0%	1.38	4.6%	2.24	1.2%
Scrap Metal		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Electronic Waste		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Bulbs		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Batteries		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Printer Toners		0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Other/Nonrecyclable		10.70	45.7%	0.68	4.9%	12.95	43.4%	0.16	2.7%	0.53	12.2%	6.10	16.5%	13.67	42.7%	0.43	21.2%	0.05	7.2%	6.89	23.0%	52.16	29.1%
QAQC Check		23.41	100.0%	13.97	100.0%	29.81	100.0%	5.94	100.0%	4.36	100.0%	36.99	100.0%	32.02	100.0%	2.03	100.0%	0.69	100.0%	30.01	100.0%	179.23	100.0%
Mixed Containers		1.72	7.3%	0.47	3.4%	2.42	8.1%	0.50	8.4%	0.49	11.2%	3.24	8.8%	2.65	8.3%	0.28	13.8%	0.00	0.0%	2.24	7.5%	14.01	7.8%
Mixed Papers		2.67	11.4%	0.82	5.9%	3.44	11.5%	4.28	72.1%	2.57	58.9%	2.06	5.6%	3.71	11.6%	0.47	23.2%	0.00	0.0%	3.01	10.0%	23.03	12.8%
Mandatory Recyclables (Reg103)		2.3	9.7%	0.8	5.5%	2.7	9.2%	4.0	67.2%	2.4	54.8%	1.9	5.0%	3.2	10.0%	0.3	15.3%	0.0	0.0%	5.0	16.5%	22.5	12.5%
Other Recyclables		10.44	44.6%	12.52	89.6%	14.13	47.4%	1.79	30.1%	1.44	33.0%	29.04	78.5%	15.16	47.3%	1.29	63.5%	0.64	92.8%	18.17	60.5%	104.62	58.4%
Non-Recyclable		10.7	45.7%	0.7	4.9%	13.0	43.4%	0.2	2.7%	0.5	12.2%	6.1	16.5%	13.7	42.7%	0.4	21.2%	0.0	7.2%	6.9	23.0%	52.2	29.1%
QAQC Check		TRUE	100.0%	TRUE	100.0%	TRUE	100.0%	TRUE	100.0%	TRUE	100.0%	TRUE	100.0%	TRUE	100.0%	TRUE	100.0%	TRUE	100.0%	TRUE	100.0%	TRUE	100.0%

Waste Audit Report

Ryerson University

Waste Reduction Group Project P0860

Table B9: 133 Mutual - Garbage Sample Summary (Jun 1, 2018)

Waste Generating Area		Bagged Sample		Loose Items		Total	
Sample Size		40.42		89.66		130.08	
Percent of Sample Size		31.1%		68.9%		100.0%	
		kg	%	kg	%	kg	%
Mixed Containers	PET (#1)	1.86	4.6%	0.00	0.0%	1.86	1.4%
	HDPE (#2)	0.43	1.1%	0.00	0.0%	0.43	0.3%
	PP (#5)	1.23	3.0%	0.00	0.0%	1.23	0.9%
	PS (#6)	0.83	2.1%	0.00	0.0%	0.83	0.6%
	Glass	0.00	0.0%	0.00	0.0%	0.00	0.0%
	Aluminum	0.59	1.5%	0.00	0.0%	0.59	0.5%
	Steel	0.28	0.7%	0.00	0.0%	0.28	0.2%
	Gable Top	1.04	2.6%	0.00	0.0%	1.04	0.8%
	Aseptic	0.53	1.3%	0.00	0.0%	0.53	0.4%
Mixed Papers	Fine Paper	2.28	5.6%	0.00	0.0%	2.28	1.8%
	Newspaper	0.75	1.9%	0.00	0.0%	0.75	0.6%
	Boxboard	0.69	1.7%	0.00	0.0%	0.69	0.5%
	Other Fibres	1.72	4.3%	0.00	0.0%	1.72	1.3%
Cardboard		1.88	4.7%	4.46	5.0%	6.34	4.9%
Paper Towels		3.95	9.8%	0.00	0.0%	3.95	3.0%
Coffee Cups		2.38	5.9%	0.00	0.0%	2.38	1.8%
Organics		6.96	17.2%	0.00	0.0%	6.96	5.4%
LDPE Plastic Films		2.98	7.4%	0.00	0.0%	2.98	2.3%
Styrofoam		0.32	0.8%	0.00	0.0%	0.32	0.2%
Plastic Strapping		0.00	0.0%	0.00	0.0%	0.00	0.0%
Scrap Wood		0.00	0.0%	0.00	0.0%	0.00	0.0%
Scrap Metal		0.00	0.0%	22.37	24.9%	22.37	17.2%
Electronic Waste		0.00	0.0%	3.64	4.1%	3.64	2.8%
Bulbs		0.00	0.0%	0.00	0.0%	0.00	0.0%
Batteries		0.00	0.0%	0.00	0.0%	0.00	0.0%
Printer Toners		0.00	0.0%	0.00	0.0%	0.00	0.0%
Other/Nonrecyclable		9.72	24.0%	59.19	66.0%	68.91	53.0%
QAQC Check		40.42	100.0%	89.66	100.0%	130.08	100.0%
Mixed Containers		6.79	16.8%	0.00	0.0%	6.79	5.2%
Mixed Papers		5.44	13.5%	0.00	0.0%	5.44	4.2%
Mandatory Recyclables (Reg103)		5.8	14.3%	4.5	5.0%	10.2	7.9%
Other Recyclables		24.92	61.7%	26.01	29.0%	50.93	39.2%
Non-Recyclable		9.7	24.0%	59.2	66.0%	68.9	53.0%
QAQC Check		TRUE	100.0%	TRUE	100.0%	TRUE	100.0%

RYERSON UNIVERSITY
MAIN CAMPUS

2017															
	CARDBOARD	MIXED PAPER	SHREDDING	PLASTIC, METAL & GLASS	ORGANICS	GREASE	WOOD SKIDS & FURNITURE	E-WASTE	REFUNDABLE CONTAINERS	RECOVERED RECYCLABLES	LANDFILL	TOTAL GENERATED	RECYCLED	DIVERSION RATE 2017	DIVERSION RATE 2016
Jan-17	5.15	7.73	*2.40*	1.55	3.74	*1.36*	*1.13*		*2.25*	4.22	80.12	109.65	29.53	26.93%	27.21%
Feb-17	6.62	9.94	*2.40*	1.85	5.39	*1.36*	*1.13*		*2.25*	4.31	81.80	117.05	35.25	30.12%	13.81%
Mar-17	5.54	8.30	*2.40*	4.10	7.26	*1.36*	*1.13*		*2.25*	3.69	70.12	106.15	36.03	33.94%	23.27%
Apr-17	3.76	5.64	*2.40*	8.75	5.50	*1.36*	*1.13*		*2.25*	3.21	60.95	94.95	34.00	35.81%	23.98%
May-17	4.37	6.55	*2.40*	7.10	5.83	*1.36*	*1.13*		*2.25*	4.72	89.62	125.33	35.71	28.49%	23.82%
Jun-17	2.54	3.82	*2.40*	5.85	7.81	*1.36*	*1.13*		*2.25*	3.37	63.96	94.49	30.53	32.31%	20.44%
Jul-17	3.39	5.09	*2.40*	4.25	4.51	*1.36*	*1.13*		*2.25*	2.99	59.12	86.49	27.37	31.65%	21.99%
Aug-17	4.50	6.74	*2.40*	4.05	4.07	*1.36*	*1.13*		*2.25*	2.94	58.72	88.16	29.44	33.39%	28.67%
Sep-17	8.70	13.06	*2.40*	3.75	5.39	*1.36*	*1.13*		*2.25*	4.12	82.06	124.22	42.16	33.94%	25.29%
Oct-17	9.70	14.54	*2.40*	3.00	6.05	*1.36*	*1.13*		*2.25*	4.15	82.57	127.15	44.58	35.06%	27.44%
Nov-17	9.39	14.09	*2.40*	2.95	6.71	*1.36*	*1.13*		*2.25*	4.51	85.65	130.44	44.79	34.34%	30.84%
Dec-17	5.71	8.57	*2.40*	1.60	5.06	*1.36*	*1.13*		*2.25*	2.59	49.26	79.93	30.67	38.37%	30.94%
TOTAL	69.37	104.07	28.80	48.80	67.32	16.32	13.56	0.00	27.00	44.82	863.95	1284.01	420.06		

RYERSON UNIVERSITY
RESIDENCE BUILDINGS

2017															
	CARDBOARD	MIXED PAPER	SHREDDING	PLASTIC, METAL & GLASS	ORGANICS	GREASE	WOOD SKIDS	FLUORESCENT LIGHT BULB	OTHER MATERIALS	RECOVERED RECYCLABLES	LANDFILL	TOTAL GENERATED	RECYCLED	DIVERSION RATE 2017	DIVERSION RATE 2016
Jan-17	3.92	0.99		3.96	1.32			*0.46*		0.47	**8.90**	**20.02**	**11.12**	**55.54%**	**47.82%**
Feb-17	22.08	11.55		46.20	1.87			*0.46*		0.39	**7.32**	**89.87**	**82.55**	**91.85%**	**28.60%**
Mar-17	2.33	1.04		4.17	1.76			*0.46*		0.42	**7.89**	**18.07**	**10.18**	**56.34%**	**71.55%**
Apr-17	1.66	1.00		3.98	1.76			0.46		0.71	**13.41**	**22.98**	**9.57**	**41.64%**	**34.25%**
May-17	2.40	1.47		5.89	1.43			0.46		0.14	**2.59**	**14.38**	**11.79**	**81.99%**	**72.24%**
Jun-17	1.81	1.08		4.33	2.64			0.87		0.62	**11.78**	**23.13**	**11.35**	**49.07%**	**82.28%**
Jul-17	2.98	1.79		7.15	2.97			0.49		0.18	**3.39**	**18.95**	**15.56**	**82.11%**	**87.29%**
Aug-17	3.90	1.27		5.09	1.21			0.46		0.71	**13.53**	**26.17**	**12.64**	**48.30%**	**73.79%**
Sep-17	3.12	1.87		7.48	1.32			0.46		0.24	**4.53**	**19.02**	**14.49**	**76.18%**	**83.72%**
Oct-17	2.17	1.30		5.20	1.87			0.46		0.51	**9.60**	**21.11**	**11.51**	**54.52%**	**82.34%**
Nov-17	2.33	1.40		5.58	2.20			0.46		0.18	**3.39**	**15.54**	**12.15**	**78.19%**	**85.93%**
Dec-17	3.13	1.88		7.50	1.43			0.87		0.56	**10.64**	**26.01**	**15.37**	**59.09%**	**52.90%**
TOTAL	**51.83**	**26.64**	**0.00**	**106.53**	**21.78**	**0.00**	**0.00**	**6.37**	**0.00**	**5.13**	**96.97**	**315.25**	**218.28**		

Appendix C

Waste Audit Summary

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: Ryerson University		
Name of Contact Person:	**Telephone #:**	**Email address:**
Street Address(es) of Entity(ies): 350 Victoria Street		
Municipality: Toronto, Ontario		

	Type of Entity (check one)		
Retail Shopping Establishments		Hotels and Motels	
Retail Shopping Complexes		Hospitals	
Office Buildings		Educational Institutions	X
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):

Ryerson University is an educational institution with approximately 36,503 FTE students which satisfies Part X of Ontario Regulation 102/94 & 103/94. O.Reg. 102/94 requires operators of educational institutions with more than 350 full- or part-time students enrolled during the calendar year to conduct an annual waste audit and implement a waste reduction work plan. O.Reg. 103/94 requires that source separation programs be implemented and maintained for fine papers, newsprint, aluminum cans, steel cans, glass beverage containers and corrugated cardboard. Ryerson University undertook this audit in order to assist them in reducing wastes generated on campus and/or disposed to landfill, while being in compliance with the required Regulations.

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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?**
PET (#1) plastic food and beverage bottles	*Brought onto campus or generated on campus by staff/students.*
HDPE (#2) Containers	*Brought onto campus/generated on campus by staff/students.*
Polypropylene (#5) Containers	*Brought onto campus or generated on campus by staff/students.*
Polystyrene (#6) Containers	*Brought onto campus/generated on campus by staff/students.*
Glass food and beverage bottles/jars	*Brought onto campus or generated on campus by staff/students.*
Aluminum food and beverage cans	*Brought onto campus or generated on campus by staff/students.*
Steel food and beverage cans	*Brought onto campus or generated on campus by staff/students.*
Gable Top Containers	*Brought onto campus or generated on campus by staff/students.*
Aseptic Containers	*Brought onto campus or generated on campus by staff/students.*
Fine paper	*Brought onto campus or generated on campus by staff/students.*
Newsprint	*Brought onto campus or generated on campus by staff/students.*
Boxboard shoe boxes, cereal boxes, etc.	*Brought onto campus or generated on campus by staff/students.*
Glossy magazines, catalogues, flyers	*Brought onto campus or generated on campus by staff/students.*
Cardboard	*Brought onto campus, shipping/generated on campus by staff/students.*
Paper towels	*Generated by staff/students on campus*
Coffee cups	*Brought onto campus/generated on campus by staff/students.*
Organics / Food Waste	*Brought onto campus/generated on campus by staff/students.*
LDPE (#4) plastic film	*Brought onto campus/generated on campus by staff/students.*
Styrofoam	*Brought onto campus/generated on campus by staff/students.*
Plastics Strapping	*Brought onto campus/generated on campus by staff/students.*
Scrap Woods/Pallets	*Generated by staff/students on campus*
Scrap Metals	*Generated by staff/students on campus*
Electronic Wastes (incl. toners)	*Generated by staff/students on campus*
Bulbs & Ballasts	*Generated by staff/students on campus*
Batteries	*Generated by staff/students on campus*
Concrete	*Generated by staff/operations on campus*
Oil & Grease	*Generated by staff/operations on campus*
Used Furniture	*Generated by staff/operations on campus*
Other / Non-Recyclable	*Generated by staff/students on campus*

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

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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**
PET (#1) plastic food and beverage bottles	*Staff/Students may place in garbage*	*Staff/Students may place in recycling containers.*
HDPE (#2) Containers	*Staff/students may place in garbage*	*Staff/Students may place in recycling containers.*
Polypropylene (#5) Containers	*Staff/Students may place in garbage*	*Staff/Students may place in recycling containers.*
Polystyrene (#6) Containers	*Staff/students may place in garbage*	*Staff/Students may place in recycling containers.*
Glass food and beverage bottles/jars	*Staff/Students may place in garbage*	*Staff/Students may place in recycling containers.*
Aluminum food and beverage cans	*Staff/Students may place in garbage*	*Staff/Students may place in recycling containers.*
Steel food and beverage cans	*Staff/Students may place in garbage*	*Staff/Students may place in recycling containers.*
Gable Top Containers	*Staff/Students may place in garbage*	*Staff/Students may place in recycling containers.*
Aseptic Containers	*Staff/Students may place in garbage*	*Staff/Students may place in recycling containers.*
Fine paper	*Staff/Students may place in garbage*	*Staff/Students may place in recycling containers.*
Newsprint	*Staff/Students may place in garbage*	*Staff/Students may place in recycling containers.*
Boxboard shoe boxes, cereal boxes, etc.	*Staff/Students may place in garbage*	*Staff/Students may place in recycling containers.*
Glossy magazines, catalogues, flyers	*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.*
Paper towels	*Staff/Students place in garbage*	*No recycling program implemented.*
Coffee cups	*Staff/Students may place in garbage*	*No recycling program implemented.*
Organics / Food Waste	*Staff/Students may place in garbage*	*Staff/Students may place in organics containers.*
LDPE (#4) Plastic Film	*Staff/Students may place in garbage*	*Staff/Students may place in recycling containers.*
Styrofoam (#6)	*Staff/Students place in garbage*	*No recycling program implemented.*
Plastic Strapping	*Staff/Students may place in garbage*	*Staff/Students may place in recycling containers.*
Scrap Woods/Pallets	*Staff/students may place in garbage*	*Staff may place in recycling containers.*
Scrap Metals	*Staff/Students place in garbage*	*No recycling program implemented.*
Electronic Wastes (incl. toners)	*Staff/Students may place in garbage*	*Staff/Students may place in recycling containers.*
Bulbs & Ballasts	*Staff may place in garbage*	*Staff may place in recycling containers.*
Batteries	*Staff/Students place in garbage*	*No recycling program implemented.*
Oil & Grease	*Staff may place in garbage*	*Staff may place in recycling containers.*
Other / Non-Recyclable	*Staff/students place in garbage*	*Not applicable.*

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

Categories of Waste	Estimated Amount of Waste											
	Generated			Reduced/Reused			Recycled			Disposed		
	"A" Base Year	"B" Current Year	"C" * Change (A - B)	"A" Base Year	"B" Current Year	"C" * Change (A - B)	"A" Base Year	"B" Current Year	"C" * Change (A - B)	"A" Base Year	"B" Current Year	"C" * Change (A - B)
	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes
PET (#1) plastic food and beverage bottles	42.56	42.56	0.00	0.00	0.00	0.00	28.68	28.68	0.00	13.88	13.88	0.00
HDPE (#2) Containers	16.22	16.22	0.00	0.00	0.00	0.00	10.93	10.93	0.00	5.29	5.29	0.00
Polypropylene (#5) Containers	50.89	50.89	0.00	0.00	0.00	0.00	34.30	34.30	0.00	16.59	16.59	0.00
Polystyrene (#6) Containers	36.77	36.77	0.00	0.00	0.00	0.00	24.78	24.78	0.00	11.99	11.99	0.00
Glass food and beverage bottles/jars	13.68	13.68	0.00	0.00	0.00	0.00	9.22	9.22	0.00	4.46	4.46	0.00
Aluminum food and beverage cans	27.53	27.53	0.00	0.00	0.00	0.00	18.55	18.55	0.00	8.98	8.98	0.00
Steel food and beverage cans	6.38	6.38	0.00	0.00	0.00	0.00	4.30	4.30	0.00	2.08	2.08	0.00
Gable Top/Milk Containers	21.58	21.58	0.00	0.00	0.00	0.00	14.54	14.54	0.00	7.04	7.04	0.00
Aseptic Containers	14.87	14.87	0.00	0.00	0.00	0.00	10.02	10.02	0.00	4.85	4.85	0.00
Fine paper	118.26	118.26	0.00	0.00	0.00	0.00	81.91	81.91	0.00	36.34	36.34	0.00
Newsprint	48.66	48.66	0.00	0.00	0.00	0.00	28.89	28.89	0.00	19.77	19.77	0.00
Boxboard shoe boxes, cereal boxes, etc.	32.12	32.12	0.00	0.00	0.00	0.00	19.07	19.07	0.00	13.05	13.05	0.00
Glossy magazines, catalogues, flyers	49.91	49.91	0.00	0.00	0.00	0.00	29.64	29.64	0.00	20.28	20.28	0.00
Corrugated Cardboard	178.10	178.10	0.00	0.00	0.00	0.00	121.20	121.20	0.00	56.90	56.90	0.00
Paper Towels	115.90	115.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	115.90	115.90	0.00
Coffee Cups	31.83	31.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.83	31.83	0.00
Organics	220.89	220.89	0.00	0.00	0.00	0.00	89.10	89.10	0.00	131.79	131.79	0.00
LDPE (#4) Plastic Films	48.44	48.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.44	48.44	0.00
Styrofoam (#6) Plastic	9.20	9.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.20	9.20	0.00
Plastic Strapping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scrap Wood/Pallets	23.28	23.28	0.00	0.00	0.00	0.00	13.56	13.56	0.00	9.72	9.72	0.00
Scrap Metal	63.29	63.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63.29	63.29	0.00
Electronic Wastes	13.63	13.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.63	13.63	0.00
Fluorescent Bulbs	6.37	6.37	0.00	0.00	0.00	0.00	6.37	6.37	0.00	0.00	0.00	0.00
Batteries	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refundable Containers	27.00	27.00	0.00	27.00	27.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oil & Grease	16.32	16.32	0.00	0.00	0.00	0.00	16.32	16.32	0.00	0.00	0.00	0.00
Recovered Recyclables	49.95	49.95	0.00	0.00	0.00	0.00	49.95	49.95	0.00	0.00	0.00	0.00
Other/Nonrecyclable	315.63	315.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.63	315.63	0.00
Total	1599.26	1599.26	0.00	27.00	27.00	0.00	611.34	611.34	0.00	960.92	960.92	0.00
Percent Change (C ÷A x 100)			0.0%			0.0%			0.0%			0.0%

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

Base year taken as 2017

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 formal "green" purchasing policy is in place at Ryerson University. However, the different purchasing departments at the University do consider environmental impacts of their purchases whenever options are available and feasible.

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.

   Not applicable.

   ***** 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:**

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Appendix D

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: Ryerson University		
Name of Contact Person:	**Telephone #:**	**Email address:**
Street Address(es) of Entity(ies): 350 Victoria Street		
Municipality: Toronto, Ontario		

Type of Entity (check one)			
Retail Shopping Establishments		Hotels and Motels	
Retail Shopping Complexes		Hospitals	
Office Buildings		Educational Institutions	X
Restaurants		Large Manufacturing Establishments	

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

II. DESCRIPTION OF THE ENTITY

Provide a brief overview of the entity(ties):

Ryerson University is an educational institution with approximately 36,503 FTE students which satisfies Part X of Ontario Regulation 102/94 & 103/94. O.Reg. 102/94 requires operators of educational institutions with more than 350 full- or part-time students enrolled during the calendar year to conduct an annual waste audit and implement a waste reduction work plan. O.Reg. 103/94 requires that source separation programs be implemented and maintained for fine papers, newsprint, aluminum cans, steel cans, glass beverage containers and corrugated cardboard. Ryerson University undertook this audit in order to assist them in reducing wastes generated on campus and/or disposed to landfill, while being in compliance with the required Regulations.

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 Audit")	**Source Separation and 3Rs Program**
Comingled Containers (PET, HDPE, LDPE, PP, PS, Aluminum, Steel, Glass, Aseptic)	*"Comingled 3Rs Program"* *Reduce: Staff/Students will be encouraged to bring reusable containers food/beverage containers for lunch and breaks. Ryerson University will encourage suppliers to reduce the amount of polystyrene used to transport supplies. Ryerson University will encourage suppliers to reduce the amount of plastic film and wrapping materials used to transport supplies.* *Reuse: Staff/Students will be encouraged to reuse plastic crates and totes wherever possible.* *Recycle: Staff/Students will be provided with recycling bins in high waste generating areas and food service areas for mixed containers/plastics. Staff/Students will be encouraged to place mixed containers/plastics in appropriate recycling bins with appropriate signage affixed to the receptacle. Receptacles will be emptied on a regular basis before they become full into large roll away bins for collection as required.*
Mixed Papers (Fine Paper, newsprint, boxboard, magazines, molded papers, kraft, catalogues, flyers, etc)	*"Mixed Paper 3Rs Program"* *Reduce: Staff/Students will be encouraged to print on both sides of each piece of paper as well as not print when it is unnecessary. Staff/Students will be encouraged to take reading materials home with them after they are finished with them. Staff and students will be sent, via email, news sources that are available online opposed to purchasing paper copies of news.* *Reuse: Discarded paper with print only on one side will be used for note pads/scrap paper. Staff/Students will be encouraged to leave newspapers they are finished reading in common areas for others to read.* *Recycle: Staff/Students will be provided with instructions via email. Receptacles will be provided in each office, classroom and high waste generating areas. Staff/Students will be encouraged to place newsprint, fine paper, boxboard, magazines, molded papers, etc in appropriate recycling receptacles. Staff/Students will empty receptacles into centralized containers. Custodial Staff/Students will empty centralized containers into bulk container in designated area for collection as required.*
Confidential Papers	*"Confidential Paper 3Rs Program"* *Reduce: None.* *Reuse: None.* *Recycle: Staff/Students will be reminded of the existing program. Receptacles will be provided in each designated office area as required. Staff/Students will be encouraged to place all confidential paper in the designated consoles. Contactor will empty consoles appropriately for shredding and recycling as required.*
Cardboard	*"Cardboard 3Rs Program"* *Reduce: Suppliers will be encouraged to make use of reusable containers for the shipment of supplies to the University.* *Reuse: Cardboard boxes will be reused for shipments when appropriate.* *Recycle: Staff/Students will be reminded of the existing program. Cleaners will be trained on where to dispose of waste correctly.*
Paper Towels	*No 3Rs Program*
Organics	*"Organics 3Rs Program"* *Reduce: Students will be encouraged to bring uneaten food items home after lunch breaks or uneaten. Non-perishable food items can be donated to a local food drive.* *Reuse: Staff/Students provided with reusable china in some food service areas.* *Recycle: Staff/Students will be continually reminded of the existing program. Kitchen staff & cleaners trained on where to dispose of waste correctly. Additional bins added to the university food service areas to capture organic materials. Signs improved relating to organics program to assist staff/students in sorting organic stream correctly. Selling of disposable food containers*

	discouraged on campus, and if sold, containers should be compostable. Updated organics handouts for staff/student education/training program. Training of food service staff regarding improvements to organics program.
Coffee Cups, LDPE (#4) films, Plastic Strapping	*No 3Rs Program*
Styrofoam	*No 3Rs Program*
Wood Pallets/Scrap Woods	*"Scrap Woods & Wood Pallets 3Rs Program"* *Reduce: Staff to monitor use of Pallet to eliminate/reduce broken pallets.* *Reuse: Staff will be reminded of the existing program. Staff/Students will be encouraged to use scrap wood before new wood is purchased for use at the University.* *Recycle: Staff will be reminded of scrap wood recycling program.*
Scrap Metals	*No 3Rs Program*
Electronic Wastes (incl. printer toners)	*No 3Rs Program*
Bulbs & Ballasts	*"Bulbs 3Rs Program"* *Reduce: None.* *Reuse: None.* *Recycle: Staff will be reminded of the existing program.*
Batteries	*No 3Rs Program*
Oil & Grease	*"Oil & Grease 3Rs Program"* *Reduce: None.* *Reuse: None.* *Recycle: Staff will be reminded of the existing program.*

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	Telephone #
	Cardboard	
	Comingled (PET, HDPE, LDPE, PP, PS, Aluminum, Steel, Glass, Aseptic)	
	Mixed Papers (Fine Paper, newsprint, boxboard, magazines, molded papers, kraft, catalogues, flyers, etc)	
	Confidential Papers	
	Organics	
	Wood Pallets/Scrap Woods/Furniture	
	Oil & Grease	
	Garbage Disposal	

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V. TIMETABLE FOR IMPLEMENTING WASTE REDUCTION WORK PLAN

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
Cardboard	*3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.*
Comingled	*3Rs Program currently in place. Continual improvement to signage and additional*

	promotional campaigns to be considered.
Mixed Papers	*3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.*
Confidential Papers	*3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.*
Organics	*3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.*
Scrap Wood/ Wood Pallets/Furniture	*3Rs Program currently in place. Continual improvement to signage and additional promotional campaigns to be considered.*
Oil & Grease	*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:
Written communication will be distributed or posted for all employees to read, detailing the audit results and the plan to increase and continue with recycling initiatives for all functional areas of the facility. The communication will speak to the Work Plan action items and objectives, and will provide the vehicle necessary to continue towards greater diversion success. *Follow up communications will be provided to inform employees and students of program success, challenges and/or improvements required on a continual basis. Include recycling handling and protocols in on-site Health and Safety Training, and new staff orientation programs, as well as post information in all staff common areas, encouraging employees and students to participate in the available programs.*

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VII. ESTIMATED WASTE PRODUCED BY MATERIAL TYPE AND THE PROJECTED AMOUNT

Material Categories *(as stated in Part III)*	**Estimated Annual Waste Produced *** *(tonnes)*	**Name of Proposed 3Rs Program** *(as stated in Part III)*	**Projections to Reduce, Reuse or Recycle Waste** *(tonnes)*			**Estimated Annual Amount to be Diverted **** (%)
			Reduce	**Reuse**	**Recycle**	
PET (#1) plastic food and beverage bottles	42.56	Comingled 3Rs Program			29.79	70%
HDPE (#2) Containers	16.22	Comingled 3Rs Program			11.36	70%
Polypropylene (#5) Containers	50.89	Comingled 3Rs Program			35.62	70%
Polystyrene (#6) Containers	36.77	Comingled 3Rs Program			25.74	70%
Glass food and beverage bottles/jars	13.68	Comingled 3Rs Program			9.58	70%
Aluminum food and beverage cans	27.53	Comingled 3Rs Program			19.27	70%
Steel food and beverage cans	6.38	Comingled 3Rs Program			4.47	70%
Gable Top Containers	21.58	Comingled 3Rs Program			15.10	70%

Aseptic Containers	14.87	Comingled 3Rs Program			10.41	70%
Fine paper	118.26	Mixed Papers & Confidential Paper 3Rs Program			100.52	85%
Newsprint	48.66	Mixed Papers 3Rs Program			34.06	70%
Boxboard shoe boxes, cereal boxes, etc.	32.12	Mixed Papers 3Rs Program			22.48	70%
Glossy magazines, catalogues, flyers	49.91	Mixed Papers 3Rs Program			34.94	70%
Cardboard	178.10	Cardboard 3Rs Program			160.29	90%
Paper towels	115.90	No 3Rs Program				NA
Coffee cups	31.83	No 3Rs Program				NA
Organics / Food Waste	220.89	Organics 3Rs Program			132.53	60%
LDPE (#4) Plastic Film	48.44	Comingled 3Rs Program			31.48	65%
Styrofoam (#6)	9.20	No 3Rs Program				NA
Plastic Strapping	0.00	Comingled 3Rs Program				NA
Scrap Woods/Pallets	23.28	Scrap Woods/Pallets 3Rs Program			23.28	100%
Scrap Metals	63.29	No 3Rs Program			63.29	100%
Electronic Wastes	13.63	No 3Rs Program			13.63	100%
Bulbs & Ballasts	6.37	Bulbs 3Rs Program			6.37	100%
Batteries	0.00	No 3Rs Program			0.00	100%
Refundable Containers	27.00	Refundable Containers 3Rs Program			27.00	100%
Oil & Grease	16.32	Oil & Grease 3Rs Program			16.32	100%
Recovered Recyclables	49.95	Recovered Recyclables 3Rs Program			49.95	100%
Other / Non-Recyclable	315.63	No 3Rs Program				NA

* *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:	**Title:**	**Date:**