

Regulation 102/94

WASTE AUDIT UPDATE

(2010)

Prepared for:

**Mohawk College
(Fennell Campus)
Hamilton, Ontario**

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Scope

The purpose of this report is to update the waste diversion efforts of Mohawk College (Fennell Campus), under the current Regulations 102, 103/94 of the Environmental Protection Act (EPA). As part of these regulations, designated generators of waste must perform a detailed waste audit and prepare and implement a waste reduction work plan, which is designed to reduce the amount of waste being sent to landfill.

Each year, these reports must be updated to review the progress of the previous year and to set the agenda for the upcoming year.

The purpose of the 3R's Regulations is to reduce the amount of waste being sent to landfill, province wide, by 50% from 1987 to the year 2000, with an interim goal of 25% by 1992. The regulations deal with a wide range of areas, from landfill site selection to municipal bluebox and composting programs. The focus of this report is to deal with the waste audits and waste reduction work plans required by the ICI (industrial, commercial and institutional) sectors.

The Regulations, having been passed March 3, 1994, have set deadlines of September 1994 for those affected to have performed their audit and March 3, 1995 for the implementation of the mandatory source separation programs. The audits and work plans must also be updated once per year as part of these Regulations.

General Information Sheet

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Methodology

The on-site audit of the waste at Fennell Campus was physically performed on Thursday, November 4th and Thursday, November 11th, 2010. The waste was collected on the 2 previous days by the Hurley cleaning staff on Wednesday, November 3rd and Wednesday, November 10th, 2010. This ensured a full 24-hour (1 x day) sample of the waste. Labels were supplied to the cleaning staff in order for the audit team to ensure accuracy. It was arranged for the Hurley cleaning staff to leave the bags of waste outside by the compactor the night before in order for the audit team to view on the following day. The bags of waste were then sorted and weighed by area of generation, and recorded. This information was then compared to the data collected during the audit update performed the previous year.

The weighing process was performed using a benchscale with a capacity of 60 kilograms by increments of 0.01 kilograms. The waste was sorted into various containers for each of the identifiable waste components, mainly for general recyclables. Various individuals were interviewed; ensuring that the information gathered was complete and accurate. The objective of the follow-up audit was to update the diversionary efforts within the college as to the previous year. Once this information had been gathered, the next step was to compile all of the data in a clear and concise manner for everyone involved in the process of the audit, as well as enabling those not involved, to understand the completed audit follow-up report.

Current Systems In Review

Regular Waste

The collection of the waste throughout the facility is collected within the various waste containers in the offices, classes, hallways etc. and picked up by the Hurley maintenance staff in which it is bagged and deposited directly into the 30 cubic foot compacted container. This container is serviced by Waste Services Inc. as required.

Recycled Cardboard

Cardboard that is accumulated within the facility is picked up by the Hurley maintenance staff and deposited into an 8 cubic yard front-end container which is supplied and serviced by Waste Services Inc. as required.

Recycled Mixed Paper

Mixed office paper and newspapers are collected in office settings within desk-side containers as well as recycling centres throughout the campus hallways. The bags within the containers are picked up by the Hurley maintenance staff and deposited into an 8 cubic yard front-end container also supplied and serviced by Waste Services Inc. as required.

Recycled Cans/Glass/Plastics

Cans/Glass and Plastics are collected in office settings within desk-side containers as well as recycling centres throughout the campus hallways. The bags within the containers are picked up by the Hurley maintenance staff and deposited into 96-gallon totes also supplied and serviced by Waste Services Inc. as required.

Diverted Organics (Food Waste)

Organics such as food waste is mainly collected within the kitchen cafeteria setting in 64-gallon totes. These totes when full, are transported to a location for pick up by Waste Services Inc. These totes are supplied and serviced by Waste Services Inc. as required.

Mixed Metals

Mixed metals, mainly from everyday maintenance procedures are deposited into a designated collection container which is supplied and serviced by Wentworth Metals as required.

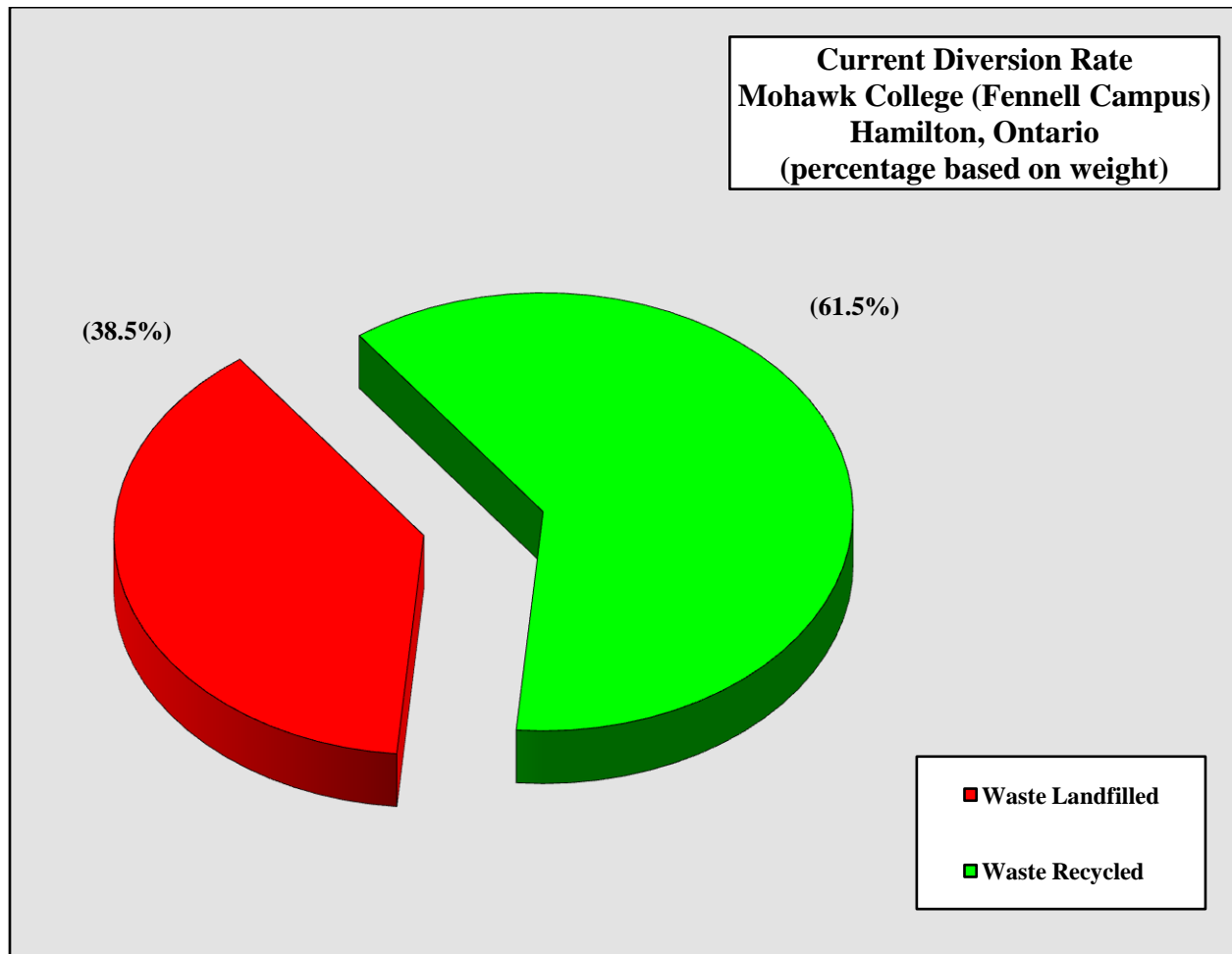
Audit Results - Mohawk College (Fennell Campus) 2010

The total annual weight of the waste generated (recycled, reused and landfilled) at the Fennell Campus, for the purpose of this report is **444.75 tonnes**, which breaks down as follows:

Total Waste Generated (tonnes)*	Total Waste Reused (tonnes)*	Total Waste Recycled (tonnes)*	Total Waste Landfilled (tonnes)*
444.75	N/A	273.51	171.24
100.0 %	N/A	61.5 %	38.5 %

* See Appendix 1 for details.

The purpose of the 3R's Regulations is to reduce the amount of waste being sent to landfill through the implementation of REDUCE, REUSE and RECYCLE practises. Based on the information gathered during the audit, the current diversion rate at the Fennell Campus is calculated at **61.5%**.

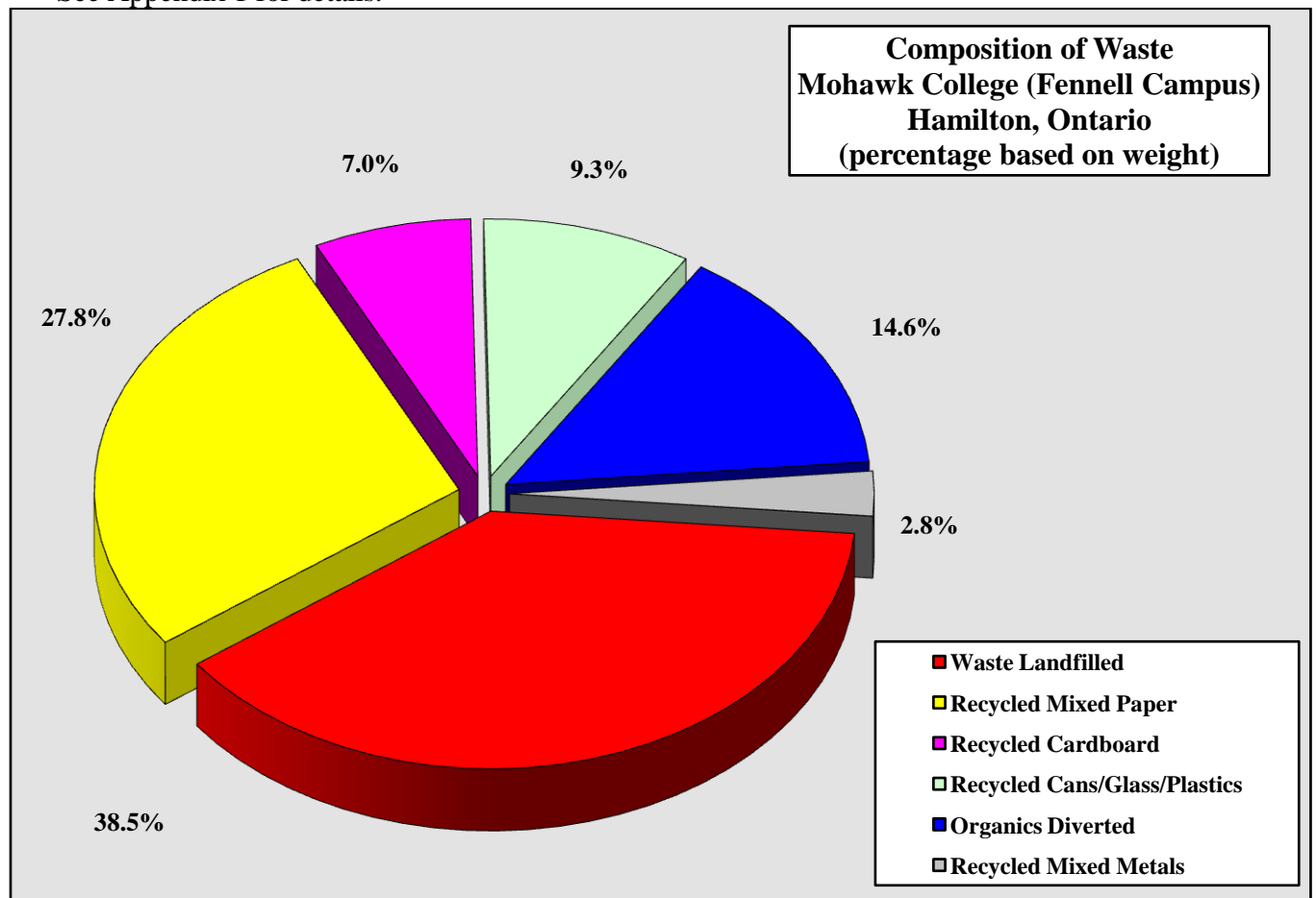


This diversion rate, as illustrated on the previous page, has been calculated with reference to the quantifiable diversionary programs only. This does not take into account any programs which have been implemented to reduce the amount of waste sent to landfill either through reduction or reuse, yet as a result of any of these programs, they should be acknowledged, and continually promoted as well as encouraged.

Total Waste Generated (tonnes) 2010

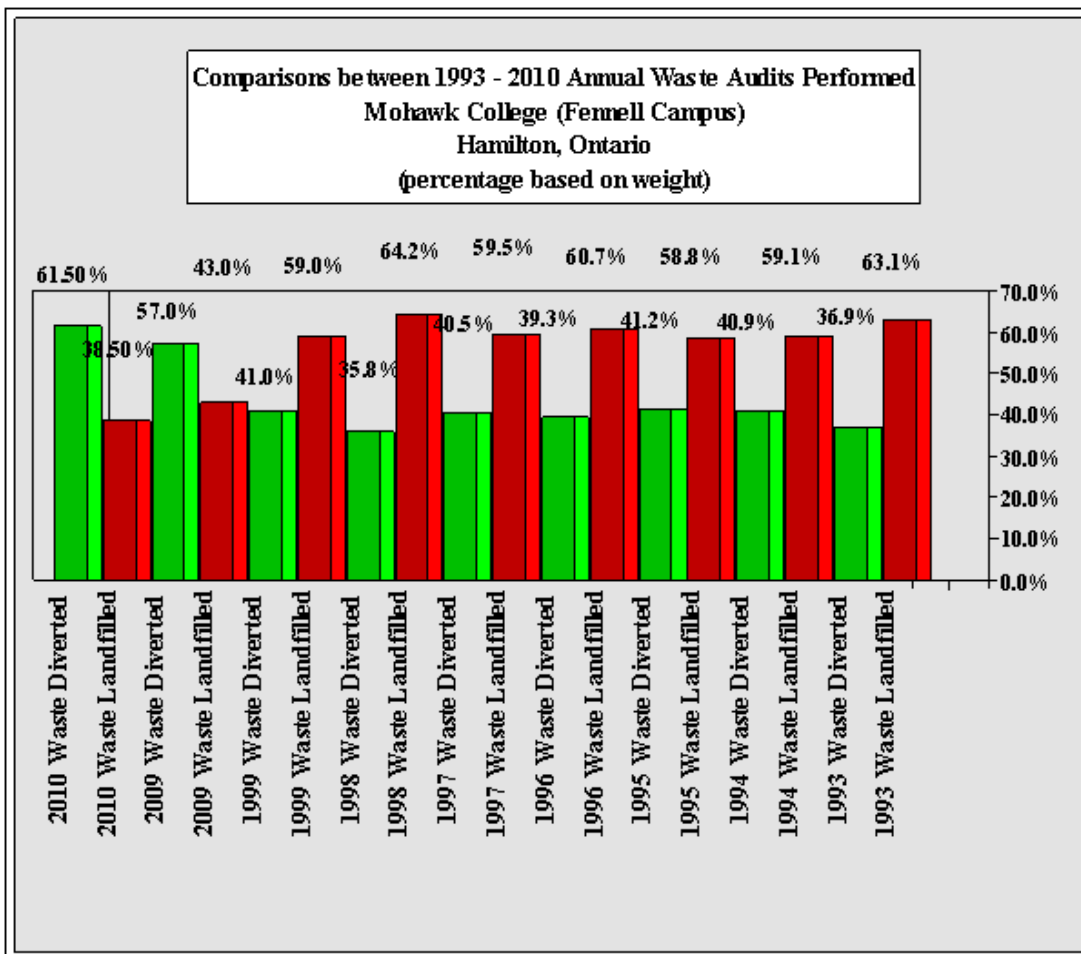
Description	Annual Volume (tonnes)*	Percent (based on weight)
Waste Landfilled	171.24	38.5 %
Recycled Mixed Paper	123.84	27.8 %
Recycled Cardboard	30.72	7.0 %
Recycled Cans/Glass/Plastics	41.28	9.3 %
Food (organics) Diverted	65.07	14.6 %
Recycled Metals	12.60	2.8 %
Total	444.75	100.0 %

- See Appendix 1 for details.



Audit Summary (2010) - Mohawk College (Fennell Campus)

The results of the follow-up audit at the Fennell Campus reveal that the diversion rate is currently at **61.5%**. The audit conducted in 2009 revealed that **57.0%** of the waste was being diverted from landfill, thus increasing the diversion rate by **+4.0%**. For this, Mohawk College should be commended, as there is more population as well as square footage within the campus. The diversionary efforts within Mohawk College have indeed shown, through more involvement from staff and students alike whereby new and improved recycling centres are now being used. This evidence is clearly defined through the years, as shown in the chart below. Mohawk College (Fennell Campus) has come a long way in its diversionary efforts since 1993 when only **36.9 %** of the waste was being diverted. The following chart indicates that progress of waste diversion through the years:



Annual Waste Generation Calculations-2010

Waste Landfilled

Based on information provided directly from Waste Services Inc., there was a total of 142.71 tonnes of waste picked up within the past 10 months (January – October), which translates to an average of 14.27 tonnes per month. This average has been extrapolated for the remainder of the year which totals 171.24 tonnes of waste within the compactor, landfilled in 2010.

In addition, there is also a 3-yard front-end container which is lifted an average of 1 lift every second month or 6 lifts per year. (Based on an average of 45 kilograms per yard x 3 yards = 135 kilograms per lift x 6 lifts = 810 kilograms or 0.81 tonnes).

These figures have been combined to total: 171.24 tonnes + 0.81 tonnes = **172.05 tonnes of waste landfilled in 2010.**

** The actual waste calculated within the audit is based on the waste within the 30 yard compactor only, (171.24 tonnes) as this was the waste studied for the purpose of the audit.*

Recycled Paper

Based on the information provided by Waste Services Inc. for the past 10 months (January – October), there has been 129 lifts on the 8-yard front-end container. This translates to an average of 12.9 lifts per month, which further translates to: 12.9 lifts/month x 12 months (extrapolated) = 154.8 lifts. Using the industry standard of 100 kilograms per yard for mixed paper, translates to 100 kilograms per yard x 8 yards = 800 kilograms per lift x 154.8 lifts 123,840.00 kilograms or **123.84 tonnes of mixed paper recycled in 2010.**

Recycled Cardboard

Based on information provided directly from Waste Services Inc., for the past 10 months (January – October), there has been a total of 128 lifts on the 8 cubic yard front-end container, which translates to an average of 12.8 lifts per month, which further translates to: 12.8 lifts/month x 12 months (extrapolated) = 153.6 lifts. Using an average of 25 kilograms per yard = 200 kilograms per lift x 153.6 lifts = 30,720 kilograms or **30.72 tonnes of cardboard recycled in 2010.**

Recycled Cans/Glass/Plastics

Based on information received directly from Waste Services Inc., for the past 10 months (January – October), there has been a total of 43 lifts of totes picked up in total. This translates to 4.3 lifts per month, which further translates to 51.6 lifts. As per WSI, the totes are 96 gallon which average 8 totes per lift for a total of 51.6 lifts x 8 totes = 412.8 totes. Using the industry standard of 100 kilograms per tote, further translates to 100 kilograms x 412.8 totes = 41,280 kilograms or **41.28 tonnes of cans, glass and plastics (comingled) recycled in 2010.**

Food (organics)

Based on information provided directly from Waste Services Inc., for the past 10 months (January – October) there has been a total of 723 totes picked up. This translates to an average of 72.3 totes per month x 12 months (extrapolated) = 867.6 totes. As per WSI, these are 32 gallon totes, therefore, using an average of 75.00 kilograms per tote x 867.6 totes = 65,070.00 kilograms or **65.07 tonnes of organics diverted from landfill in 2010.**

Recycled Metals

Based on information received directly from Wentworth Metals, there has been 23,177 pounds of mixed metals picked up so far (January – October). This translates to an average of 2,317.70 pounds per month. For the purpose of this report, the pounds have been converted to kilograms to total: 1051.11 kilograms or 1.05 tonnes per month. This further translates to 1.05 tonnes per month x 12 months (extrapolated) = **12.60 tonnes of mixed metals recycled in 2010.**