

**TOWNSHIP OF FARADAY
BLUE BOX WASTE RECYCLING STRATEGY**

Prepared for:



**The Corporation of the Township of Faraday
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Prepared with assistance from:

Waste Diversion Ontario

Prepared by:



A Better Environment For Business

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1.0 INTRODUCTION

This Blue Box Waste Recycling Strategy was initiated by the Township of Faraday to develop a plan to increase the efficiency and effectiveness of its recycling program and maximize the amount of blue box material diverted from waste disposal. Specifically, the purpose of this recycling plan is to increase the capture rate of recyclables thereby further reducing the amount of waste being landfilled and extending the lifespan of the Faraday Waste Disposal Site (WDS).

The Township of Faraday is responsible for managing residential solid waste; accepting blue box recycling, yard waste, scrap metal, tires, and household garbage at the Faraday WDS. Private collection of residential solid waste is also received at the Faraday WDS.

Reclamation works were completed on a portion of the Faraday WDS in 2009 due to the landfill being at capacity. The reclamation work gained the WDS approximately 13 years of additional capacity. This Waste Recycling Strategy will support efforts to extend the life of the cell reclaimed in 2009, and delay the necessity (and cost) of further reclamation work in the future.

WESA Inc. (WESA) supported with the development of the Waste Recycling Strategy using the *Guidebook for Creating a Municipal Waste Recycling Strategy*, with funding from Waste Diversion Ontario's Continuous Investment Fund.

2.0 OVERVIEW OF THE PLANNING PROCESS

This Blue Box Waste Recycling Strategy was prepared through the efforts of the Township of Faraday council and waste site attendants, with environmental consulting support from WESA.

The following steps were taken to complete the Blue Box Waste Recycling Strategy:

1. Assessed current recycling rates based on 2010 tonnage for recycled materials and estimated total waste generation rate;
2. Township of Faraday council and waste site attendants met with WESA (14/06/2011) to discuss current waste recycling program, and identify potential opportunities through developing a waste recycling strategy;
3. Defined goals and objectives for waste recycling over next 5 and 10 years;
4. Identified feasible options to pursue;
5. Prepared first draft Blue Box Waste Recycling Strategy;
6. Township of Faraday council met with WESA (5/10/2011) to review and discuss the first draft, and evaluate the proposed initiatives;
7. Prepared final draft Blue Box Waste Recycling Strategy;
8. Call for public review and feedback on proposed plan; and

The key drivers that led to the development of this Blue Box Waste Recycling Strategy include:

- Shrinking waste disposal capacity at Faraday WDS;
- Council direction and motivation;
- Improving cost/service efficiency; and
- Waste Diversion Ontario (WDO) requirements for a Waste Recycling Strategy in order to receive maximum funding.

The key barrier which restricts recycling services in the Township of Faraday includes:

- Lack of local markets for recyclables.

6.0 GOALS AND OBJECTIVES

This Blue Box Waste Recycling Strategy has identified a number of goals and objectives for the Township of Faraday. These are presented below in Table 1.

Table 1: Waste Recycling Goals and Objectives

Goals	Objectives
Maximize capture rate of recyclable material through existing and future programs	Increase the tonnage of blue box materials collected by 5% by the end of 2015
Maximize the level of awareness and participation of waste recycling	Reduce non-compliance of mandatory recycling by-law to zero by the end of 2015
Recycle all waste materials that can possibly be recycled	Ensure all recyclable materials that can be recycled (dependent on processing and market) are being collected

This Blue Box Waste Recycling Strategy has also identified a series of broader community goals to which it can contribute. These broader community goals are presented in Table 2.

Table 2: Community Goals and Objectives

Goals	Objectives
Keep our Township clean and beautiful	Increase residents' awareness and understanding of Township's solid waste management programs
Increase local employment opportunities	Each year offer at least one summer job for student(s) to support waste site attendants at Faraday WDS in directing residents

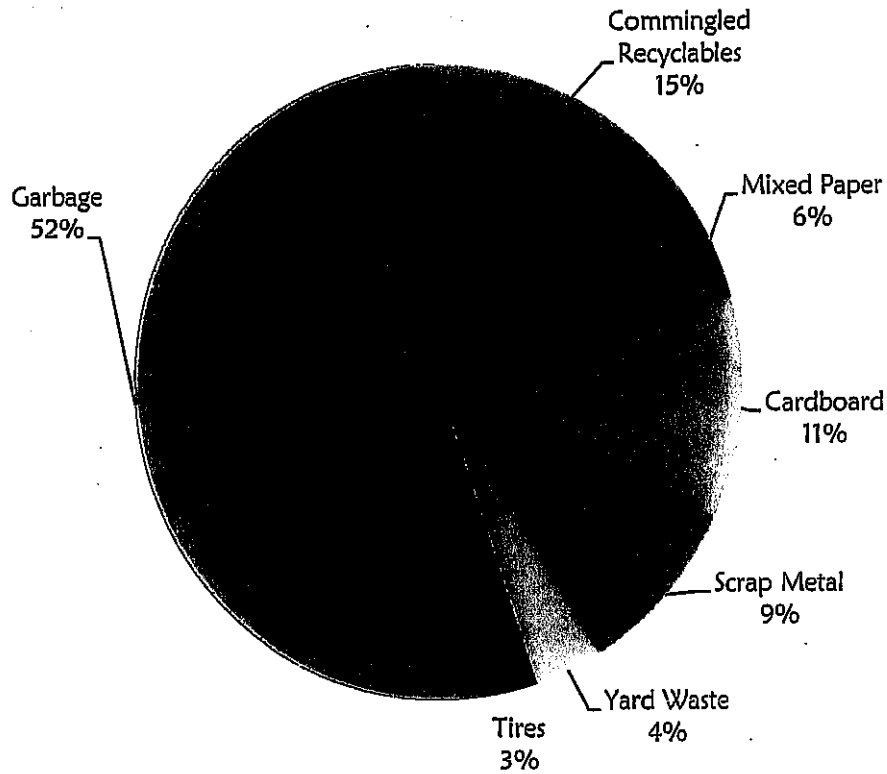


Figure 2: Township of Faraday Waste Characterisation (2010)

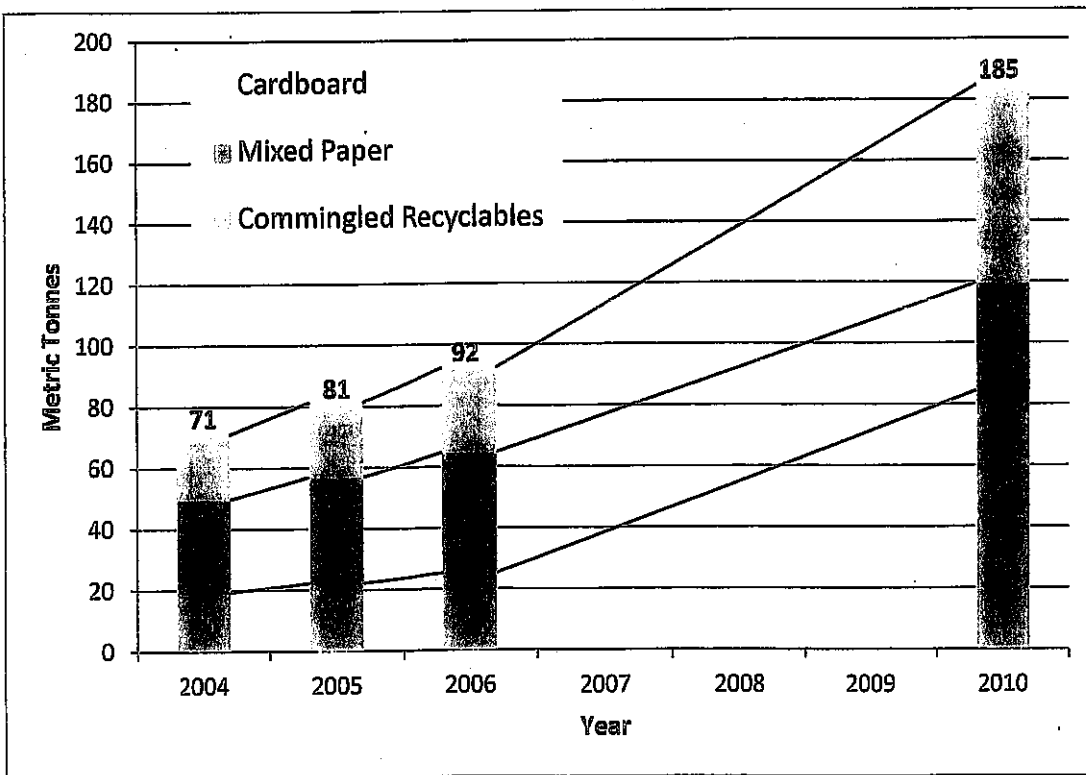


Figure 3: Increase in Recycled Waste Tonnage over Time

Diverting the blue box material remaining in the Township of Faraday's waste stream could raise its diversion rate to 37.1%. An up-to-date local waste audit may identify a different waste composition and recyclable waste diversion potential.

7.4 EXISTING PROGRAMS AND SERVICES

Currently, the Township of Faraday has the following policies and programs in place to manage residential solid waste:

- Provision of free blue box for each residence;
- Clear bag policy for garbage disposal;
- Mandatory recycling by-law; and
- Tipping fees for commercial contractors.

Township of Faraday residents can drop off their recyclables, yard waste, tires, scrap metals, and garbage at the Faraday WDS during operating hours. Figure 4 identifies the recyclable materials which are accepted at the waste recycling depot and which bin they should be placed in. Collection of waste and recyclables is also available to residents by a private service contractor. The Township of Faraday collaborates with neighbouring municipalities in offering scheduled collection services (drop-off days) for Waste Electrical and Electronic Equipment (WEEE) and Household Hazardous Waste (HHW). Disposal and recycling services are paid for primarily through residential taxes. Once recyclable materials have been collected, they are taken to the Materials Recovery Facility (MRF) located in Peterborough, Ontario (HGC Management. 2011).

Blue boxes are provided to each residence of Faraday Township free of charge. An additional blue box is available from the Township office at a cost of \$6 each.

Table 7: Anticipated Future Solid Waste Generation Rates and Available Blue Box Material

	Current Year	2015	2020
Population (inhabitants)	1578	1578	1578
Total Waste (tonnes)	576	576	576
Blue Box Material Available (tonnes)	196	196	196

8.0 PLANNED RECYCLING SYSTEM

8.1 OVERVIEW OF PLANNED INITIATIVES

The Township of Faraday reviewed a number of options for consideration in its Waste Recycling Strategy. The options were scored based on a series of criteria, which include:

- Percent waste diverted
- Proven results
- Reliable market/end use
- Economically feasible
- Accessible to public
- Ease of implementation

The score sheet of the proposed waste recycling options is included in Appendix A.

Once scored, the top ranking Waste Recycling Strategy options were organized into Priority Initiatives and Future Initiatives. The estimated cost for implementing the priority initiatives is estimated to be approximately \$8,000 while implementation of the future initiatives is estimated at \$4,000.

Table 8 presents the Priority Initiatives and Future Initiatives and their estimated implementation costs. A review of these initiatives and their steps for implementation are reviewed on the following pages.

Initiative: Optimization of Collection Operations (Hire Seasonal Site Attendant)

Overview: Summer is the busiest season for waste site attendants at Faraday WDS. It is expected that additional frontline staff at the WDS during the summer will be able to better support Faraday residents with finding the proper disposal bins and areas for their recycling and other wastes. Waste site attendants also willingly provide valuable information on recycling practices (and waste management in general) and encouragement to residents which can improve resident participation and satisfaction with the blue box recycling program.

Implementation: One (or two) summer staff may be employed during the summer months to support the waste site attendants in directing and supporting residents with waste recycling at the Faraday WDS. A budget of \$2000 is estimated to hire the part-time summer staff.

Initiative: Assess Tools and Methods to Maximize Diversion

Overview: Targeted research can provide a better understanding of the community's waste management behavior and can identify the appropriate tools and methods on how best to maximize diversion opportunities. Possible research topics may include assessing: perceived barriers to participation; willingness to participate; and how residents receive information or learn about local recycling programs.

Implementation: The targeted research may be conducted with a survey over the telephone or in-person at the WDS. Results will be evaluated and made public via the Township of Faraday. A budget of \$1000 is estimated to prepare, conduct and evaluate the research.

Initiative: Assess Tools and Methods to Maximize Diversion

Overview: Expanded polystyrene (Styrofoam) packaging waste is a blue box recyclable material. However, it is currently not accepted by the recycling collection contractor at Faraday WDS and therefore must be landfilled. Finding a market or collection contractor for this recyclable material will support the aim to maximize the capture rate of recyclable materials and reduce the volume of waste that is landfilled.

Implementation: The Township of Faraday will investigate the practical and economic feasibility of processing collected expanded polystyrene on site at Faraday WDS (or locally in co-operation with a neighbouring municipality) for shipment to market versus having the material hauled away from the recycling depot by a collection contractor. The various options will be evaluated with a decision to be made by Faraday council. A budget of \$1000 is estimated for this research.

8.3 FUTURE INITIATIVES

Initiative: Enhancement of Recycling Depot

Overview: The layout and size of the waste recycling depot at Faraday WDS has to be adaptable to increased traffic and waste volumes to support continued operation efficiency.

Implementation: Feedback from waste site attendants and surveyed residents on the current recycling depot set-up will be assessed to determine how improvements can possibly be made.

Risk	Contingency
Lack of available staff	Prioritize department/municipal goals and initiatives
	Hire summer student to help with planning (may be available funding)
Permit requirements	Identify permit requirements early on in process
	Establish a "permit requirements" checklist

9.0 MONITORING AND REPORTING

The monitoring and reporting of the Township of Faraday's recycling program is considered a Blue Box program fundamental best practice and will be a key component of this Waste Recycling Strategy. Once implementation of the strategy begins, the performance of the waste recycling program will be monitored and measured against the baseline established for the current system. Once the results are measured, they will be reported to Council and the public.

The approach for monitoring the Township of Faraday's waste recycling program is outlined in the table below.

Table 10: Recycling System Monitoring

Monitoring Topic	Monitoring Tool	Frequency
Total waste generated (by type and by weight)	Formula: Faraday population x average waste generation rate (1.0 kg/c/d) x 365 days/year ÷ 1000 kg/tonne	Annually
Total volume of waste placed in the landfill	Volumetric difference in surveyed landfill surface from one year to the next	Annually
Diversion rates achieved (by type and by weight)	Formula: Blue box materials collected (and other diverted materials) ÷ Total waste generated x 100%	Annually
Waste diverted and disposed (by type and weight)	Reported tonnage of recyclable materials collected by haulage contractor and processed by MRF	Monthly
Program participation	Resident survey (online, telephone or by waste site attendants at WDS); monitoring waste dropped off at WDS	Ongoing
Customer satisfaction	Customer survey (online, telephone or by waste site attendants at WDS); tracking calls/complaints received to the municipal office	Ongoing
Opportunities for improvement	Customer survey (online, telephone or by waste site attendants at WDS); tracking calls/complaints received to the municipal office	Ongoing
Planning activities	Describe what initiatives have been fully or partially implemented, what will be done in the future	Annually
Review of Waste Recycling Plan	A periodic review of the Waste Recycling Plan to monitor and report progress, to ensure that the selected initiatives are being implemented and to move forward with continual improvement	Every 3 to 5 years

Site Location Map

LIST OF FIGURES

APPENDIX A

Waste Recycling Option Scores

Appendix A - Waste Recycling Option Scores
Township Of Faraday Blue Box Waste Recycling Strategy

Waste Recycling Option Scores

Suitable? Y/N	Description of Options/Best Practices	Criteria (Score out of 5; 1=poor and 5=good)						Total Criteria Score
		% Waste Diverted	Proven Results	Reliable Market/ End Use	Economically Feasible	Accessible to Public	Ease of Implementation	
<i>Promotion and Outreach</i>								
Y	Public Education and Promotion Program	5	5	4	5	5	5	29
Y	Training of Key Program Staff	4	5	3	5	5	5	27
<i>Collection</i>								
Y	Optimization of Collection Operations (Hire Seasonal Site Attendant)	5	5	4	2	5	5	26
N	Bag Limits	-	-	-	-	-	-	-
Y	Enhancement of Recycling Depots	5	5	4	2	5	5	26
N	Provision of Free Blue Boxes	-	-	-	-	-	-	-
N	Collection Frequency	-	-	-	-	-	-	-
<i>Transfer and Processing</i>								
N	Optimization of Processing Operations	-	-	-	-	-	-	-
<i>Partnerships</i>								
Y	Multi-Municipal Collection and Processing of Recyclables	3	4	3	5	5	2	22
<i>Additional Research</i>								
Y	Assess Tools and Methods to Maximize Diversion	5	3	3	5	5	5	26
<i>Administration</i>								
N	Following Generally Accepted Principles for Effective Procurement and Contract Management	-	-	-	-	-	-	-

APPENDIX B

Public Consultation Documentation

Bancroft

THIS WEEK

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Faraday's good recyclers contribute to long-term health of landfill site

Posted 2 months ago

A recycling and waste diversion report presented to Faraday council earlier this month has people smiling. It showed that since 2006, Faraday residents have doubled the amount of recyclables they divert annually from the township's waste disposal site (WDS).

According to the report, Faraday residents currently generate approximately 576 tonnes of solid waste per year. Of this, 185 tonnes, or 32 percent, is diverted through the recycling program. Combined with diverted scrap metal, yard waste and tires, it makes for an impressive overall diversion rate of 48 percent.

"It's a reflection of our rate payers," said Councillor Jim Thomson. "We should be really proud of ourselves."

"Our residents are great recyclers," agreed Deputy Reeve Margaret Nicholson, who also credits the township's clear bag policy and dedicated WDS staff for the diversion improvements.

"There is still a percentage of recyclable material that ends up in the landfill, but our staff is diligent," said Nicholson. "They pick out anything they see that can be recycled and divert it."

According to the report the most commonly recycled materials at the Faraday WDS are paper and cardboard, and the biggest increase in diversion has been in the 'commingled recyclables' category, which includes glass, plastic and metal containers.

Just two years ago the WDS was at capacity, but through the comprehensive reclamation of one of the landfill site's previously closed cells, an additional 13 years of capacity has been achieved.

Funding for projects, such as reclamation of closed cells, is available to municipalities that meet Waste Diversion Ontario's guidelines, which is one of the reasons the township has been so adamant about implementing its recycling program. Of course recycling has other benefits as well.

"The more we divert, the longer the life span of our landfill. And diversion is good for the planet and the total environment," said Thomson.

Reclamation of a cell consists of mining a previously covered landfill area, and sorting and diverting the contents in accordance to current standards. Since the reclaimed cell at the Faraday WDS was used during the 1970's, before diversion efforts were established, it contained material such as tires, glass, furniture, appliances, and scrap metal.

"All the bulky stuff like furniture got shredded, and other materials, like tires and metal, were diverted," said Nicholson. "Some of the content ended up back in the landfill, but we gained 13 years of additional capacity. That's the cell we're using now."

There are plans to reclaim other cells in the future, but first the township is collaborating with waste site staff, environmental consultants and Waste Diversion Ontario to focus on extending the life of the already reclaimed cell. Reclaiming more cells may be good for the planet, but it is a major project with a major price tag. The current goal is to delay the necessity and cost of further reclamation work by diverting as much as possible from the landfill.

So far the township has implemented a clear bag policy and a mandatory recycling bylaw, and introduced tipping fees for commercial contractors. Future plans include finding a market or collection service provider for styrofoam. The goal is to increase the tonnage of diverted materials by five percent and completely eliminate non-compliance to the recycling bylaw by 2015.

"We are continually looking at how we can extend the life span of our landfill site," said Nicholson. "There is always room for improvement."

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- Blue Box Waste Recycling Strategy - Public Review and Comment
- North Hastings Family Physicians Needed
- Clear Garbage Bags
- Fire Services

Public Notices

Blue Box Waste Recycling Strategy - Public Review and Comment 2011-11-22

The Council of the Township of Faraday are requesting public review and comment on the first DRAFT of a Blue Box Waste Recycling Strategy.

The Blue Box Waste Recycling Strategy document is available online for review at www.faraday.ca/documents/DRAFT%20Waste%20Recycling%20Strategy_October.pdf. Hard copies of the proposed strategy document are available at the Township office.

Your feedback is important. Please direct your questions and/or comments to the attention of: Jos van Straaten of WESA Inc. at 613-531-2725, or by fax: 613-531-1852

The deadline for public review and comment is January 31, 2012

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