

**Township of Faraday
Blue Box Waste Recycling Strategy**

October 2011

DRAFT

Prepared with assistance from
Waste Diversion Ontario

1. 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 has 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. 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. 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 consultants (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;

5. Stated Problem

Management of municipal solid waste, including the diversion of blue box materials, is a key responsibility for all municipal governments in Ontario. The factors that encourage or hinder municipal blue box recycling endeavors can vary greatly and depends on a municipality's size, geographic location, population, and waste management infrastructure.

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

- Shrinking 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. 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 the frequency of non-compliance to mandatory recycling by-law to zero by 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.

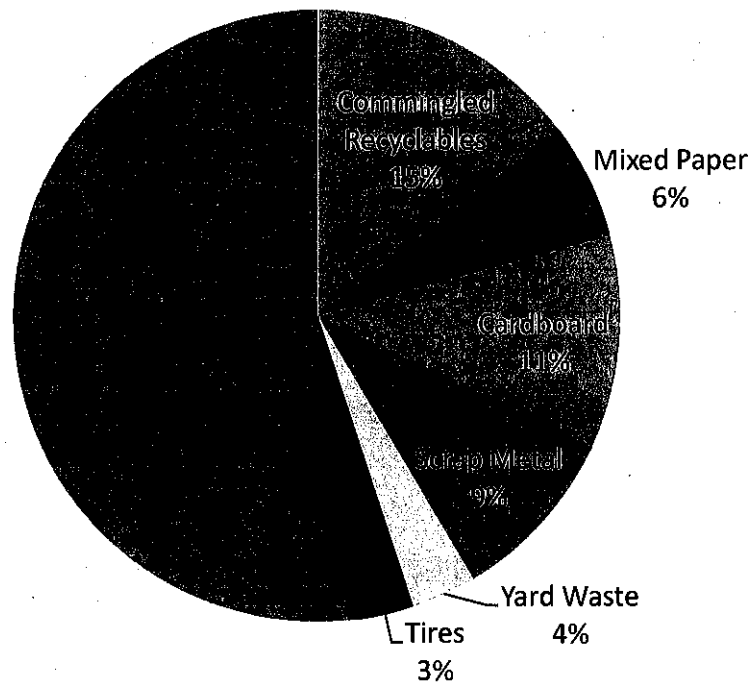


Figure 1: Township of Faraday Waste Characterisation (2010)

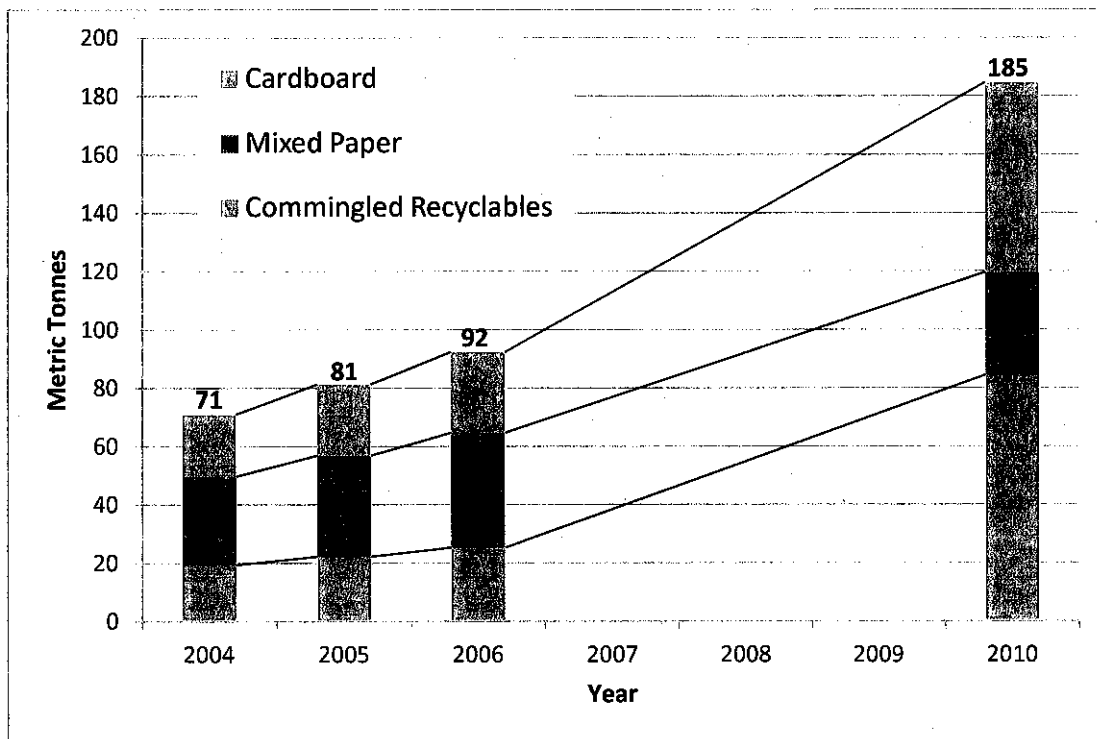


Figure 2: Increase in Recycled Waste Tonnage over Time

Table 5: Current and Potential Blue Box Waste Diversion

Material	<i>Estimated Total Available in Waste Stream (tonnes/year)</i>	<i>Currently Recycled (tonnes/year)</i>	<i>Potential Increase (tonnes/year)</i>
Papers (ONP, OMG, OCC, OBB and fine papers)	127	100.3	26.42
Metals (aluminum, steel, mixed metal)	12	17.73	0
Plastics (containers, film, tubs and lids)	35	32.15	2.41
Glass	23	34.46	0
Total	197	184.65	20.89

ONP=old newspapers; OMG=old magazines; OCC=old corrugated containers; OBB=old boxboard

Diverting the blue box material remaining in 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.

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 3 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 Electronics Waste and Household Hazardous Waste. 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.

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. Planned Recycling System

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.

and promotion). Training is known to improve staff morale and satisfaction, inter-staff communication and leadership, time management, and customer satisfaction.

Implementation: Township staff interested in learning more about how the blue box recycling program is set up and operates will have the opportunity to take part in on-the-job training or related courses and conferences. Applicable training opportunities will be reviewed by Township of Faraday council. A budget of \$2000 is estimated to provide annual training.

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

Contingencies

Even the best planning can be delayed by a variety of foreseen and unforeseen circumstances. Predicting and including contingencies can help to ensure that these risks are managed for minimum delay. The table below identifies contingencies for possible planning delays.

Table 9: Waste Recycling Strategy Contingencies

Risk	Contingency
Insufficient funding	Raise/implement user fees
	Explore and apply for other funding sources
	Delay lower-priority initiatives
	Increase proportion of municipal budget to solid waste management
Public opposition to planned recycling initiatives	Improve public communications
	Engage community/stakeholders to discuss initiatives/recycling plan
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. 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.

10. Conclusion


The Township of Faraday can be proud of their achievements in waste diversion; recycling 32% of their solid waste. These efforts will help to extend the lifespan of the landfill and help to keep the Township of Faraday a clean and beautiful place to live.

Funding from Waste Diversion Ontario for the Blue Box Recycling Program will help the Township of Faraday to further improve the cost and service efficiencies and further reduce the amount of waste ending up in the landfill. This Waste Recycling Strategy outlines the plan which the Township of Faraday has chosen to undertake to meet their waste recycling and broader community goals and objectives. Several initiatives will be implemented over the next years, with results to be monitored and reported.

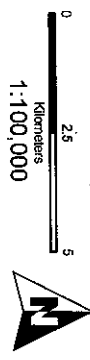
Appendix A: Waste Recycling Option Scores

Performance Objectives										
Y	Public Education and Promotion Program	5	5	4	5	5	5	5	5	29
Y	Training of Key Program Staff	4	5	3	5	5	5	5	5	27
Collection										
Y	Optimization of Collection Operations (H-hire Seasonal Site Attendant)	5	5	4	2	5	5	5	5	26
N	Bag Limits	-	-	-	-	-	-	-	-	-
Y	Enhancement of Recycling Depots	5	5	4	2	5	5	5	5	26
N	Provision of Free Blue Boxes	-	-	-	-	-	-	-	-	-
N	Collection Frequency	-	-	-	-	-	-	-	-	-
Transfer and Processing										
N	Optimization of Processing Operations	-	-	-	-	-	-	-	-	-
Partnership										
Y	Multi-Municipal Collection and Processing of Recyclables	3	4	3	5	5	5	2	2	22
Technical Research										
Y	Assess Tools and Methods to Maximize Diversion	5	3	3	5	5	5	5	5	26
Administration										
N	Following Generally Accepted Principles for Effective Procurement and Contract Management	-	-	-	-	-	-	-	-	-



Legend:
 Township Boundary


References:
 NTDS Topographic Data provided by MNR Geographics (2010),
 WMS Topograms webservice (2011),
 Aerial Imagery provided by First Base Solutions (2006).



Client:
 Faraday Township

Project:
 Faraday Waste Recycling Strategy

Figure:
 Site Location Map

Address

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 Fax: 613-531-1882
 A Not-for-Profit Organization

Project Number:	W-16730	Verified By:	JVS
Designed By:	KC	Revision:	REV 00
Drawn By:	KC	Figure No:	01