

**Waste Recycling Plan for the Ottawa
Valley Waste Recovery Centre
MA-10-300-00-MA
FINAL REPORT
February 2011**

Prepared for:
Ottawa Valley Waste Recovery Centre
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Pembroke, ON K8A 6W5

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Project No. MA-10-300-00-MA



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February 22, 2011

Sue McCrae
Ottawa Valley Waste Recovery Centre
900 Woito Station Road
Pembroke, ON K8A 6W5

**Re: Waste Recycling Plan for the Ottawa Valley Waste Recovery Centre
FINAL REPORT**

Dear Sue:

Please find attached the final draft of the proposed WRS for OVWRC. We have incorporated comments from the Board and thank you and your team for all your help in the development of the WRS.

It has been our pleasure to assist you in the development of this document. We are impressed with all the fine work OVWRC has done as an integrated waste management centre and with the quality of staff with which it has been our pleasure to consult. There are a number of follow up items in the implementation and we would welcome an opportunity to discuss these with you. An example would be the development of a more detailed collection policy document for consideration by the Board.

We trust this report meets the needs of OVWRC. As always we thank you for the opportunity to assist and wish you all the best in the future.

Yours truly,
GENIVAR Inc.

Phil Jensen
Manager, Waste Diversion and Planning

/PJ

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1. Introduction

1.1 The Waste Recycling Strategy

This Waste Recycling Strategy was initiated by the Ottawa Valley Waste Recovery Centre (OVWRC) to develop a plan to increase the efficiency and effectiveness of its recycling programs, including making full and efficient use of the OVWRC Material Recovery Facility (MRF), and maximize the amount of blue box material diverted from disposal. The main approach of this recycling plan is to increase the amount of incoming blue box material which, given available capacity at the MRF, will contribute to overall efficiency by allowing OVWRC to process more material using existing capacity, reducing the cost per tonne.

In addition, this Strategy will also put OVWRC in a position to meet Waste Diversion Ontario's (WDO) Best Practices funding requirement. This will be accomplished by defining targets and measures cited in WDO Recycling Best Practice questions 1 and 2. By the year 2012, based on the funding allocation used by the WDO to distribute funds to municipal programs, almost 9% of the total funding available will be contingent on answers to Recycling Best Practice questions 1 and 2, which require municipalities to have a Blue Box recycling plan with measurable targets.

The Strategy, which is funded in part by the Continuous Improvement Fund (CIF), deals with the blue box recycling component of the OVWRC operation only. The CIF is financed by industry stewards whose paper and consumer packaging are collected through the Blue Box Program. Industry funding of the CIF currently represents 20% of the total financial obligation by industry to municipalities.

This Waste Recycling Strategy was developed using the Continuous Improvement Fund's *Guidebook for Creating a Municipal Waste Recycling Strategy*.

1.2 OVWRC

The OVWRC is a partnership between the Township of Laurentian Valley, the City of Pembroke, the Town of Petawawa, the Township of North Algona-Wilberforce and the Township of Bonnechere Valley, and is responsible for managing residential solid waste. Each of the individual partner municipalities is responsible for waste collection, while the OVWRC provides material processing, marketing, and promotion and education.

The OVWRC faces a number of waste management challenges, which this Waste Recycling Strategy will help address. In particular, OVWRC wishes to increase incoming tonnage to the MRF in order to operate more efficiently and cost-effectively, and also to establish the OVWRC as a regional facility in the context of both the WDO and Stewardship Ontario driven philosophies of consolidating recyclables processing into larger, regional MRFs. The OVWRC must achieve its goals without the benefit of direct control over waste collection services or policies.

2. Overview of the Planning Process

This Waste Recycling Strategy was prepared by GENIVAR Inc. working with OWWRC staff, the Ottawa Valley Waste Management Board (OVWMB), and the OWWRC's Public Liaison Committee (PLC). Funding support was received from the Continuous Improvement Fund (CIF).

Worksheet 2 Planning Process

Plan Development Participants	OWWRC staff, the Ottawa Valley Waste Management Board (OVWMB), the OWWRC's Public Liaison Committee (PLC), GENIVAR Consultants LP and the Continuous Improvement Fund (funder and template provider).
Completed Steps	<ul style="list-style-type: none"> - Project initiation with staff - PLC input and meeting – program goals and evaluation criteria - Research of potential approaches - Evaluation of options - Draft posted on OWWRC website for public review and comment - Presentation of draft to OVWMB - Revisions to draft
Public Engagement	<p>To ensure the public and local stakeholders were able to participate in the preparation of this Waste Recycling Strategy, the following activities were undertaken:</p> <ul style="list-style-type: none"> - Strategy initiation meeting with the PLC - PLC review of draft report - Draft posted on OWWRC website for public review and comment - OVWMB review of draft report <p>For more details on our public consultation process, see Section 4.</p>

3. Study Area

The study area for this Waste Recycling Plan is Renfrew County, however there is no restriction on the OVWRC to offer recycling processing services to municipalities outside the County. The OVWRC's current partner municipalities are the Township of Laurentian Valley, the Town of Petawawa, the Township of North Algona-Wilberforce, the Township of Bonnechere Valley and the City of Pembroke. The OVWRC also receives blue box recyclables from municipal clients including Algonquin Park, Madawaska Valley and Greater Madawaska. The OVWRC would like to expand service to other lower-tier municipalities within Renfrew County, as well as increase capture of blue box material from specific segments and sectors that generate blue box materials suitable for recovery through the program.

This Waste Recycling Plan will address the following sectors:

Worksheet 3 Study Area

<p>Our study area includes the following municipalities/areas:</p>	<p>Renfrew County is the main focus, however recycling material from outside the County will be considered for the purposes of improving throughput and efficiency of the MRF.</p>
<p>Our Recycling Plan will address the following sectors:</p>	<ul style="list-style-type: none"> - Single-family residents - Multi-family residents - Depots - IC&I (Industrial, Commercial and Institutional) – specifically small generators and small business areas (typically main street storefronts with access to curbside collection services) - Parks, public spaces and special events - Seasonal residents

4. Public Consultation Process

The public consultation process followed in the development of this Waste Recycling Strategy is outlined below in Worksheet 4.

Worksheet 4 Public Consultation Options

Public Consultation Options	Comments
Strategy initiation meeting with the PLC	The Public Liaison Committee (PLC) met on September 16 th , 2010 to discuss the waste recycling strategy. The purpose of the discussion was to a) inform the committee about the development of the strategy and b) to obtain input from the community about community and organizational goals and criteria that they consider important when options are being evaluated. In addition to the PLC, which includes representation from the City of Pembroke, the Townships of Laurentian Valley, North Algona-Wilberforce and Bonnechere Valley, and the Town of Petawawa, staff from OVWRC were also represented in the consultation.
Review of draft report	The draft has been submitted (November 24, 2010) for review. Included in the review will be the PLC and the OVWMB, as well as OVWRC staff. The OVWRC will also post the draft on their website for public comment.
Draft report posted on OVWRC website for public review and comment	Posted on website December 6, 2010.

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 endeavours can vary greatly and depends on a municipality's size, geographic location and population.

The provincial funding structure puts pressure on the OVWRC to capture more material, decrease program costs and improve its Effectiveness & Efficiency (E&E) factor. The E&E factor for a Blue Box program is used by WDO as a performance measure to allocate funding, and by 2012 will determine 45% of funding received. The E&E factor is calculated as the Net Program Cost per tonne / Blue Box Recyclables Recovery Rate. Decreasing program costs and increasing recovery rates will both decrease the E&E factor: a low E&E factor indicates high program performance.

The OVWRC is a partnership of several municipalities, each responsible for their own waste collection, while the OVWRC provides material processing, marketing, and promotion and education. This structure affects the ways in which the OVWRC is able to change and improve its blue box program to respond to funding pressure.

The OVWRC is able to make changes to activities under its jurisdiction, such as changes to the MRF, training programs and adding or removing materials from the blue box program. On issues outside of OVWRC jurisdiction such as the negotiation of multi-municipal collection contracts, collection frequency and bag limits, the OVWRC can not mandate a change to its municipal partners. However, the OVWRC is able to influence and provide support and guidance to its partners to move towards achieving the Centre's recycling goals and objectives. Key drivers leading to the development of this strategy are listed below.

Worksheet 5 Waste Diversion Factors and Drivers

Factor/Driver	Comments
WDO requirements	WDO requirement for a Waste Recycling Plan, the need for that plan to have specific recycling targets, and the requirement to review the plan every 5 years. Specific recycling targets were not incorporated into the initial business plan, which by 2011 will require review as required by the WDO.
Shrinking disposal capacity	Organizational goals include a stated desire to extend the life of the landfill asset. A successful WRS can help to expand the lifetime of existing landfills by increasing the amount of recyclable material diverted from disposal.
Low population growth	Population growth based on permanent residency is not expected to place additional or meaningful pressure on the program since growth estimates are low, however this does mean that the program must maximize individual and household contributions to waste diversion in order to meet its goals.
Improving cost/service efficiencies	Opportunities for cost savings and service improvements can be identified when preparing the WRS. In this case a goal to increase the recovery of recyclable materials is expected, if successful, to reduce overall unit operating costs at the MRF. This addresses inefficiencies associated with MRF operating below capacity.
Restricting factors	Decisions made for the OVWRC program are made in the context of several potential limitations: rural population density affecting collection density; considerable distance to recycling markets and; as each partner municipality manages and delivers collection services to their residents, collection-based strategies require a cooperative approach among OVWRC members.

6. Goals and Objectives

This Waste Recycling Strategy has identified a number of goals and objectives for the OWRC. These are presented below.

Worksheet 6a Waste Recycling Goals and Objectives

Goals	Objectives
Improve cost-effectiveness of recycling program	Reduce program cost (\$ per tonne) to average municipal grouping program cost
Maximize use of existing MRF capacity	Increase material throughput to 12,000 TPY
Reduce MRF residual	Reach MRF residual rate of 10%
Increase tipping and storage capacity for current and future material volumes	Expand tipping floor area to 11,000 ft ²
Increase recycling capture rate of partner municipalities	Increase recycling capture rate by 2% per year
Be a recycling service provider throughout all of Renfrew County	Provide recycling services to all of Renfrew County by 2015
Continue to provide staff training	Material Handlers & Lead Hands: 1 – 2 days initial training, and 1 day per year additional training. Supervisors: 1 week initial training and 2 weeks per year additional training.
Provide a safe and healthy working environment	Reduce lost time injuries to 0

This Waste Recycling Strategy has also identified a series of broader community goals to which it can contribute. These broader community goals include:

- To walk lightly on the environment
- Encourage and support source separation, recycling, diversion and materials recovery as an integral part of the waste management strategy
- Encourage and promote a waste management system that will provide the most economic, socially sound and environmentally safe system for the handling, transportation, processing, recycling and disposal of solid waste
- Provide an effective and efficient governance and corporate structure for the Centre to serve existing partner municipalities
- Increase public, stakeholder and government awareness of the Centre's roles, responsibility and advocacy positions
- Continue to be a source of employment in the community

7. Current Solid Waste Trends, Practices and System and Future Needs

7.1 Community Characteristics

In 2009, the OVWRC served a population of 41,597. The partner municipalities are home to 19,418 total households or dwellings. Of these, 16,169 are single-family households and 3,249 are multi-family households. There are also an additional 1,216 seasonal dwellings, which are generally occupied during the summer and fall.

7.2 Current Waste Generation and Diversion

Currently, the OVWRC manages approximately 19,471 tonnes of residential solid waste per year, including 3,928 tonnes of Blue Box recyclables collected through curbside and depot programs.

In 2009, 2,979 tonnes or 15.3% of the residential waste stream was diverted through the Blue Box program. An additional 449 tonnes of glass, collected through the Blue Box program, were used by the OVWRC onsite in road construction.

Worksheet 7a Community Characteristics

Characteristic ¹	Notes				
Current Population: 41,597 Data source: 2009 WDO Datacall (as reported by OVWRC)	<u>Partner</u>	<u>Population</u>	<u>Total HH</u>	<u>SF</u>	<u>MF</u>
Total households or dwellings: 19,418 Data source: 2009 WDO Datacall (as reported by OVWRC)	Laurentian Valley	8,520	4,170	3,786	384
	Pembroke	13,930	6,649	4,109	2,540
	Petawawa	15,898	6,043	5,718	325
	N. Algona-Wilberforce	2,659	1,040	1,040	0
Single-Family Households: 16,169 Multi-Family Households: 3,249 Data source: 2009 WDO Datacall (as reported by OVWRC)	Bonnechere Valley (Ward 3)	590	300	300	0
	Seasonal		1,216	1,216	0
	Total	41,597	19,418	16,169	3,249
Total Seasonal Dwellings: 1,216 Months when seasonal increase occurs: summer and fall Data source: 2009 WDO Datacall (as reported by OVWRC) and E&E Project #223, Four Season Waste Audits for Renfrew County					
Municipal Grouping: Rural Collection – South					

The table below summarizes the current waste generation and blue box diversion rates.

Worksheet 7b Residential Solid Waste Generated and Diverted Through Blue Box

Residential Waste Stream / Blue Box Material	Tonnes	Percent of Total Waste
Total waste generated	19,471	100%
Diverted Papers (ONP, OMG, OCC, OBB and fine papers)	2,342	12.0%
Diverted Metals (aluminum, steel, mixed metal)	292	1.5%
Diverted Plastics (containers, film, tubs and lids)	345	1.8%
Total Blue Box material currently diverted	2,979	15.3%

As the table below indicates, the OWRC's current diversion and recovery rates are below average for its WDO municipal grouping.

Table 7-1 Average Blue Box Diversion and Capture Rates (2009)

	Diversion Rate (% of total waste stream)	Recovery Rate (% of available blue box material)
Partner Municipalities		
Bonnechere Valley - Ward 3	12.7%	37.8%
Laurentian Valley	16.0%	47.5%
North Algona-Wilberforce	15.6%	46.5%
Pembroke	15.2%	45.2%
Petawawa	14.7%	43.7%
Group Averages		
OWRC (Combined Partner Municipalities)	15.3%	46.3%
Curbside Programs	15.3%	45.9%
Depot Programs	15.1%	45.0%
Municipal Grouping: Rural Collection South	18.5%	50.7%

7.3 Potential Waste Diversion

The OWRC's current waste composition was estimated using Renfrew County waste audit data from E&E Fund Project #223, Four Season Waste Audits for Renfrew County.

A total of approximately 6,263 tonnes of blue box recyclable materials are available for diversion, of which approximately 3,284 tonnes are still currently going to landfill. Estimates of blue box material available for diversion are listed in the table below.

Worksheet 7c-1 Current and Potential Diversion Using Renfrew County Waste Audit Data

Material	Total Available in Waste Stream (tonnes/year)	Currently Recycled (tonnes/year)	Potential Increase, 100% recovery (tonnes/year)
Papers (ONP, OMG, OCC, OBB and fine papers)	4,041	2,342	1,699
Metals (aluminum, steel, mixed metal)	522	292	230
Plastics (containers, film, tubs and lids)	999	345	654
Glass	701	449 ¹	252
Total	6,263	3,428	2,835

¹ Mixed broken glass used on site in road construction. Glass is not marketed, and therefore not included in diverted tonnages reported to WDO.

Diverting 100% of the Blue Box material remaining in the OVWRCs waste stream could raise its waste diversion rate to 32.2%. The WDO suggests a target of 70% recovery of recyclable materials remaining in the waste stream for the Rural Collection – South municipal group. By meeting this target, the OVWRC could increase Blue Box diversion to 22.5%.

7.4 Existing Programs and Services

Currently, the OVWRC's partner municipalities have the following policies and programs in place to manage residential solid waste:

- Bag limits of 3 bags every two weeks for Laurentian Valley and 4 bags every two weeks in the City of Pembroke and the Town of Petawawa.
- User pay system (\$1 per garbage bag) at depots in Bonnechere Valley and North Algona-Wilberforce.
- Differential tipping fee for waste containing divertible materials. 2010 fees are \$75 per tonne for true garbage, and \$125 per tonne for loads contaminated with divertibles.

Collection services of regular waste and recycling are provided to the residents by each of the individual partner municipalities, while recycling services are provided by the OVWRC. Disposal and recycling services are paid for primarily through partner fees. Once recyclable materials have been collected, they are taken to the OVWRC MRF, located in Laurentian Valley.

Worksheet 7d Existing Programs and Services

Policies or programs currently in place at the local or regional level for managing residential solid waste		
User Pay: In use at depots in North Algona-Wilberforce and Bonnechere Valley (\$1 per bag).	Bag limits: 4 bags per week in Pembroke and Petawawa, and 3 bags per week in Laurentian Valley.	
Tipping fees: Differential tipping fees in place. \$75 per tonne for landfill, and \$125 per tonne for waste loads containing divertible materials	Take backs: website lists locations for batteries, fluorescent bulbs, scrap metal, cell phones, furniture, sharps, clothing, hazardous waste, eye glasses, medications, paint, printer cartridges, propane tanks and cylinders.	
Waste and recycling collection services provided to the residential sector		
Collection Service	Waste Coverage (%)	Recycling Coverage (%)
Municipal collection	83.4	83.4
Private service (Multi-Family)	6.0	6.0
Drop-off (at landfill or depot)	10.6	10.6
Waste and recycling services financing		
	Waste	Recycling
Payment Type (fixed or variable user fees, tax base, a mix of above, etc)	Partner municipalities cover costs of the integrated waste management system based on their allocated portion.	
Where are recyclable materials taken after collection?		
Directly to Materials Recycling Facility: Ottawa Valley Waste Recovery Centre, 900 Woito Station Road, Pembroke, ON K8A 6W5)		

In 2009, the total net annual recycling costs for the OVWRC were \$1,616,918. This amounts to \$543 per tonne, or \$39 per capita. As the table below shows, net annual recycling costs for the OVWRC are above average for the Rural Collection - South municipal grouping.

Worksheet 7e OVWRC Residential Recycling Program Costs

	Based On WDO Figures Which Exclude Mixed Broken Glass Recovery¹	Including Mixed Broken Glass Recovery	Municipal Grouping: Rural Collection South
Total Net Cost	\$ 1,616,918	\$ 1,616,918	-
Net Cost per Tonne	\$ 543	\$ 472	\$ 420
Net Cost per Capita	\$ 39	\$ 39	\$ 22
Net Cost per Household	\$ 83	\$ 83	\$ 50

¹ In the case of OVWRC WDO reporting is not a true reflection of MRF operational costs. WDO reports require that OVWRC remove IC&I tonnages and related revenues, as well as Blue Box tonnes from third party municipalities that are reported by those municipalities as contracted costs. This means that the cost per tonne reflected for the OVWRC program does not account for all material flowing through the facility. It is important to note that the OVWRC must compete for WDO funding based on allocated performance that does not necessarily reflect the actual operating cost per tonne of the facility.

7.5 Anticipated Future Waste Management Needs

Solid waste generation rates in the OVWRC's partner municipalities are expected to stay the same over the next 10 year planning period. Worksheet 7f depicts the expected growth rates for solid waste generation and Blue Box material recovery (based on projected population growth rates for Renfrew County).

Potential Blue Box material diversion tonnages for three scenarios are presented below in Worksheet 7f. The three scenarios are:

1. **Business as Usual:** Continued Blue Box diversion at 2009 levels.
2. **Southern Rural Collection Municipal Group Average Performance:** The OVWRC is in WDO's 'Southern Rural Collection' municipal grouping. In 2008 the group averaged an 18.2% Blue Box diversion rate. Considering the OVWRC waste stream composition, this is equivalent to a 49.8% Blue Box recovery rate.
3. **WDO Target Recovery Rate for Southern Rural Collection:** WDO has developed reasonable target Blue Box material recovery rates for each of the municipal groupings. For the Southern Rural Collection Category, the target rate is 70%.¹

Worksheet 7f Anticipated Blue Box Diversion for Three Scenarios

	2009	2015	2020
Population ¹	41,597	42,704	43,703
Total Waste Generation ² (tonnes)	19,471	19,989	20,457
Total Blue Box Material ³ (tonnes)	6,264	6,430	6,581
Blue Box Material Diverted (tonnes)			
Business as Usual 15.3% Blue Box Diversion 47.6% Recovery Rate	2,979	3,058	3,130
Southern Rural Collection Municipal Group Average Performance 18.2% Blue Box Diversion 56.6% Recovery Rate	-	3,638	3,723
WDO Target Capture Rate for Southern Rural Collection 25.6% Blue Box Diversion 70.0% Recovery Rate	-	4,501	4,607

¹ Populations projected using Renfrew County projected population growth rate

² kg/capita waste generation assumed constant at 2009 level, 468 kg/household/year

³ Waste stream composition assumed constant (Renfrew County 2008 Waste Audits)

¹ Guidebook for Creating a Municipal Waste Recycling Strategy.
http://www.wdo.ca/cif/wdocs/CIF_wrs_worksheets.doc

8. Overview of Recycling Options

The OVWRC reviewed a number of options for consideration in its Waste Recycling Strategy. The options were then scored based on a series of criteria, which included:

- Increase in waste diverted
- Proven results
- Economically feasible
- Public acceptance
- Partner municipality acceptance
- Ease of implementation

The Waste Recycling Strategy options were scored, and bundled into groups of initiatives, which are presented in Section 9. Waste recycling options scoring and ranking are provided in Appendix A. The complete list of options considered for evaluation as part of this Waste Recycling Strategy follow.

Find New Sources for Incoming Material

OVWRC has a higher than average cost per tonne for blue box recycling for its WDO municipal grouping. This cost could be driven down by increasing the amount of material entering the MRF. Higher tonnage would allow the MRF to operate more efficiently and nearer to its design capacity.

For example, if current partner municipalities were able to meet the WDO's Southern Rural Collection group target of 70% recovery for residential blue box materials, this would consume an additional 18% of the MRF's processing capacity.

OVWRC would continue to pursue new tonnes from the IC&I and multi-residential sectors of its current municipal partners, and make efforts to attract new municipal and IC&I customers. A drop in program cost per tonne would also positively affect program funding from WDO. The announced closure of the Beaumen Recycling facility, which processes recyclables for other municipalities in Renfrew County presents an opportunity for new markets.

Add or Remove Materials from Blue Box Program

In order to increase incoming tonnages, the OVWRC may wish to consider adding aluminum foil and other packaging to their collected materials. Conversely, removing some items such as polystyrene from collection may result in increased efficiency and decreased program costs.

Become a Regional Recycling Centre

The OVWRC is positioned to act as a regional recycling centre for Renfrew County and Pembroke. Consolidating OVWRC as a regional recycling centre would bring more material through the facility to increase efficiency and decrease cost per tonne. This strategy would also increase the likelihood of receiving Continuous Improvement Fund (CIF) funding for MRF upgrades.

Support and Harmonize Policies That Support Diversion

Policies that support waste diversion include the use of clear bags for garbage collection, mandatory recycling, garbage bag limits and garbage bag tags.

The use of clear bags for garbage collection has been shown to increase waste diversion through social pressure, and by increasing the ease with which waste management regulations can be enforced by collection crews. Clear bag policies are therefore complemented by mandatory recycling policies.

Bag tags are currently required for garbage drop-off at the OVWRC's various depot locations, and are purchased through the municipality at a cost of \$1 per bag. Pay-as-you-throw programs, including bag

tag type programs have also been shown to increase source-separation of divertible waste, increasing Blue Box material recovery.

Current bag limits are 3 bags every two weeks for Laurentian Valley and 4 bags every two weeks for Pembroke and Petawawa. Harmonizing the bag limits and other policies would support the OVWRC's program and potentially reduce costs by allowing the Centre to circulate consistent messaging to partner municipalities. Reducing bag limits in Pembroke and Petawawa to 3 bags every two weeks would also have some impact on participation and capture rates.

Advocate for Multi-Municipal Collection Contracts Among Partners

The OVWRC's unique and innovative partnership structure allows a strong integrated waste management approach to processing and disposal of waste. While sharing processing and disposal resources, municipal partners maintain control over the collection and transfer components of waste management services. Given the region's geography and population density, collection costs for the partner municipalities are high.

Although collection and transfer are not the responsibility of the OVWRC, the Centre reports these costs to WDO. Blue Box program collection costs impact WDO funding, which is determined to a large extent by net program costs.

Any reduction in collection costs could benefit partner municipalities twice: First, in the reduction of their municipal waste collection budget; and second, in the reduction of OVWRC fees resulting from increased WDO funding.

Historically, competition on some of the collection tenders has been very low resulting in high contract prices. The OVWRC is in a position to encourage and support its partner municipalities to create a multi-municipal collection contract or to bundle collection contracts for different services. The increased scope and tonnage associated with such contracts could attract more competitive pricing.

Additional Free Blue Boxes and Triple R Cans

Where blue boxes are being set out at capacity, providing additional blue boxes relieves the pressure of limited storage space and results in increased collected tonnage. While the OVWRC does not control the distribution of containers, they are in a position to advocate for strategies that will benefit partner municipalities by improving program performance and possibly increasing program funding.

Multi-Family Containers

Provide in-unit recycling containers for multi-family residents to facilitate sorting, storing and transporting recyclables. Additionally, provide carts/dumpsters at multi-family buildings to facilitate recycling. While the OVWRC does not control multi-family collection or container distribution, they are in a position to advocate for strategies that will benefit partner municipalities by improving program performance and possibly increasing program funding.

Public Space Recycling Program

Develop a public space recycling program plan including appropriate containers, signage and P&E specifically for public spaces within the partner municipalities.

Targeted Communication Strategies

Promotion and education strategies directed at specific sectors can impact recycling program participation and performance. For example, a P&E campaign targeted at the recycling depot programs could increase participation in the program, increase capture rates and decrease contamination, all contributing to increased tonnages diverted by the OVWRC. Possible target audiences include:

- Depot users
- Depot staff training

- Public space and special events
- Contamination
- Small business and areas
- Schools
- Seasonal population

9. Planned Recycling System

After evaluating and ranking the waste recycling options put forward in Section 8, the OVWRC elected to keep all but one of the options on the table and include them in this Waste Recycling Strategy. The options have been grouped into four groups: targeted communications strategies, collection strategies, strategies to increase inbound tonnage to MRF and policies that support diversion.

9.1 Targeted Communications Strategies

Targeted communications strategies are an effective way to communicate with key groups of residents, on key recycling-related issues. This option is an approach to utilizing the OVWRC's promotion and education budget to achieve maximum effect. The additional cost of targeted communications to the OVWRC is minimal, as these strategies can be funded with allocations from the existing P&E budget.

The OVWRC's 2010 Communications Plan (Appendix B) includes the following objectives:

- Ensure participants of OVWRC's waste management programs are aware of and have been provided the tools required to divert as much material as possible from landfill; and
- Increase diversion rates in the IC&I sector by 5% and residential sector by 2%.

The OVWRC runs an exemplary communications program, and in 2009 the OVWRC's P&E costs were \$19.10 per marketed tonne of material, well above the provincial average of \$6.46 per tonne. Targeted communications provide an opportunity to expand the scope of the communications plan and gain further value from the P&E budget.

Seven specific target communication areas were considered and evaluated by OVWRC staff, and they are listed in priority order below with the highest-ranked options first:

Schools

The OVWRC is actively involved in promoting recycling in local schools, including partner and non-partner municipalities. The Centre's 2010 Communications Plan includes budget for an annual Waste Reduction Week school contest and a school outreach program. School outreach is widely acknowledged as an effective use of P&E funds. A student population that is well-informed on recycling programs and policies tends to raise overall diversion program awareness, increase program participation and decrease contamination.

Recycling Depot Users

Residents of the OVWRC's partners Bonnechere Valley (Ward 3) and North Algona-Wilberforce are serviced by depots for their Blue Box recyclables. There is one transfer station in Bonnechere Valley, two transfer stations in North Algona-Wilberforce, and a depot at the OVWRC site. In 2009 close to 400 tonnes of recyclables were collected at these depots and brought to the OVWRC MRF. Blue Box program performance at depots tends to be lower than for curbside programs, and contamination of recyclables tends to be somewhat higher. Targeted communication to residents served by the depots could further increase program awareness and target specific contamination issues with depot recyclables.

Recycling Depot Staff Training

Depot attendants play a critical role in determining Blue Box recycling success, and well-trained depot attendants have been identified as a rural depot best practice.² The presence of an attendant alone encourages better sorting and reduces contamination. The interaction between attendants and residents offers many opportunities to increase program awareness, keep residents up-to-date with program changes, and provide relevant P&E materials.

² Evaluation of Best Practices of Rural Recycling Depot Programs, E&E #45
http://www.stewardshipontario.ca/bluebox/pdf/eefund/reports/45/454_report.pdf

Public Space and Special Events

The OVWRC runs a special events program which provides recycling containers free of charge to event organizers. Additional targeted P&E efforts aimed at special events could maximize the education potential of this interaction with the public. This could include: improved signage and graphics for recycling containers, provision of OVWRC P&E materials at special events, providing OVWRC staff at large events to promote recycling and provide information to the public, and active promotion of the program to event organizers not already using the service.

P&E targeted at public space is a critical component of a public space recycling program. Targeted communications for public space could include campaigns to expand the availability of recycling containers in parks, arenas, sports fields and small business districts, as well as messaging to residents and users of these spaces to reinforce recycling behaviours.

Small Businesses

The OVWRC 2010 Communications Plan includes a goal of increasing IC&I diversion by 5%. This sector is very important to the Centre, as nearly 40% of the MRF's throughput is from IC&I sources. There are incentives in place and resources available to encourage IC&I diversion among the OVWRC's clients. There is no tipping fee charged for Blue Box materials from the IC&I sector inbound to the OVWRC, and a recycling guidebook, signage, brochures and other materials are available for download for free from the OVWRC website. Targeted P&E for small businesses could focus on recruiting new users into the system and addressing contamination problems in this sector.

Blue Box Contamination

The OVWRC MRF saw an annual residual rate of approximately 12% in 2009, and as part of this Waste Recycling Strategy has set a goal of reducing that residual to 10%. It is difficult to target messaging at poor sorters without knowing the actual sources of contamination. Instead, the OVWRC's commitment to provide key messaging regarding "what goes where" to residents and businesses addresses the issue of contamination. Ensuring that these messages are clear and consistent across all P&E programming will assist in reducing contamination and the MRF residual fraction.

9.2 Collection Strategies

Five Blue Box collection options were identified and evaluated as part of the development of this strategy. The options are listed below in priority order with the highest ranked options listed first.

Additional Free Blue Boxes and Triple R Cans

The provision of additional recycling containers³ to residents can increase capture rates. Although there is an initial capital expenditure involved, the increased recovery may ultimately reduce program costs. The potential effectiveness of this strategy depends on a deficit of existing curbside capacity. A waste audit or at minimum a survey of residents would be required to justify the cost of providing additional curbside containers.

If deemed to be beneficial, the costs associated with the implementation of this strategy include container costs and the cost of managing additional Blue Box tonnage. While container costs are known, the cost of handling the additional materials can not be known with certainty until the degree to which recycling containers are over capacity is determined. However, other municipalities that have provided additional recycling capacity have observed increases in material capture of up to 9%.⁴ Assuming such an increase would be observed by the OVWRC, an additional 354 tonnes of material would be collected annually, which translates to an estimated \$9.90 per household in net operating costs.

³ Blue Box Program Enhancement and Best Practices Assessment
http://www.stewardshipontario.ca/pdf/eefund/KPMG_final_report_vol1.pdf

⁴ Essex Windsor Solid Waste Authority, E&E #262
http://www.stewardshipontario.ca/bluebox/pdf/eefund/reports/262/262_report_w_apendices.pdf

Public Space Recycling Program

Research by Quinte Waste Solutions demonstrated that it is possible to recover up to 30% of waste generated in public parks, arenas and sports fields through a Blue Box program at a relatively low cost.⁵

Initial costs for a public space recycling program include the cost of containers and hardware to secure containers as necessary, particularly in outdoor spaces. There is an initial and ongoing promotion and education cost associated with a public space campaign, which may be covered by an allocation from the OVWRC budget. The addition of recycling bins into these spaces does not change the amount of material generated, so collection schedule and effort remain constant. The municipal vehicle, staff and liner bag costs are transferred from garbage collection budget and should not result in an increase in operating costs. Quinte Waste Solutions estimated that public space recycling decreased the net cost of managing waste in public parks, arenas and sports fields by over 60%.

There are a wide variety of containers available for public space recycling, and the OVWRC and its partners would ultimately need to select containers appropriate to their circumstances. However, there are some general guidelines available for effective public space containers. Clear signage with graphics and co-location of garbage and recycling bins both increase capture and decrease contamination.

Advocate for Multi-Municipal Collection Contracts

Multi-municipal co-operation is a fundamental best practice for Blue Box recycling programs, and the OVWRC full-service waste management site is governed by a multi-municipal board. The OVWRC currently supports and advocates for multi-municipal co-operation among its members, as there are efficiencies and cost savings to be gained from negotiating larger contracts. The inclusion of this recycling option in the Waste Recycling Strategy is an affirmation that the OVWRC intends to continue its commitment to multi-municipal co-operation, and support co-operative efforts among municipalities in and around Renfrew County.

Multi-Family Containers

Appropriate recycling containers both inside of individual units and for the storage of the building's recyclables between collections can have a profound impact on multi-family Blue Box diversion rates. This is typically a low-performing sector, but presently there is no data available regarding the performance of the OVWRC's over 3,000 multi-family households to confirm multi-family sector diversion performance for the OVWRC.

In-unit containers include blue bags, mini blue boxes, large blue boxes and small blue carts (similar to green carts used for organics collection in many municipalities). These carts provide a convenient designated storage space for recyclables in each multi-family unit and serve as a reminder to sort and recycle waste. Research has shown that the appropriate container depends on several factors, including the number of people in the household and the physical space available in the unit.⁶ Some programs, such as the City of Toronto, have had success by offering a choice of containers (i.e. blue bag or mini blue box) to residents.

Adding additional recycling capacity to multi-residential buildings has also proven to be a very effective option for increasing material capture. This can be accomplished by adding additional bins or carts for residents to drop-off their recyclables, or by increasing the frequency of recyclables collection. The City of London observed an increase in multi-residential capture rates of between 35% – 100 % as a result of adding additional capacity.⁷

⁵ Recycle Away: Public Parks, Sports Field and Arena Recycling, E&E #44.

http://www.stewardshipontario.ca/bluebox/pdf/eefund/reports/44/44_report.pdf

⁶ Enhancing Recycling in Multi-Residential Buildings: Markham, Richmond Hill and Vaughan, E&E #186

http://www.stewardshipontario.ca/bluebox/pdf/eefund/reports/186/186_final_report.pdf

⁷ City of London Multi-Residential Recycling – Optimizing Recycling Performance, E&E #197

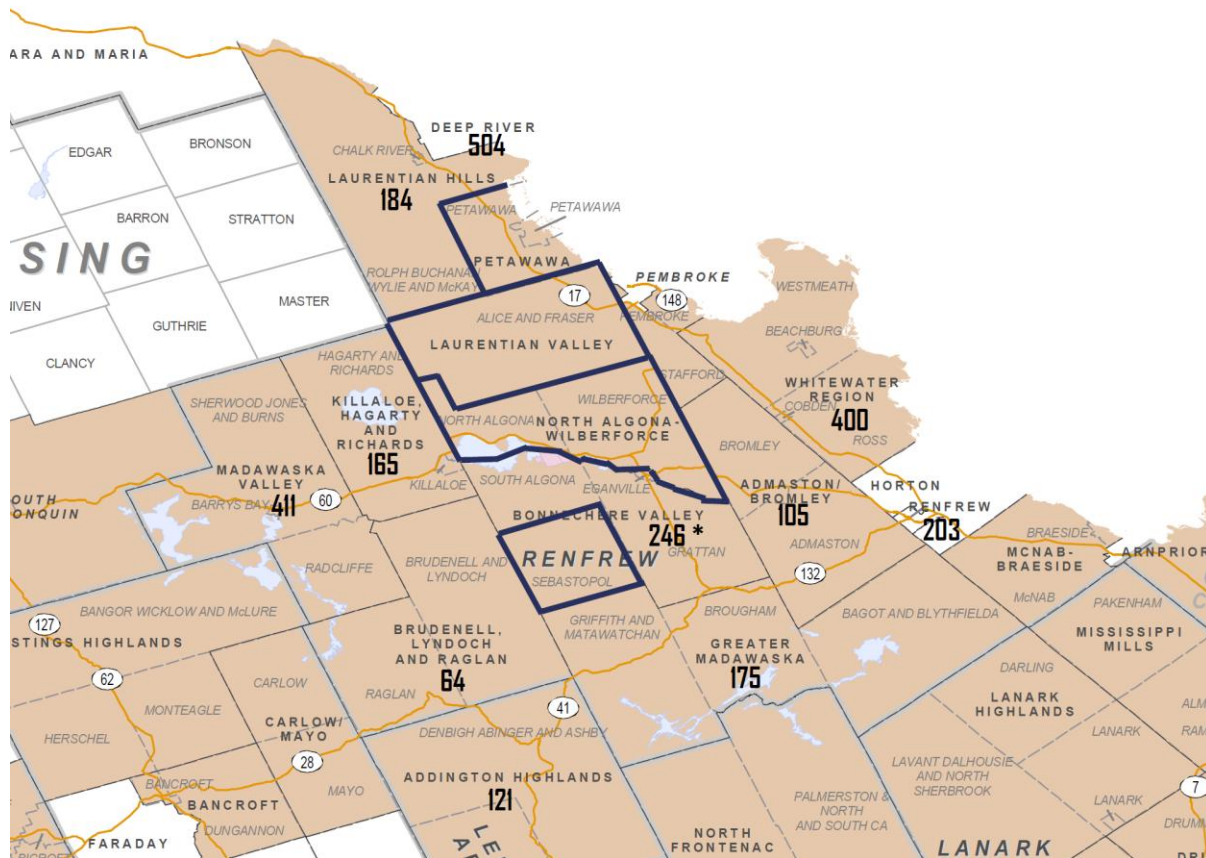
http://www.stewardshipontario.ca/bluebox/pdf/eefund/reports/197/197_report.pdf

9.3 Strategies to Increase Inbound Tonnage to MRF

Many of the options evaluated as part of this waste recycling strategy, when implemented, have the potential to increase Blue Box material capture and MRF throughput. However, two of the recycling options were aimed specifically at substantially increasing inbound tonnages to the MRF: finding new municipal and IC&I sources for incoming material and becoming a regional recycling centre for Renfrew County.

OVWRC staff estimate that the MRF operated at about 55% capacity in 2009, processing a total of 8,083 tonnes of Blue Box materials. 49% of this material is collected from the OVWRC's partner municipalities, and an additional 12% is residential material from non-partners. The remainder is from IC&I generators.

One of the goals of this strategy is to maximize the tonnage inbound to the MRF by increasing throughput to 12,000 tonnes per year. This is the estimated real MRF capacity for a two shift per day, five days per week schedule.



* Tonnage does not include Sebastopol Ward in Bonnechere Valley, which is currently managed by the OVWRC

50 KM

Figure 9-1 2009 Marketed Blue Box Tonnages In and Surrounding Renfrew County

Source: WDO 2009 Blue Box Tonnage Report

Figure 9-1 shows marketed Blue Box tonnages for municipalities near to the OVWRC, either within Renfrew County or in adjacent counties. Tonnages noted above total 2,578 marketed tonnes, demonstrating that there are sufficient recyclables generated in the vicinity of the OVWRC to increase MRF processing capacity usage. There is also an additional undetermined quantity of IC&I Blue Box material that is available in these areas.

It is important to note that there are opportunities to increase the use of MRF capacity that can occur concurrently with attracting new tonnages. If the OVWRC were to meet the 70% residential Blue Box capture target described by WDO in the Waste Recycling Strategy Guidebook, this would result in an increase in use of MRF capacity of over 18%.

9.4 Policies that Support Diversion

As noted in the implementation steps (Section 10 of this Strategy) the collection scenarios that follow could be the basis of a collection policy report to be considered by the partners. Each has been identified as a viable approach supported by the documentation, research and operating experience found as part of this strategy. The goal of the OVWMB with respect to this item is to receive and consider a report that would identify gaps and opportunities for cooperation and harmonization of collection strategies that support the curbside and depot recycling program, for possible recommendation where appropriate to their Councils.

Bag Tags

The Bonnechere Valley and North Algona-Wilberforce transfer station currently charge for garbage disposal at a rate of \$1 per bag. A survey of Ontario pay-as-you-throw programs⁸ indicates that garbage disposal costs ranges from \$1 - \$3 per bag, with an average cost in Ontario in the \$2 per bag range, placing these disposal rates at the low end of the spectrum.

User pay, or pay-as-you-throw, programs are an effective way to increase capture of divertible materials, including Blue Box recyclables. While there is research to indicate that introducing a user pay program will increase the capture of recyclables by about 5% and effect a further source reduction of about 5%⁹, there is little available to assist in predicting the effect of increasing rates in an existing user pay program. Nevertheless, it is almost certain that an increase in the cost of garbage disposal at transfer stations, at least to bring cost inline with the provincial average for user pay programs, would increase the diversion of Blue Box recyclables.

Bag Limits

In the Blue Box Program Enhancement and Best Practices Assessment report¹⁰, reduced solid waste services were identified as a common factor contributing to good performance of a Blue Box recycling system. The report identifies a clear trend of increasing diversion with decreasing garbage bag limits. The first step in pursuing this recycling option would be to harmonize bag limits between all of the OVWRC partner municipalities. Currently Laurentian Valley will accept a maximum of three bags per collection, while Pembroke and Petawawa limit collection to four bags per collection.

Mandatory Recycling and Clear Bags for Garbage

Most of the clear bag programs in Ontario are supported by a mandatory recycling by-law, so these two options have been grouped. Together, they are an effective waste diversion tool which is supported by research showing increases in Blue Box diversion as a result of implementing a clear bag and mandatory recycling policy. The province of Nova Scotia reported an increase in Blue Box recycling of 35% after two

⁸ User Pay Program Implementation Guide, E&E # 126
http://www.stewardshipontario.ca/bluebox/pdf/eefund/reports/126/126_report.pdf

⁹ Measuring Source Reduction: Pay as you Throw/Variable Rates as an Example
<http://www.epa.gov/osw/conserve/tools/payt/pdf/sera.pdf>

¹⁰ Blue Box Program Enhancement and Best Practices Assessment
http://www.stewardshipontario.ca/pdf/eefund/KPMG_final_report_vol1.pdf

years of clear bag program implementation ¹¹ and in Ontario, Madoc and Centre Hastings observed a 12% increase in Blue Box diversion ¹² during a 6 month period after introducing clear bags.

The use of clear bags for garbage collection works in two ways to increase waste diversion and the capture of Blue Box materials: there is social pressure to ensure that there are no recyclables in the garbage, as the contents are visible to other members of the community; and clear bags make enforcement of mandatory recycling by-laws easier and less time-consuming. With clear bags, collection crews can accept or reject a bag of garbage at a glance, without the need for separate staff to open and audit garbage bags to enforce recycling by-laws.

¹¹ The Use of Clear Bags for Garbage as a Waste Diversion Strategy, E&E #177
http://www.stewardshipontario.ca/bluebox/pdf/eefund/reports/177/177_report.pdf

¹² Clear Bags for Garbage: A Better Practice of Innovative Recycling Program Compliance? E&E #312
http://www.stewardshipontario.ca/bluebox/pdf/eefund/reports/312/312_report.pdf

10. Implementation Steps

The following table outlines the implementation steps and timeline for the waste recycling options described in Section 9.

Worksheet 10 Implementation Steps

Initiatives	Steps	Timeline
Targeted Communications		
	1. Apply this strategy to all listed target audiences	Initial assessment
	2. Review target audiences to determine goal of communications: is it to increase recovery, improve efficiency, reduce contamination or combined	Prior to budget approval
	3. Review and select preferred media for each target	Prior to budget approval
	4. Determine delivery options and costs (OWWRC already does this), review media if cost unfavourable	Prior to budget approval
	5. Develop main messaging based on target and media	After approval
	6. Purchase media as appropriate, and communications design where required	Prior to launch, times will differ based on audience/issue
	7. Publish/distribute or include within resident/school/ seasonal outreach as delivered	Throughout the year depending on the target audience
	8. Review and re-assess	Annually prior to budget submission
Collection Strategies and Policies that Support Diversion		
	1. Introduce collection strategies and descriptions to OVVMB. This is a point of influence for OVVRC: there is no direct control over collection by the Centre.	Annually
	2. Prepare collection policy report or synopsis for partners. Identify gaps and opportunities for cooperation, harmonization.	On request by OVVMB

Worksheet 10 Implementation Steps

Initiatives	Steps	Timeline
	3. OVWMB to relate appropriate strategies and proposals (blue box distribution, collection policies, multi-family) to partners with support from OVWRC staff where required.	As per members schedule
Find new sources of material		
	1. Continue to find and solicit recycling tonnage to more fully use facility capacity. Includes:	Ongoing
	a. Regular reviews of plant utilization	Ongoing
	b. Reviews of equipment upgrades or requirements	Ongoing
	c. Applications for funding (CIF) for plant floor expansions if required	Ongoing
	d. Solicitation of materials both inside and outside of the County of Renfrew	Ongoing
	e. Review of operating costs and potential adjustments to tipping fees	Ongoing

11. 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.

Worksheet 11 Waste Recycling Strategy Contingencies

Risk	Contingency
Full EPR	See below
Collection authority belongs to partner municipalities	This affects the ability of OVWRC to directly enact policies and programs thought to be beneficial to recycling, including collection policy harmonization (ie bag limits) that would make things less confusing to residents and streamline communications. The OVWMB, however, is in a position to represent necessary information to their respective councils and, in the absence of direct OVWRC control, work cooperatively to reach the collection objectives.
Volatility of Material Revenues	Loss of revenues
Increase in specific operating costs	Fuel, labour
Insufficient processing capacity for new tonnes	Expansion of tipping floor and storage area (see below)

Full EPR

The potential impact on the system of extended producer responsibility (EPR) programs, and namely the current uncertainty around the Waste Diversion Act (WDA) review, is not fully known. EPR could be quite beneficial in terms of both diversion and financial support. With respect to the OVWRC blue box program, the time when producers of the packaging and paper that go into blue boxes will be made responsible for the full cost is in doubt (they are currently obligated to pay 50% of net operating costs in Ontario). The EPR decision is tied to the provincial government's review of the WDA and it is unclear when this might be forthcoming.

Within the municipal community there are two schools of thought: some are suspending investment in recycling systems and waiting for industry stewards to be made responsible for recycling, while others are continuing to invest in recycling with the assumption that there will be a role for well operated municipal systems. The latter group are continuing to plan on the basis of a role in a full EPR system and pursuing their role in the full EPR scheme.

Industry stewardship representatives have no more information than municipalities about what the WDA review might bring, but have suggested in various forums that there will be a role for well managed, efficient municipal players. The operating relationship may change but it appears that there is a willingness to continue working with municipalities to deliver programs.

Insufficient Processing Capacity for New Tonnes

The OVWRC MRF operates on a five days per week, 2 shifts per day schedule, with two parallel lines. The MRF operated at an estimated 55% capacity in 2009, processing over 8,000 tonnes of recyclable materials. At this level of operation, the facility is experiencing storage issues with the tipping floor.

At peak times clean cardboard is stored in an outdoor bunker and brought back indoors for baling when storage space becomes available. Limited storage space on the tip floor means that steel, film, agricultural plastic, OCC and OBB bales are often stored outside as well.

Many of the recycling options and strategies outlined in this document are aimed at increasing the inbound tonnage to the MRF. An expansion of the tipping floor and available storage area are necessary to accommodate any additional tonnage, and such an expansion would certainly improve MRF efficiencies even at the current processing rate. The present tipping floor is 6,000 ft², and the OVWRC estimates that an expansion to a total of 11,000 ft² is required to operate at full capacity.

The Kingston MRF recently completed an expansion and equipment upgrade. The MRF was processing nearly 13,000 tonnes per year of material, and experiencing delays, inefficiencies and additional costs related to the limited size of the tip floor and bale storage area. Similar the OVWRC situation, Kingston was forced to store bales outside of the building which required renting storage trailers and additional staff and machine time to transport and retrieve bales.

Kingston's building expansion totalled 6,750 ft² of tip floor and bale storage, and cost approximately \$874,000, at an approximate expansion cost of \$130 / ft².¹³ This includes all construction, engineering, electrical and sprinkler costs, but is exclusive of new equipment. While circumstances at every MRF are unique, the cost of Kingston's floor expansion is a good starting point for understanding the potential costs of increasing the OVWRC's tip floor and bale storage capacity.

¹³ City of Kingston Equipment Retrofit Project, E&E #211.
http://www.stewardshipontario.ca/bluebox/pdf/eefund/reports/211/211_final_report.pdf

12. Monitoring and Reporting

The monitoring and reporting of the OVWRC'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 System 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 OVWRC has several tools in place to monitor the performance of their waste management programs. Detailed records of inbound and marketed tonnages, broken down by residential, IC&I, partner and non-partner municipalities are recorded monthly. These will allow the Centre to monitor increases in overall MRF throughput as well as to monitor the sources of the increases.

The OVWRC's 2010 Communications Plan (Appendix B) describes monitoring tools employed for school and community outreach and education programs. In addition to material throughput data, these surveys provide an opportunity for the OVWRC to assess the effectiveness of any of the targeted communications strategies described in Section 9. Assessments of these strategies may be included within the current survey program (e.g. targeted school strategies) or additional surveys may be included in the next Communications Plan to support new strategies, such as a targeted depot P&E campaign.

Recycling options that affect collections, such as the provision of additional curbside container capacity or changes to multi-family collection containers, ultimately fall under each partner municipality's jurisdiction. Similarly, policy initiatives that support Blue Box diversion, such as clear bags and mandatory recycling, require that each partner municipality implement individually. Monitoring of the implementation of these strategies will occur through the regular partner meetings of the OVWMB and through reports from the partner municipalities' councils.

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

Worksheet 12 Recycling System Monitoring

Monitoring Topic	Monitoring Tool	Frequency
New recycling tonnage from Renfrew County and surrounding area	Tracking inbound and marketed tonnages	Monthly for inbound, quarterly for shipments to markets, compared to past performance
Targeted communications	Tracking inbound and marketed tonnages Surveys and evaluation forms as described in the Communications Plan (Appendix B)	Monthly and quarterly as above See Communications Plan (Appendix B)
Collections strategies	OVWMB meetings and partner municipalities' council reports	Monthly
Harmonization and policies that support waste diversion	OVWMB meetings and partner municipalities' council reports	Monthly

13. Conclusion

The OVWRC initiated this Waste Recycling Strategy to develop a plan to increase the efficiency and effectiveness of its recycling programs and maximize the amount of blue box material diverted from landfill. This strategy will also assist the OVWRC in meeting Waste Diversion Ontario (WDO) Best Practices requirement to have established recycling targets and a plan that specifically targets recycling performance and performance measurement.

A successful and well-managed set of diversion programs, and a strong promotion and education program have placed the OVWRC in the third place ranking for residential waste diversion in its WDO municipal grouping. The two-stream Blue Box program services partner municipalities, other municipal clients, and the IC&I sector. The current estimate of Blue Box material recovery for the OVWRC programs is 46%. So despite strong waste diversion performance, there are still additional tonnes within the OVWRC's partner and client municipalities to recover.

After assessing the current state of the Blue Box recycling system and determining future needs of the system, goals and objectives were developed for the OVWRC in consultation with staff and the OVWRC's Public Liaison Committee. The goals, and their associated measurable objectives, are listed in Section 6.

One of the factors guiding the OVWRC in the formation of this strategy and the formulation of waste recycling options is that the individual municipalities have responsibility for the collection of recyclables. Therefore the role of the OVWRC is to guide policy formation, support municipal cooperation and provide promotion and education to its partner communities. The goals, objectives and options detailed in this strategy reflect this operational reality.

Another factor guiding the formation of this waste recycling strategy is the desire to increase the MRF throughput. The MRF is not currently operating at capacity, and the OVWRC's program would benefit from increased tonnages to reduce program cost per tonne, resulting in a more efficient program and possible increases in program funding. Capturing 70% of the material available within the existing waste stream managed by the OVWRC could increase use of MRF capacity by as much as 18%. The OVWRC has also identified searching for new municipal and IC&I tonnage as a viable option.

In order to address the OVWRC's goals and objectives, a list of recycling options was compiled and these options were ranked based on a set of criteria including their waste diversion potential, public acceptance and ease of implementation. Four groups of strategies emerged from the list of options to address the OVWRC's goals:

1. Targeted Communications
2. Collection Strategies
3. Strategies to Increase Inbound Tonnage to MRF
4. Policies that Support Diversion

The ultimate implementation of a number of these recycling options will be the responsibility of and at the discretion of the OVWRC's partner municipalities. However, the OVWRC will work with, support and advocate for implementation of the waste recycling options described in this plan in order to continue to improve Blue Box recycling performance, and divert materials from landfill.

Appendix A

Waste Recycling Option Scores

Description of Strategies	Strategy Cost		Criteria (Score out of 5)						Total Criteria Score	Ranking
	High / Medium / Low	Comments	Increased Waste Diverted	Proven Results	Economically Feasible	Public Acceptance	Partner Acceptance	Ease of implementation		
Strategy evaluation completed by OVWRC staff with GENIVAR October 28, 2010										
Find new sources for incoming material: search and identify new municipal, institutional, industrial and commercial sources of blue box material.	M	Allocation of staff/management time. Possible promotional material.	5	4	3	4	5	4	25	2
Remove materials from recycling program: eliminate EPS foam from collected materials.	L	Lowest ranked option, not forwarded as a viable strategy.	1	1	5	1	3	4	15	9
Become a regional recycling centre for Renfrew County: acquire contracts for the processing of blue box materials with nearby municipalities in Renfrew County.	L	Allocation of staff/management time. Possible promotional material.	4	4	3	5	4	2	22	4
Support and/or harmonize policies that support diversion										
- Clear bags for garbage	M		3	4	3	2	3	4	19	6
- Bag limits: harmonize curbside collection to 3 bag limit	L		3	3	4	3	4	4	21	5
- Mandatory recycling	H		5	3	4	2	3	2	19	6
- Bag tags for garbage: Increase bag tag cost for depot users (current cost is \$1/bag)	M		3	3	4	2	3	4	19	6

Description of Strategies	Strategy Cost		Criteria (Score out of 5)						Total Criteria Score	Ranking
	High / Medium / Low	Comments	Increased Waste Diverted	Proven Results	Economically Feasible	Public Acceptance	Partner Acceptance	Ease of implementation		
Influence partners towards multi-municipal collection contracts: influence and advocate for multi-municipal collection contracts or bundled collection contracts for recycling and for all collection services	L		2	3	4	4	3	3	19	6
Additional free blue boxes and triple R cans: make available one additional blue box to all residents, free of charge.	M		4	3	3	5	3	3	21	5
Multi-family containers: appropriate containers such as carts, dumpsters, and/or in-unit containers for multi-family residents.	M		3	3	2	3	3	3	17	8
Public space recycling program: public space recycling program plan including appropriate containers, signage and P&E specifically.	M		4	3	3	4	4	3	21	5
Targeted communications strategies										
- Recycling depot users	L	Allocation of existing P&E budget.	4	3	4	4	4	4	23	3
- Recycling depot staff training	L		4	3	4	4	4	4	23	3

Description of Strategies	Strategy Cost		Criteria (Score out of 5)						Total Criteria Score	Ranking
	High / Medium / Low	Comments	Increased Waste Diverted	Proven Results	Economically Feasible	Public Acceptance	Partner Acceptance	Ease of implementation		
- Contamination	L		3	3	4	3	4	4	21	5
- Public space and special events	L		4	4	3	4	4	3	22	4
- Small business areas	L		4	3	4	4	3	4	22	4
- Seasonal residents	L		3	2	3	4	4	2	18	7
- Schools	L		4	4	4	5	5	4	26	1

Appendix B

OVWRC 2010 Communications Plan
