

# Report

# CIF 255

## Waste Diversion: Recycling Enhancement *The Town of Perth*



Final Project Report, July 20, 2012

Updated: December 19, 2012

Corporation of the Town of Perth

CIF 255

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### Acknowledgement:

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## 1. Executive summary

**This is the final report** of a project implemented by The Town of Perth between January 2010 and December 2011. The project goal was to increase waste diversion rates by enhancing the current residential recycling program and to decrease costs. Waste Diversion Ontario - Continuous Improvement Fund (WDO – CIF) provided financial and technical assistance and consulting services provided by *REIC* were employed to work with Town of Perth staff in completing the project.

The Town of Perth's Recycling Program Enhancements (Project #255) is a project to enhance and improve the performance of the municipalities recycling program and to implement best practices suggested by Waste Diversion Ontario. The project provided funding support for the development of a new tender that included the change from single stream collection to two-stream fibre/container collection. As well as, an expanded list of recyclable materials that was introduced to the recycling program.

The implementation aspect of the project included:

1. The distribution of a second large-capacity (23 gallon) recycling container;
2. Expansion of the nature of materials included in the program (container collection),
3. Promotion and education initiatives in regards to the program changes; and
4. Benchmarking and monitoring to measure the impact of the changes on the system.

By executing this project the municipalities recycling program was seen to become efficient and improve, as evidenced by a decrease in programs costs and the tonnage of recyclables recovered increased due to a combination of factors, including:

1. The new larger box
2. The additional materials accepted
3. The Promotion and Education and Awareness program; and
4. The addition of multi-residential recycling along with public area and special events recycling.

The Town of Perth is appreciative for the CIF funding received from WDO which has enabled these reductions in costs and improvements in the recycling diversion rate. These improvements will add to the lifespan of the Perth Landfill site.

## 2. Introduction

According to the Municipal Property Assessment Corporation (MPAC) data for 2010, the Town of Perth's population was 6,421. The Municipality provides blue box recycling to 2,913 households, including 1,326 units in multi-residential buildings.

Collection services of curbside waste, organics and recycling are provided to the residents using contracted services. Once recyclable materials have been collected, they are taken directly to a material recycling facility located in Carp, Ontario. Organics are taken to the Municipality's compost facility through the Green Bin source-separated organics program which has been successfully run since 2008.

This new recycling initiative involved the collection of an increased number of recyclable materials that were not offered in the previous single-stream Blue Box program. The introduction of the expanded curbside recycling program involved the use of a new Yellow Box to segregate the container-stream (metal cans, plastic containers, etc.) and the Blue Box for the fibre-stream (box board, cardboard, and paper) in an alternating week collection schedule.

The new Yellow Box was sized to 23-gallons to accommodate the quantity of containers generated by one household in a two week period, as determined in a set out study (Attached.) The initial blue, yellow and green bins are provided to each residence at no cost to the taxpayer. In addition, one replacement bin is provided free-of-charge per household with additional bins available for purchase on a cost-recovery basis.

The Town of Perth's new waste management program, of which CIF 255 was an important part, embraced a number of Best Practices, including:

1. Consolidating all curbside waste services into one contract with one contractor (weekly organics, alternate week fibre/container recycling, and bi-weekly garbage).
2. Adopting an extensive, professionally implemented P & E program guided by a P & E Strategy (Appendix 3).
3. Creating and adopting a Town of Perth Recycling Strategy (Appendix 4).
4. Encouraging diversion through bag tags (40 "free" per year, \$2.50 each for extras) and lift limits (6 set-outs per collection).
5. On-going monitoring of tonnages as well as periodic composition and set-out studies.

The cost to complete the project was budgeted at \$ 73,000. The Town of Perth was approved up to \$36,500 funding from the Continuous Improvement Fund. The new tender resulted in reduced costs compared to the previous system.

For further information about the project, please contact Alfred von Mirbach, REIC, [alfred@ecoperth.on.ca](mailto:alfred@ecoperth.on.ca) or Jamie McCarthy, Engineering Technologist, Town of Perth at [jmccarthy@perth.ca](mailto:jmccarthy@perth.ca).

### 3. Background: recycling program overview

PRIOR TO IMPLEMENTATION	POST IMPLEMENTATION
Single stream utilizing only 18 gallon blue bins	Two stream system, utilizing both existing blue bin and new 23 gallon yellow bin for container collection
Weekly garbage pickup	Bi-weekly garbage pickup
Green bins (organics) picked up weekly	Green bin pickup weekly
Two waste collection contractors (garbage/organics and recycling)	Single contractor for all households resulting in reduced costs to municipality
	Blue, yellow and green bins provided to residents on a cost-recovery basis after initial distribution to each household.
Basic recyclable materials accepted	Addition of poly-coat and tetra pak as well as wide-mouth tubs and lids.

The multi-residential program was also expanded, thanks to another CIF-sponsored project.

### 4. Project Scope

The project scope included five main goals:

- **Goal 1:** Increase recycling diversion rate (percentage of available recyclables captured in blue and yellow boxes)
- **Goal 2:** Decrease net recycling costs.
- **Goal 3:** Increase materials accepted in recycling program at curbside to add to lifespan of the landfill.
- **Goal 4:** Provide promotional and educational material to residents.

Each of the objectives is discussed in the following sections:

#### 4.1 Goal 1: Improve recycling diversion rate:

The goal was to increase the recycling diversion rate (percentage of available recyclables captured in blue and yellow boxes) from 71% to 80% by end of 2011. These percentages were taken from the WDO Recycling Rate based on datacall information submitted by the municipality annually.

As seen in the WDO spreadsheets under Municipal Funding on the WDO website [www.wdo.ca](http://www.wdo.ca), the Town of Perth has gotten very close to the target that we set out for the new recycling program. In 2009 the municipality had a Recycling Rate of 71.2% and in 2010 we were able to achieve a 79.9%, therefore, meeting our goal of an 80% recycling rate increase.

Below is a comparison of annual tonnages pre and post change to alternating week fibre/container with larger boxes (and added materials), Curbside Green Bin and Waste Collection tonnages.

**Table 4.1.1: Comparison of Annual Tonnages 2009 vs. 2010**

Total Curbside Item	Total Curbside Waste 2009		Total Curbside Waste 2010	
	Tonnes	%	Tonnes	%
Recycling	477	30	540	33
Green Bin	350	22	314	19
Waste	781	49	796	48
Total Curbside Material Collected	1608	100	1650	100

Due to the project being introduced in June of 2010 the quantities for 2010 represent 6 months of the new program. It can be seen in the table above that there was an increase of 62.8 tonnes or 13.2% of recycling from 2009 to 2010.

#### 4.2 Goal 2: Decrease recycling costs

Recycling costs decreased due to elimination of a second contractor for multi-residential pickup and the reduction of garbage pickup from weekly to bi-weekly. The total cost for curbside services decreased after the implementation of the new program/service.

In the table below the total costs from 2009 to 2010 decreased due to the change of recycling contractors in the middle of 2010. The Town of Perth went from two (2) contractors (One for garbage and

compost and the other for recycling) to one (1) contractor completing all curbside waste collection. In 2009, the net cost to run the program was \$195,558 and compared to the net cost in 2010 of \$138,056 a decrease in net cost of \$57,502 can be viewed.

The municipality has set a goal to maintain this decreased cost saving and hopefully will see further reductions in overall cost to the program.

**Table 4.1.2: Comparison of Annual Net Costs for Recycling Services 2009 vs. 2010**

Year	Cost
Net Cost 2009	\$ 195,558.00
Net Cost 2010	\$ 138,056.00

#### **4.3 Goal 3: Increase materials at curbside**

The goal was to increase materials accepted at curbside to add to the lifespan of the Perth landfill site. The enhanced recycling program includes acceptance of containers including:

1. Milk and juice gable end cartons
2. Juice and drinking boxes (e.g. "tetrapaks")
3. Wide mouth plastic dairy containers (#5 and #6)

There was also acceptance of additional types of fibre to the existing blue box program. These measures have helped to decrease tonnes of waste disposed at landfill, thus extending the life of the facility and meeting the goal.

#### **4.2 Goal 4: Promotion and education**

The CIF Best Practice Guidelines recommends that municipalities take responsibility for providing promotional and educational materials to residents. This goal was met by:

1. Kendrew Distribution Services Limited distributed approximately 2500 yellow bins to residential areas of Perth on May 2010. Each delivery package contained 1 yellow recycling container and 1 plastic-wrapped promotional package. The delivery package included a newsletter, recycling calendar, "What Goes In" list and yellow bin.

2. Two Open Houses were held for local residents and industry representatives
3. Notices appeared in local print and radio media promoting the rollout. Subsequently, notices appear in the local media with tips and updates on the program.
4. Free recycling containers and promotional materials were provided to three (3) local elementary schools for the eco-school programs.
5. A series of 30 second radio spots were aired by the local radio station Lake88 pre-launch, during and post-launch.

The table below shows the different types of P&E material that the municipality used to get the message out about our recycling program changes.

**Table 4.1.3: Summary of Promotion & Education Materials Used**

Method of distribution	Promotion & Education component
Print	Newsletters, program brochure and recycling schedule
Mail	Recycling calendar, schedule and What Goes In Container list.
Radio	30 second radio spots
In-Person	Open House
School Programs	Material and containers provided to local elementary school recycling programs

The Town of Perth continually sends out P&E material to help keep the taxpayers on the right track with regards to recycling. The use of print, mail, telephone and internet are heavily used throughout each year to assist the public with the any question that they may have concerning the curbside waste program.



## 5. Project schedule and budget

**Table 5.1 Project schedule, planned and actual**

Project Deliverables	Approved Payment (upset limit)	Percent	Expected Completion Date	Completion Date
Copy of Communication Plan	500	1	April 2010	September 2010
Copy of Integrated recycling plan	1000	3	April 2010	January 2011
Set out study Report	500	1	May 2010	May 2010
Promotion and Education Material Development and Distribution	5000	14	May 2010	June 2010
Bin Distribution and public space bins	19375	53	June 2010	June 2010
Waste Recycling Plan	1000	3	July 2010	Jan 2011
Submit final report	9125	25	Sept 2010	December 2012
<b>CIF Funds Requested</b>	<b>\$36500</b>	<b>100</b>		

The budget for Project #255 was \$73,000 which was to be funded 50% by CIF. The actual amount spent on the project is \$45,763 to date. The Town of Perth therefore will receive funding for 50% which is \$22,881.50.

## 6. Concluding comments

Best Practices Followed:

Following generally accepted principles (GAP) for effective procurement and contract management, the municipality optimized the operations in collections and processing:

- New tender compiled Multi-Residential and Residential into one tender at a reduced cost.

Multi-municipal planning approach to collection and processing of recyclables:

- Made use of Carleton Place hazardous waste depot in summer.
- Investigated co-use with Smiths Falls regarding compost at Perth Landfill.
- Assisted Smiths Falls in replicating yellow and blue box program. Other Lanark and Leeds Grenville municipalities are considering following suit.
- Joint purchase with Smiths Falls for yellow boxes.

Development and implementation of an up-to-date plan for recycling as part of an Integrated Waste Management Plan:

- Created Waste Recycling Strategy for Town of Perth.
- Increased number and type of recyclables accepted.

Appropriately planned, designed and funded promotion and education program.

- Created Promotion and Education Plan and distributed materials, held open house, used radio and newspaper ads, placed notices on website.

Established and enforced policies that include waste diversion including:

- Created Waste Recycling Plan for Town of Perth.
- Purchased new special events recycling containers.
- Purchased new downtown BIA recycling containers.

In conclusion, the project goal of increased waste diversion rates by enhancing the current residential recycling program has been an overwhelming success. By following the best practices recommended by WDO and CIF the Municipality has increased the type and quantity of recyclables diverted from the Town of Perth Landfill site. Because the present service is well-run and participation is high, there are only a few recommendations for improvements in future. One suggestion would be the participation in a multi-municipal tendering process to help reduce costs

when the current contract expires in 2015. Also, for local municipalities such as Smiths Falls and Carleton Place, a multi-municipal process for purchasing recycling boxes would help reduce shipping costs which are the result of relatively small-quantity purchases.

By continuing to follow the practices already implemented and by recognizing any opportunities for improvement, the Town of Perth should be able to utilize its present landfill site for many years.

## **7. Appendices**

Appendix 1	PDF YellowBox Setout Study for Perth
Appendix 2	Examples of P & E Materials
Appendix 3	Photos – Special Event Recycling Bin
Appendix 4	PDF Promotion and Education Plan Town of Perth
Appendix 5	PDF Waste Recycling Strategy Town of Perth

## **Report**

### **2011 YellowBox Setout Study for Perth**

*for Town of Perth*

*prepared by Alfred Von Mirbach, REIC Perth*

*November 29, 2012*

On May 11<sup>th</sup>, 2011, I conducted a one day set-out study of 100 houses in the south-east section of Perth. It was conducted by going just ahead of the regular recycling truck driver and noting if there were one or more YellowBoxes at 100 consecutive residential addresses, and if so how full each box was, estimating in one/quarter box increments.

The study found the following:

- 76% of households set out at least some YellowBox (container) recyclables
- On average, including houses that set out nothing, a residential setout consisted of just under three-quarters of a box
- The average size of actual setouts (ignoring households that did not put out any recyclables), is just under a full box
- 14% of actual setouts use more than one box

Perhaps the most relevant finding, however, was that over 54% of setouts were obviously contaminated, meaning, even a quick glance would clearly show that the home-owner had contained materials. Most of these contaminants are materials that are not currently recycled in our program. Many boxes had high levels of contamination, sometimes including things such as broken power drills, bags of pure expanded polystyrene and other clearly non-recyclable items. It is worth noting that currently, the driver has been instructed to just pitch everything in the hopper, and let the contamination get sorted out at the Material Recycling Facility (MRF). I assume the contractor has concluded that it is more cost-effective to remove contaminations at the MRF rather than slow down the collection driver by having him leave any contaminants in the YellowBox together with a problem card, as specified in the contract

The problem with this is that it miss-educates Perth residents regarding what items are in fact recyclable and not recyclable. Because the driver is accepting all kinds of plastic, including foam and film, residents now believe those materials are acceptable, and continue to put them in the YellowBox, and possibly tell other people that those materials are OK to go in the YellowBox.

## Appendix 2 Examples of P & E Materials

**CAN'T GIVE IT AWAY?  
RECYCLE IT.**



To see what's recyclable, where to drop off items and when other collection events are coming to your neighbourhood visit:  
[recycleyourelectronics.ca](http://recycleyourelectronics.ca)

**OES**  
Ontario Electronics Stewardship

For residents of the Township of Beekville, Town of Collingwood, Township of Cummer, North-Elmley, Township of Muskoka Highlands, Township of Montserrat, City of Perth, Town of Smith Falls and The Township of Tay Valley.

Space provided through a partnership between industry and Ontario municipalities to support waste diversion programs.



**Heritage  
PERTH**

**[www.PerthRecycles.com](http://www.PerthRecycles.com)**  
**613 267-3311**



**Diversion is Making a Difference!**

**We Recycle. We Compost. We Care.**

**Perth's Integrated Waste Management System**



**Making Perth's Landfill Last Longer**

Your participation in Perth's Recycling and GreenBin programs, combined with big changes in how the landfill site is managed and what non-residential materials are accepted, has made a HUGE difference. In 2005, over 20,000 tonnes of waste, cover, clay, and fill went into the Perth Landfill site. In 2009, that figure dropped to just under 8,000 tonnes.

**Congratulations Perth for getting into your GreenBins!** The GreenBin program is currently diverting 400 tonnes a year from the landfill, turning it into valuable compost. Another 250 tonnes of leaf and yard waste is also diverted and composted each year.

**The YellowBox – The next step in recycling!** Starting June 1st, 2010, Perth will accept more materials in the curbside recycling program, and switch to a simple alternate week Container/Fibre program. You will put out all your containers in the new YellowBox one week, and all your fibres in your existing BlueBox the other week.

**BlueBox Recycling**  
(Fibres)



**The BlueBox is for Fibre and Papers**  
Residents of Perth have done such a great job of recycling that some find one box is not enough for all the items. So, we have introduced a YellowBox to take drink cartons and dairy containers.

The BlueBox will still take the rest of the items such as newspapers, egg cartons and boxboard. *See over for a list of acceptable items.*

This new system will be more efficient and cost-effective. We are converting to a two-stream system, with fibres (paper, boxboard and cardboard) and containers (cans, bottles, jars, tubs, and drink cartons) to be picked up on alternating weeks.

**YellowBox Recycling**  
(Containers)



**New Integrated Waste Management System for Perth – Diverts More – Costs Less**  
Every container can be recycled into new and useful products. So, why add these to our landfill? We now have a great new program for those unwanted milk, juice and soup cartons, along with wide-mouth plastic dairy containers – the YellowBox!

Just rinse, crush and add to your YellowBox. *See over for a list of acceptable items.*

**Stomp**  


**Crush**  


**Stack**  


**NO film plastic (bags & cellophane) Please!**

Curbside YellowBox and BlueBox Recycling Collection will take place on alternate weeks. Remember to place your YellowBox, BlueBox, GreenBin and Garbage at the curbside by 7:00 am on the day of collection.

[www.Perth.ca](http://www.Perth.ca) or 613-267-3311
Thanks for doing your part.
[www.Perth.ca](http://www.Perth.ca)
613-267-3311



## BlueBox Recycling For fibres



### The BlueBox is for Fibre!

Only put **PAPER** products in the BlueBox. All box-board & corrugated cardboard should be flattened, no larger than 2 ft x 4 ft, tied for easy handling and leave next to the BlueBox.

BlueBox collection alternates with YellowBox.

### What goes in

- Backboard (cardboard boxes, rolls from paper towels and toilet tissue, shoe boxes, tissue boxes)
- Soft & hard cover books
- Telephone books
- Corrugated cardboard (flattened/bundled)
- Detached boxes
- Egg cartons (paper)
- Kraft (brown) paper bags
- Magazines, catalogues, junk mail & office paper
- Newspapers and flyers (plastic bags removed)
- Pizza boxes (clean)

### DON'T put in

- Soiled paper
- Pizza boxes with food residues on them
- Plastic egg cartons
- Reports with plastic spines
- Waxed cardboard

See other side for YellowBox info...



www.Perth.ca or 613 267-3311



## YellowBox Recycling For containers



### The YellowBox is for Containers!

Only put **containers** in the YellowBox. Items should be clean, crushed and flattened for easy handling.

YellowBox collection alternates with BlueBox.

### What goes in

- Glass bottles & jars (and lids)
- Metal cans (steel and aluminum)
- #1 and #2 small-mouth screw-top food & drink containers
- Aluminum trays & foil (clean)
- Empty metal paint cans (dry, lids removed)
- Gable and milk & juice cartons
- Juice and soup boxes (e.g. tetra-pak)
- #5 and #6 wide-mouth dairy containers

### DON'T put in

- Film plastic (bags & cellophane)
- Polystyrene (e.g. Styrofoam trays & cups)
- Paper coffee cups
- Coffee and drink cups
- Clear or black plastic trays or boxes
- Plant pots and trays
- Containers that hold hazardous products

See other side for BlueBox info...



www.Perth.ca or 613-267-3311



We Recycle. We Compost. We Care.

## Perth's Curbside Diversion Program



### The YellowBox is for Containers!

#### What goes in

- Glass bottles & jars (and lids)
- Metal cans (steel and aluminum)
- #1 and #2 small-mouth screw-top food & drink containers
- Aluminum trays & foil (clean)
- Empty metal paint cans (dry, lids removed)
- Gable and milk & juice cartons
- Juice and soup boxes (tetra-pak)
- #5 and #6 wide-mouth dairy containers

#### DON'T put in

- Film plastic (bags & cellophane)
- Polystyrene (Styrofoam trays & cups)
- Paper coffee cups
- Coffee and drink cups
- Clear or black plastic trays or boxes
- Plant pots and trays
- Containers that hold hazardous products

### The BlueBox is for Fibre!

#### What goes in

- Backboard (cardboard boxes, rolls from paper towels and toilet tissue, shoe boxes, tissue boxes)
- Soft and hard cover books
- Telephone books
- Corrugated cardboard (flattened/bundled)
- Detached boxes
- Egg cartons (paper)
- Kraft (brown) paper bags
- Magazines, catalogues, junk mail & office paper
- Newspapers and flyers (plastic bags removed)
- Pizza boxes (clean)

#### DON'T put in

- Soiled paper
- Pizza boxes with food residues
- Plastic egg cartons
- Reports with plastic spines
- Waxed cardboard

### The GreenBin is for Kitchen Waste!

#### What goes in

- Any type of food:
  - Meat, bones, dairy
  - Vegetables, onions
  - Broths, fruit, nuts
  - Egg shells, etc.
- Sealed paper products:
  - Paper towels, tissues
  - Sealed pizza boxes
  - Coffee filters, tea bags
- Kitty litter and pet waste

**PLEASE** absolutely no plastics, even bio-degradable and compostable ones!

#### DON'T put in

- Plastic bags
- Any plastic or metal (barrel-lid)
- Jokes
- Drinking cups
- Motor oil
- Break & yard waste

Items should be clean, crushed and flattened for easy handling.

www.PerthComposts.com or 613-267-3311



## CURBSIDE CHRONICLES

Volume 5

May 2011



### Recycling Pays

Did you know that the Town receives over \$100,000 in revenue each year from the sale of the recyclable material collected from our YellowBox and BlueBox recycling program? That is in addition to the over \$50,000 annually the Town receives from Waste Diversion Ontario. So yes, it DOES make sense to recycle!

### ALL Garbage Collection is now on THURSDAY

Our diversion programs have been so successful, thanks to you, that our contractor can now collect ALL garbage with one truck on one day, so starting in June, Friday collections have been dropped. There are now just two collection zones, NORTH and SOUTH. See the map and check out the calendar inside.

**IMPORTANT NOTE:** Your 2011/2012 Collection Calendar is inside. Please keep it handy.



### Waste Management Open House

Wednesday May 4  
6:30 to 8:00 pm  
Council Chambers, Town Hall, Perth

Perth is currently working on a Waste Management Strategy to guide future activities with respect to garbage, recycling, organics diversion, and waste reduction and reuse. We need YOUR input, so please... come out to this Open House and let us know what you think. If you can't make it to the meeting, please fill out our short on-line survey at [www.PerthComposts.com](http://www.PerthComposts.com).

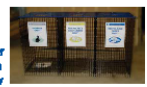
### Apartment Building Recycling Expands



Perth staff have been working with building owners and managers to implement effective recycling programs, and most have risen to the challenge. The Town is providing low-cost large recycling carts, as well as reusable recycling bags for each apartment unit and apartment-specific promotional materials. If your building is not yet part of this program, let your building owner or manager know that you want to be part of the solution too, and have them contact the Town.

### Special Event Recycling

Also new for 2011 are our Special Event Recycling Bins, for use at festivals and other community events. If you are involved with a festival or event and would like to borrow these convenient portable recycling bins, please contact the Town.



www.PerthComposts.com or 613-267-3311



### Appendix 3 Photo – Special Event Recycling Bin

BIA Special Use Recycling Bins 1

