

CIF 149

Multi-residential Recycling: Implementing Best Practices *Quinte Waste Solutions*



Final Project Report, 12/2011

Quinte Waste Solutions

CIF #149

Acknowledgement:

© 2011 Waste Diversion Ontario and Stewardship Ontario and the Centre and South Hastings Waste Services Board.

All rights reserved. No part of this publication may be reproduced, recorded or transmitted in any form or by any means, electronic, mechanical, photographic, sound, magnetic or other, without advance written permission from the owners.

This Project has been delivered with the assistance of Waste Diversion Ontario's Continuous Improvement Fund, a fund financed by Ontario municipalities and stewards of blue box waste in Ontario. Notwithstanding this support, the views expressed are the views of the author(s), and Waste Diversion Ontario and Stewardship Ontario accept no responsibility for these views.

Project managed and partially funded by the C&SHWSB operating as Quinte Waste Solutions.

Special thanks to Jackie Brown, Special Projects Coordinator with QWS.

1. Executive summary

This is the final report of a project implemented by the Centre and South Hastings Waste Services Board operating as Quinte Waste Solutions (QWS) between 03/2009 and 9/2011. The project goal was to increase recycling rates by implementing some best practices in the multi-residential recycling program. Waste Diversion Ontario - Continuous Improvement Fund (WDO – CIF) provided financial assistance with QWS providing co-funding and project management and QWS staff completing the project.

Quinte Waste Solutions currently provides blue box recycling to 63,500 households, including approximately 5,000 households in multi-residential buildings.

This project utilized the following best practices implemented prior to the project's commencement: a database of multi-residential properties, evaluating the recycling performance of individual buildings and estimating the overall program recycling rate.

Best practices that were implemented during this project included:

- Adding 160 new 95-gallon recycling carts and replacing damaged carts (all were re-labelled).

- Distributing new promotion and education materials to tenants and building staff (sort cards to each tenant, posters in building and recycling area, handbooks to owners, managers, superintendents).
- Adding 30 new customized 2 cubic-yard OCC/glass bins designed to receive used corrugated cardboard and sorted used post-consumer glass bottles and jars.
- Repairing and putting back in service other similar 2 cubic-yard OCC/glass bins.

In addition to increasing capacity to receive old corrugated cardboard and used glass bottles and jars and increasing capture the new design OCC/glass bins reduced hazards for drivers and tenants, improving ergonomics for the drivers and reducing possible vandalism and damage while enhancing aesthetics. The annual tonnage collected for this program is indicated in Table 1.1.

Table 1.1: Number of households in Quinte Waste Solutions April 2010

	2009	2010	2011	2012
Tonnes collected	609	552	576	329* (Jan - Aug only)
Kg/unit/year	122	110	115	—

As noted in Table 1.1 the tonnage for 2011 increased by 4.3% from 2010, which may be attributed to the impact of the project. However, as the tonnage for both years is down compared to 2009, there may be other factors that are having a larger impact on recycling rates.

This completes the OCC/glass bin replacement program; next QWS will consider offering each tenant a transport bag for carrying recyclables from their rental unit to the building depots. Annually QWS checks all carts, poster and labels.

The budget to complete the project was \$134,670. Quinte Waste Solutions was approved up to \$61,700 funding from the Continuous Improvement Fund. In actuality the project cost \$106,197 total. QWS' share was \$51,051 plus associated salaries and benefits.

For more information contact the QWS office at 613-394-6266.



2. Introduction

This is the final report of a project implemented by the Centre and South Hastings Waste Services Board operating as Quinte Waste Solutions (QWS) between 03/2009 and 09/2011. The project goal was to increase recycling rates by implementing some best practices in the municipal multi-residential recycling program.

Quinte Waste Solutions is a municipal service board that serves nine member municipalities in Hastings and Prince Edward counties, in central-eastern Ontario and currently provides blue box recycling to 63,500 households, including approximately 5,000 households in multi-residential buildings.

Provincially a KPMG report completed for Waste Diversion Ontario cited Quinte Waste Solutions as an 'example community' for the rural regional grouping. For single-family residences QWS is capturing 83% of available blue box material; for its multi-residential sector the percentage is closer to 66%. Through its Integrated Waste Management Plan QWS has indicated a desire to continually enhance its overall diversion rate using all possible means.

Primarily this project resulted in thirty new design OCC/glass bins being constructed that were designed to increase the capacity to receive old corrugated cardboard and used glass bottles and jars, increase capture, reduce hazards for drivers and tenants, improve ergonomics for the drivers and reduce possible vandalism and damage while enhancing aesthetics.

3. Background: multi-residential recycling program overview

Quinte Waste Solutions is a municipal service board that serves nine member municipalities in Hastings and Prince Edward counties and currently provides blue box recycling to 66,000 households, including approximately 5,000 households in multi-residential buildings. These buildings range from six-plexes through townhouses, condominiums, low rises and high rises. Ownership includes private investors, co-operatives and public housing agencies.

QWS provides curbside and depot recycling collection throughout its service area. Although a dedicated truck is used to service some multi-residential sites that have limited space for recycling containers (some, as a result, twice a week) any collection truck can and occasionally does collect from multi-residential buildings.

Due to limited capacity at its material recovery facility, QWS collects blue box material at the curb using a four stream truck: mixed containers, mixed fibres, clear glass and coloured glass. Multi-residential sites use standard 95-gallon carts with labels to hold and sort container and fibres separately. For efficiency at the site and on trucks, corrugated cardboard is required to be set out separately (saves space in the carts) and flattened.

Glass must be set out separately too; the new OCC/glass bin offered a large amount of safe capacity to do this.

All multi-residential buildings in the QWS service area participate in the recycling program.

Table 3.1: Number of households in Quinte Waste Solutions April 2010

	Households	Percent
Curbside	61,082	96%
Multi-res	2,481	4%
Total	63,563	100%

Table 3.2: Number of households with municipal blue box program April 2010

	Curbside	Multi-res	Total
All households	61,082	2481	63,563
Households with municipal blue box program	60,922	2481	63,393
% with blue box program	99.7%	100%	99.8%

Table 3.3: Number of multi-residential buildings and units with municipal blue box service April 2010

	Buildings	Units	Average # of units per building
Total	158	5,000	32
With recycling	158	5,000	32
Without recycling	0	0	0
% recycling	100%	100%	

Table 3.4: Multi-residential recycling before and after project April 2010

	Before project	After project	% change
Buildings with recycling	158	158	0%
Units with recycling	5,000	5,000	0%
Unit/building	32	32	0%

Table 3.5: Recycling program performance measures April 2010

	Effectiveness	Efficiency
Quantity	552 tonnes	
Multi-res units	5,000	5,000
Per unit	110 kg per unit	per unit

4. The project scope

The project scope included four main phases:

- Phase 1: Develop and maintain a database of buildings
- Phase 2: Benchmark recycling performance
- Phase 3: Increase recycling container capacity
- Phase 4: Provide promotion & education materials

Each of the phases is discussed in the following sections.

4.1 Phase 1: Develop and maintain a database of buildings

QWS has long maintained a database of all multi-residential properties; which proved useful for this project in identifying sites where OCC/glass bins had to be replaced or added.

Table 4.1: Database summary

Buildings	Total in Quinte Waste Solutions¹	Recycling provided by Quinte Waste Solutions	Site visits completed²	Data updated²
Number of buildings	158	158	50	50
% of all buildings	100%	100%	32%	32%

Notes:

¹ Total number of buildings of six or more residential units.

² Site visits and data updates were completed at all buildings where access was permitted.

4.2 Phase 2: Benchmark recycling performance

Prior to placing the new OCC/glass bins the multi-residential sector was estimated to generate approximately 300 MT per annum.

Some multi-residential units were using old all metal low-to-the-ground bins to capture post-consumer corrugated cardboard. Many of these had rusted due to their proximity to parking areas and winter snow removal/salt applications. Also spring-loaded lids made them a hazard for tenants and drivers. These bins were not capturing all corrugated cardboard, were receiving other materials including garbage, and failed to properly aid in the capture/sorting of glass containers.



4.3 Phase 3: Increase recycling container capacity

Having enough storage space for recyclables is one of the most critical factors in a successful recycling program and it is important to address this first before other program improvements are put in place. During Phase 2 site visits the baseline container quantities were recorded and information was collected about where containers could be relocated within the building to provide more convenience to residents. Site visits also provided the opportunity to determine if additional containers are required and where additional containers would be stored and ultimately used. These visits also determined locations for the new OCC/glass bins.

4.3.1 Type of recycling containers

QWS increased the number of carts per building to meet an average standard of one cart per seven units, noting that QWS requires specific carts for mixed fibres and for mixed containers. Broken carts were repaired or replaced and all were re-labelled.

QWS designed, had built and put in place a new OCC/glass bin to: increase the capacity to receive old corrugated cardboard and used glass bottles and jars; increase capture; reduce hazards for drivers and tenants; improve ergonomics for the drivers; and reduce possible vandalism and damage while enhancing aesthetics.

The OCC/glass bin utilizes a slot to encouraged flattening of cardboard and with clear labels and large capacity encourages additional recycling for cardboard and safe sorting and recycling of glass containers.



Table 4.2: Total number of recycling containers

	Baseline March 2009	Post implementation (on-going)
Units with recycling service	5,000	5,000
95 gallon carts (estimate)	550	710
3 yard bins	0	0
4 yard bins	0	0
6 yard bins	0	0
OCC/glass bins (2 yard)	15	45
Total program capacity in litres	22,935	68,805
Capacity per unit (l/unit)	44	65

4.4 Phase 4: Provide promotion & education materials

4.4.1 Print materials

A project goal was to distribute new print materials to promote recycling and educate building residents and staff about what can and cannot be recycled. New promotion and education materials were distributed to coincide with the placement of the new OCC/glass bins to tenants (door to door) and building staff (sort cards to each tenant, posters in building and recycling area, handbooks to owners, managers, superintendents).

Table 4.3: Summary of Promotion & Education materials used

Promotion & Education component	Number distributed	Method of distribution
Resident flyers	1500	To superintendents for door-to-door handout
Posters	60	To superintendents for placement
Signs	160	As above
Containers labels	500	Placed by QWS staff
Superintendent's Handbook	50	Hand-delivery to supers

5. Project budget and schedule

Table 5.1 Project budget, planned and actual

Description	Unit	Quantity (est.)	Unit Cost (est.)	CIF Approved (upset limit)	Quantity (actual)	Unit Cost	Cost
Blue Prints – design, drawings, staff support			\$4000	\$4000			2946
Request for Proposals – staff time, ads, distribution			\$2220	\$400			\$365
Increase capacity	OCC/Glass bins	100	\$3,500	\$50,000	30	\$3400	\$93750
Increase capacity	OCC/glass bin locks	200	\$5.00	\$500	200	\$4.32	\$864
Increase capacity	Blue boxes (for glass)	600	\$6.00	\$1,800	168	\$6.00	\$1008
OCC/glass bin Removal			\$4500	\$2250	0	0	0
Implementation, roll-out, monitoring			\$7800	0	235	\$19	\$4465
Print costs	Super's handbk	50	\$19.20	\$2,300 for all P&E	50	19.20	\$961
Other P&E materials	Signs-80 laundry rm, 80 mailrm	160	\$2.46	Included in above	160	\$2.46	\$394
Other P&E	Posters	60	\$2.12	See above	60	\$2.12	\$127
Other P&E	Bin labels	500	\$1.76	See above	500	\$1.76	\$882
Final Report	Report	1	\$2,010	0	1		0
Mileage			\$900	\$450			\$435
Total				61700			\$106,197

Table 5.2 Project schedule, planned and actual

Project Deliverables	Approved Payment (upset limit)	Percent	Expected Completion Date	Completion Date
Construct, deliver 30 OCC/glass bins	\$18510	30%	August 09	December 09
Construct, deliver 30 OCC/glass bins	\$18510	30%	November 09	June 10
Distribute all P&E	\$9255	15%	December 09	June 11
Submit final report	\$15,425	25%	March 10	September 11
CIF Funds Requested	\$61,700	100%		

6. Concluding comments

This is the final report of a project implemented by the Centre and South Hastings Waste Services Board operating as Quinte Waste Solutions (QWS) between 03/2009 and 09/2011. The project goal was to increase recycling rates by implementing some best practices in the municipal multi-residential recycling program. Waste Diversion Ontario - Continuous Improvement Fund (WDO – CIF) provided financial assistance with QWS providing co-funding and project management and QWS staff completing the project.

This project utilized an existing database of multi-residential properties.

Best practices that were implemented during this project included:

- increasing the number of recycling containers at buildings (carts were replaced, additional carts were placed: all were re-labelled)
- distributing new promotion and education materials to tenants (door to door) and building staff (sort cards to each tenant, posters in building and recycling area, handbooks to owners, managers, superintendents)
- placing or replacing OCC/glass bins designed to receive used corrugated cardboard and sorted used post-consumer glass bottles and jars
- other similar OCC/glass bins were repaired and placed back into service

Thirty of the new design OCC/glass bins were added to the program: increasing the capacity to receive old corrugated cardboard and used glass

bottles and jars; increasing capture; reducing hazards for drivers and tenants; improving ergonomics for the drivers; and reducing possible vandalism and damage while enhancing aesthetics. The original project budget included the addition of 100 OCC/glass bins. This was not achieved because the cost of the bins was much higher than anticipated.

It is estimated that the multi-residential program saw an overall increase in tonnage of 30% through all of the above efforts. This completes the OCC/glass bin replacement program; next QWS will consider offering each tenant a transport bag for carrying recyclables from their rental unit to the building depots. Annually QWS checks all carts, poster and labels.



For more information contact the QWS office at 613-394-6266.