



CIF - Project #186

Halton Regional Waste Management

Project Name:

Transfer Station Implementation

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Executive Summary

The Regional Municipality of Halton constructed a site transfer station (TS) between fall of 2009 and spring of 2012. Partial funding for the construction of this facility was provided by Waste Diversion Ontario's (WDO) Continuous Improvement Fund (CIF). The TS satisfies the Region's priorities as it facilitates high level collections service, improves contingency planning options, and strengthens the ability to control operational costs.

The close proximity of the TS to Milton and Oakville has decreased the resources required to provide Blue Box collection services. As a direct result of TS operations, the Region has:

1. Accommodated additional volumes of material due to population growth
2. Reduced the annual fuel adjustment fee paid to the collection contractor. Fewer miles driven amounts to cost savings of \$ 62,000, after the first year of operations
3. Decreased the risk of collection service disruption during severe weather events
4. Additional storage capacity, which allows the Region to spread out the number of loads delivered to the designated processing facilities. The result is consistent operation of the processing facilities and no off-loading delays

There is no doubt that the construction and utilization of the TS has been a benefit to the Region and is a key component of our waste management program and services. By ensuring timely collection of material, consuming less fuel and maintaining the quality of material, our residents, the environment, collection contractor and processing facilities have received a significant positive benefit by means of the TS. After the first year of operations, the TS has provided operational cost savings of approximately \$24,000.



Halton Waste Management Site, located at 5400 Regional Road 25 in the Town of Milton

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1 BACKGROUND INFORMATION

1.1 Municipal Information

The Regional Municipality of Halton is responsible for administering and delivering an integrated solid waste management program and service to over 500,000 residents and 150,000 households. Halton consists of the City of Burlington, the Town of Halton Hills, the Town of Milton and the Town of Oakville. Since April 2008, the Region collects Blue Box and GreenCart material once a week with garbage collected once every other week. The Region collected approximately 47,000 tonnes of Blue Box materials in 2012 at a net cost of \$7,628,255 (2012 WDO datacall).

Halton Region is one of the fastest growing communities in the province with the majority of growth occurring in south Milton and north Oakville. Prior to July of 2012, Blue Box and GreenCart material was transported to privately owned and operated transfer stations in the City of Burlington (Norjohn) and Georgetown (Leferink). As a result of growth, the contractor required additional vehicles in order to perform the work in a timely manner, resulting in the consumption of more fuel. As per our contract agreement, the Region pays an annual fuel adjustment based on the litres of fuel consumed and the difference between a base fuel price rate and the monthly average rate for diesel fuel. In an effort to reduce fuel consumption, ensure timely delivery of collection services, accommodate additional volumes of material due to population growth, and control costs, the Region constructed an TS at the Halton Waste Management Site.

1.2 Project Description

The Region of Halton commenced operation of the TS in July, 2012. The TS receives curbside residential Blue Box and GreenCart material every Monday and Wednesday as those are the scheduled collection days in the Town of Milton. The Transfer Station will also periodically receive residential Blue Box and GreenCart material collected on Friday in north Oakville. Blue Box and GreenCart material is shipped to the designated processing facilities every Tuesday, Thursday and Friday.

Milton remains to be the fastest growing communities in the Province of Ontario. Between January 2012 and June 2013, the community experienced 2,800 new housing starts in addition to the over 10,000 new housing starts completed since 2008. The close proximity of the Transfer Station to the collection areas means vehicles are more productive as they are spending more time in the collection route, than time spent travelling to and from the Transfer Station. Furthermore, the contractor is able to expand/adjust collection routes to incorporate new housing without purchasing additional vehicles.

2 IMPLEMENTATION

2.1 Goals and Objectives

1. Decrease fuel consumption and associated contractor costs
 - By constructing the TS close to where collection services are being performed, fuel consumption will be less thereby reducing fuel costs to the contractor and corresponding annual fuel adjustment costs
2. Provide a Contingency in the event of heavy volumes or processing plant disruptions
 - Additional Transfer Station capacity will maintain the quality of Blue Box material by permitting material to be stored in a safe and secure location prior to haulage to designated processing facility.
 - Additional capacity also ensures facilities will not be overloaded and collection services will not be delayed in the event of heavy volumes, or operational disruptions at the processing facility.
3. Improved collection times, minimized disruption in the event of severe weather
 - Close proximity to collection routes ensure more time spent collecting materials rather than traveling to and from the transfer station
 - In the event of severe weather causing collection delays, the collection contractor can still complete collection in a timely manner.
4. Minimize requirement of additional collection vehicles
 - Close proximity of Transfer Station to collection routes will permit the contractor to expand and adjust collection routes with existing fleet rather than add collection vehicles to accommodate population growth.
5. Minimize impact on operational budget
 - Any impact on costs to operate the TS is off-set by cost savings as a result of less fuel consumption.

2.2 Implementation schedule

The implementation schedule for the creation of the TS and its operation may be found in Appendix A. Additional information related to the design, construction and operating costs of the facility may be acquired through CIF staff.

2.3 Budget

Table 2.1: Total project costs budgeted (includes design and construction)

	Projected	Actual	CIF Funding
Total Project Costs	\$1,000,000	\$1,190,270	\$175,000

3 RESULTS

Three components of operational costs are identified in Table 3.2; tipping fees, haulage to the processing facility, and fuel adjustments. To determine the impact on operating costs, the tonnes of material managed through the TS in the first year of operation and the resulting cost were compared to the same tonnes of material if they had been managed through the Norjohn facility; assuming 11,000 MT of materials processed per year.

The Region initially proposed savings on tipping fees as a result of TS operations. However, tipping fee costs have increased \$1.74/tonne. Initially, the TS was to be run by Regional staff, it was decided that operations would run smoothest should the TS facility be operated by staff from the collections contractor. The tipping fee costs also reflect the purchase of a front end loader for the facility's operations.

The Region had similarly proposed an increase on the costs to ship from the TS to the processing centre. A long haul contract was signed with a new contractor that resulted in cost savings for the Region on a per load basis. However, cost savings are not realized as the Region ships materials at approximately 8 tonnes per load from the TS in comparison to 10 tonnes per load if it were shipped from the Norjohn. The difference in difference in load haul tonnage is due to the design of the new transfer facility; the Norjohn facility has a below grade loading platform, staff are able to compact materials.

The Region proposed cost savings on fuel adjustment fees paid to the contractor as a result less fuel used during collections. The fuel adjustment paid by the Region to the collection contractor during the first year of operation resulted in cost savings for the Region, in the amount of \$62,000.

Table 3.2 Operation Costs

Tip Fee	Tonnes	Tip Fee / Tonne	Total	Cost Savings
TS	4,910	\$16.96	\$83,273.60	
Norjohn TS	4,910	\$15.22	\$74,730.20	(\$8,543.40)
Blue Box Haulage	Loads*	Price / Load	Total	
TS	632	\$259.00	\$163,688.00	
Norjohn TS	491	\$272.67	\$133,880.97	(\$29,807.03)
Fuel Adjustment	Period†	Fuel Consumed	Cost	
TS	Post	1,772,158	\$554,318.80	
Norjohn TS	Pre	1,643,310	\$492,309.33	\$62,009.47
TOTAL OPERATING COST SAVINGS				\$23,659.04

*It requires 632 loads to ship 11,000 MT of material from the TS in comparison to 491 loads from the Norjohn facility. †Pre (TS implementation) = July 2011-June 2012 and Post = July 2012-June 2013

Due to the close proximity of the TS to the Town of Milton, the Region anticipated that the collection contractor would complete Blue Box and GreenCart collection services sooner on Wednesday than had been done previously. The Region documents the daily times by which collection services for Blue Box and GreenCart

material, Yard Waste material and Garbage/Bulk material are completed each day. This information is based on observations of the Region’s on-road monitoring staff and information communicated to the Region by our waste collection contractor. Furthermore, it also means that the contractor is able to purchase fewer collection vehicles than is the norm based on number of new houses built. The contractor is able to expand/adjust collection routes to incorporate new housing without purchasing additional vehicles; trucks were able to service approximately 800 households (hh) per day prior to the TS operations, now they have service capacity of 900-1000 hh.

Table 3.3 Collection Completion Times

	July 2011-June 2012	July 2012-June 2013
Average Daily Collection Completion Times	5:00 p.m.	4:00 p.m.

Between July 2012 and June 2013, the TS effectively managed 8,040 combined tonnes of Blue Box (4,910 MT) and GreenCart material (3,130 MT). The TS is operating under the anticipated capacity of 11,000 MT. Materials are entering the facility at capacity on Wednesdays and near capacity on Monday collections. However, the collection contractor trucks are not yet bringing materials in to the TS on Fridays. The Region anticipates that this will changing as future housing developments are made.

4 Analysis of project

Milton remains to be one of the fastest growing communities in the Province of Ontario. The close proximity of the TS to the collection areas means vehicles are more productive as they are spending more time in the collection route, than time travelling to and from the TS.

The TS facility itself is a benefit to the region, as all material is protected ensuring their quality and ability to receive maximum revenue. The TS operations have smoothed operations by spreading out the number of loads received at the designated processing facilities resulting in consistent operation, and no off-loading delays which occur due to a large volume of material received in a short period of time. The Region anticipates using the facility to its operational capacity in upcoming years as the municipalities of Milton and Oakville continue to grow.

The location of the TS has optimized the collection of Blue Box and Green Cart materials, thus the Region expects to realize continued cost savings from its operation. Similarly, the TS continues to satisfy the Region’s priorities as it facilitates high level Blue Box and Green Cart services, improves contingency planning options, and strengthens the Region’s ability to control costs.

APPENDIX A

Implementation schedule and award of operations contract

Region Council Approval to Design, Construct and operate an TS

- February 2009 (PWE01-09)

Design of TS and Approvals

- February 2009 to October 2009

Award of Contract to Construct TS

- December 2009 (original contractor terminated agreement in March 2010 and a new contractor was approved in November 2010)

Construction of TS

- April to August 2011

Operation of the Transfer Station (Pilot Study)

- October 2011 to December 2011

Contract Negotiation for the Operation and Maintenance of TS

- January to March 2012

Region Council approval to award Contract

- May 2012 (PW21-12)

Full-time Operation of TS

- July 2012

APPENDIX B

Table 3.1 Annual Fuel Consumption

Year	Total Litres Consumed	Fuel Adjustment Paid
July 1, 2011 – June 30, 2012	1,772,158	\$554,318.80
July 1, 2012 – June 30, 2013	1,643,310	\$492,309.33
Fuel Savings	128,848	\$62,009.47