



THE CORPORATION OF THE MUNICIPALITY OF RED LAKE

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**FINAL REPORT AND PROJECT EVALUATION
FOR THE IMPLEMENTATION OF MUNICIPALY HAULED RECYCLABLES
TO WINNIPEG MANITOBA
AT
BALMERTOWN WASTE DISPOSAL SITE**

CIF #921 and 453
March 4, 2016
The Corporation of the Municipality of Red Lake
PO Box 1000
Balmertown, ON
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1. Executive Summary

- 1.1. The Municipality of Red Lake has a unique recycling management issue in which single stream recyclables have to be transported considerable distances to recycling process facilities and markets. The previous arrangement had single stream recyclables handled at up to 3 locations, as well as the total hauling distance was increased as a direct route to Winnipeg was not achievable.
- 1.2. The following infrastructure and equipment was procured for the Balmertown Waste Disposal Site;
 - UHE Ejection Transfer Trailer (used)
 - Diesel Powered Hydraulic Pack Unit (used)
 - Kenworth T-800 tractor unit hydraulic modifications
 - Volvo L45G wheel loader with recyclables grapple bucket
 - Concrete block structure ramp with subgrade reconstruction
 - Recyclables building modifications

The addition of this equipment has dramatically increased the efficiency of Red Lake's recycling operations. The above noted has allowed the Municipality to work towards a significant reduction in transportation cost. Although transportation operations have just begun, the reduction in cost justify the investment. Costs have been analyzed before and after the infrastructure had been put in place. Prior to the capital investment, contractor movements hauled to Dryden were \$675 per trip which averaged a volume of 4.6 tonnes (T) per trip. Tipping fees in Dryden were \$107 per tonne creating an average shipment cost of \$1,167.20 or \$253.74 per tonne. With the compaction trailer the tipping fees are \$40 per tonne at the Winnipeg Depot. It was anticipated that Municipal cost would average \$1,841.24 per trip plus the current \$40 per tonne tipping fee. Load weights were expected to average 19T per trip, creating a total trip cost to Winnipeg at \$2,601.24. This would equate to \$136.91 per tonne under the new system. To compare, the cost per tonne difference is \$116.83 or a 46% savings.

2. Background

2.1. The Corporation of the Municipality of Red Lake was created July 1, 1999. This was a result of the amalgamation of the Township of Red Lake and the Township of Golden, which includes the six towns of Staratt Olsen, Madsen, Red Lake, Balmertown, Cochenour, and McKenzie Island. Red Lake's year-round population is roughly 4,670. The land area of Red Lake approximately 625 square kilometers.

2.2. Recycling in Red Lake is a mix of curbside pick-up and a staffed Recycling transfer station where Residents can drop off recycling. The Recycling transfer station is accessible to resident Tuesday to Saturday year round. All recycling collected within the Municipality is comingled as a single stream product. Before this project began, recycling was being picked up curbside, by a local contractor with a straight bodied garbage truck. The smaller capacity unit was then topped up with recyclables at the transfer station and hauled to Dryden Ontario approximately 210 km away. Recyclables were weighed and a tipping fee was paid to Dryden for the continued movement of product to Winnipeg.

Dryden's recyclables are then moved by Kenora operations to its final destination at the recycling depot in Winnipeg Mb.

The intent of this project is to reduce the costs of shipping out recycling from our area to Winnipeg, MB. Being located some 170 kilometers away from the Trans-Canada Highway, the costs for recycling presents financial challenges. An initial challenge to this project was when the Municipality received the compaction trailer and power pack, the trailer did not have any valves on it for load ejection. These valves were located on the power pack. Without the valves on the trailer, unloading of recycling in Winnipeg would not be achievable. Once again, because of our location, the work required to reconfigure the valving and hydraulic hosing had to be done in Winnipeg, which resulted in additional costs for the Municipality. The Kenworth, compaction trailer and power pack all had to be sent to Winnipeg for modifications. The Municipality also underwent modifications to its recycling building to better facilitate recycle transfer into the compaction trailer. These modifications included the development of a ramp for top loading the compaction trailer.

2.3. Red Lake was investing many dollars in the transportation of recycling by a contractor. These costs were substantial for the volume of recycling that could be taken away per trip. With this initiative, we are able to transfer up to 16T of recycling opposed to the 4.6T the contractor was able to transport for us, resulting in not only cost savings, but less greenhouse gas emissions.

3. Monitoring & Reporting

3.1 Budget

3.1.1 When reviewing our recycling program, the Municipality saw the need to increase the efficiency to transport recyclables from a financial and environmental perspective. An application was made to the Continuous Improvement Fund (CIF) to assist in this. The budget is as follows:

EXPENSES	BUDGET	ACTUAL
Kenworth	\$115,137	\$155,132.05
Compaction Trailer with Power Pack (including mods)	\$215,000	\$136,728.99
Ramp and Building mods	\$15,000	\$26,846.20
TOTAL	\$345,137	\$318,707.24

3.1.2 The actuals were under budget as we were provided with a used compaction trailer

3.2. Maintenance

3.2.1. When the Municipality received the power pack and compaction trailer. The power pack did not have a webasto heater (In-line coolant heater that operates off of battery power and existing fuel supply). The originally required Webasto heater was not delivered and the subcontracted installation was not performed before the season of cold starting. With the cold temperatures, our attempts to start the power pack resulted in the failure of

the starter, which had to be replaced. Also, the valves to push the ram out for unloading recycling was sticking, therefore causing the ram to creep out when the power pack was running but not in use. This created the allowance for hydraulic oil to enter the trailer cylinder and when hooked to the Kenworth, the extra oil in the system was then taken in by the truck. This extra oil caused a tank rupture which had to be repaired. Since these details were resolved, we have had no issues.

3.3 Labour

3.3.1. Once there is enough recycling to send, an operator is utilized from the Public Works Department to load and compact, as the scale attendant cannot leave his/her post and the site equipment operator is occupied with other landfill tasks.

3.4 Transportation Savings

3.4.1. The investment in a compaction trailer will provide immediate results. For every 3.5 trips taken by the contractor, we now can move the recycling ourselves in 1 trip.

3.4.2 In 2015, Red Lake hired a contractor to make 107 trips to Dryden, hauling approximately 492T of recycling. At 15T per load, we now can move the same amount of recyclables in 33 trips, therefore a substantial savings in costs as well as a reduction in greenhouse emissions.

4. Conclusion

4.1. The completion of this project has dramatically increased efficiency and decreased costs in the transportation of our recyclables. We estimate the savings annually at \$57,480.36