



City of
Peterborough

TO: Members of the Waste Management Steering Committee

FROM: W. H. Jackson, Director of Utility Services

MEETING DATE: May 13, 2013

**SUBJECT: Report WMC13-007
Mattress Recycling Pilot Project**

PURPOSE

A report to propose a mattress recycling pilot project at the Peterborough County/City Waste Management Facility (the "Landfill").

RECOMMENDATIONS

That the Waste Management Committee endorse the recommendations as outlined in Report WMC13-007 dated May 13, 2013 of the Director of Utility Services as follows:

- a) That a mattress recycling pilot project at the Peterborough County/City Waste Management Facility as described in Report WMC13-007 be endorsed by the Waste Management Committee; and
- b) That upon the conclusion of the pilot project, staff be requested to report further with detailed cost analysis and recommendations to make the recycling of mattresses permanent.

BUDGET AND FINANCIAL IMPLICATIONS

Exact budget implications will depend on the quantity of mattresses recycled and the subsidy the County/City wish to extend.

Based on a pilot that is six months in duration, and assuming a cost of \$12.50 per unit to recycle, gross costs may range from \$37,500 to \$75,000 depending upon actual numbers. Approximately 20% of the unit cost would be covered with the current \$90/tonne tipping fee, bringing the actual cost down to \$30,000 - \$60,000.

BACKGROUND

The City's WMMP included as its second highest priority, the recommendation that a diversion program for bulky goods, including mattresses, be implemented at the landfill site. This is for good reason. Informal surveys at the PCCWMF suggest that the site takes in as many as 12,000 mattresses each year. With the average mattress weighing 27 kilograms and consuming up to $\frac{3}{4}$ of a cubic meter of space, these items are quickly eating up valuable landfill space. In addition, mattresses create major operational concerns, since the foam components never compact properly, and the metal bed springs regularly get tied up in landfill machinery at great cost and inconvenience.

A feasible alternative to land filling mattresses now exists. Several companies in Ontario and Quebec have been successfully recycling them for several years now. Ninety-eight percent of a mattress's components are reclaimed by these recyclers, transforming a problematic waste item into a true commodity. One such company operates as close as North York, Ontario. Its proximity allows Peterborough to now seriously consider the option of diverting mattresses from our landfill. A number of Ontario communities have begun mattress recycling programs, or are close to doing so, including Orillia, Simcoe County, Barrie and Durham.

The cost to transport and recycle used mattresses is the largest deterrent for most communities in moving forward with a program. However, when compared to the cost of filling up our landfill, staff feels there is a sound business case for doing so. Based on data from other municipal programs, it is anticipated that each unit (mattress or box spring) would cost approximately \$12.50 to transport and recycle. We currently receive approximately \$2.50 per unit, based on the \$90/tonne tip fee and an average unit weight of 27 kilograms, for a shortfall of \$10.00 per unit. This does not include any additional fees we may incur from our contractor for loading the mattresses.

Several options may be considered by the City and County on how a mattress recycling pilot would be funded:

For small quantities of mattresses coming in from householders:

- 1) Continue to charge the normal tip fee of \$90/tonne. This would result in additional costs of approximately \$30,000 (based on 3000 units) to \$60,000 (based on 6000 units) to recycle the mattresses.
- 2) Charge a separate fee of \$5.00 per unit, which would reduce the cost by 40%, to \$22,500 - \$45,000.

For the pilot, it is proposed to continue with the current \$90/tonne charge. At the conclusion of the pilot, staff would assess the appropriateness of the charge, based on actual costs and public reaction.

For large, dedicated loads from retailers:

Local furniture stores regularly bring large, dedicated loads of mattresses to the facility. To deal with this waste stream, we could:

- 1) Establish a new mattress tip fee that would cover the costs of recycling. This may need to be as high as \$400/tonne.
- 2) Ban all commercial loads of mattresses, providing retailers with information on where they can send mattresses for recycling. This may be the preferred solution, since it would eliminate the double-handling required at our facility.

For the purposes of the pilot, no change in the existing charges is proposed.

When considering the costs of mattress recycling, it should be remembered that there would be significant savings realized by diverting this very bulky waste stream from our landfill. While costing calculations tend to always be weight-based, the more relevant consideration in the case of these bulky material streams really ought to be the amount of space consumed and the resultant decrease in the landfill's lifespan. 3000 to 6000 mattresses diverted from the tip face would save between 2250 and 5000 cubic meters of valuable space per year. Once the full-cost accounting exercise for the landfill is completed, a monetary value may be assigned to the diversion and an appropriate charge to dispose of mattresses could be determined.

Next Steps – Elements of a Pilot Program

Given there are a number of unknowns associated with mattress recycling, staff recommends that a six-month pilot be implemented at the Landfill to identify the financial and logistical challenges that a full-scale diversion program may bring. To proceed with such a pilot, the following steps are proposed:

- Determine logistical requirements at the Landfill depot, to allow for easy drop-offs and subsequent loading into transport trailers
- negotiate with the Landfill Operator (Tomlinson) for the loading of mattresses (*remembering that their staff is also very anxious to see mattresses removed, and their removal would result in significant benefits to them as well*)
- issue a RFQ for mattress transporting and recycling services
- educate the public about the program

If staff receives approval to proceed, it is hoped that the pilot could commence in the fall of 2013. Committee should then expect a further report on this matter in the second quarter of 2014.

Submitted by,

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