City of Peterborough

To:	**Members of the Waste Management Steering Committee**
From:	**W. H. Jackson, Director of Utility Services**
Meeting Date:	**June 22, 2015**
Subject:	**Report WMC15-006** **Assessment of Alternative Daily Cover, Soil Balance and Tipping Fee**

Purpose

A report to explore alternative daily cover scenarios at the Peterborough County/City Waste Management Facility and to recommend changes deemed appropriate.

Recommendations

That the Waste Management Committee approve the recommendations as outlined in Report WMC15-006 dated June 22, 2015, of the Director of Utility Services as follows:

a) That conditional approval be given to increase the tipping fee for contaminated soil received at the Peterborough County/City Waste Management Facility from $20/tonne to $40/tonne effective January 1, 2016; and

b) That notification of the increase in the fee charged for contaminated soil be advertised indicating that the Waste Management Committee will consider this matter for a final time at its meeting of September 14, 2015.

Budget and Financial Implications

The Landfill will receive an estimated 21,500 tonnes of contaminated soil in 2016. The increase in the tipping fee will add $430,000 to the Landfill revenue stream assuming that the increase in the tipping fee does not cause haulers of contaminated soil to take their material to other venues.

Background

The Environmental Compliance Approval (ECA) for the Peterborough County/City Waste Management Facility (the "Landfill") deals with litter in a number of locations. In essence, it is the Owner's (the County and City) responsibility to control and minimize litter both on and off the Landfill site.

The main litter prevention method is the application of a daily cover. The ECA directs that for daily cover:

> "at the end of each working day, the entire working face shall be covered with a minimum thickness of 150 cm (6 inches) of soil cover or an approved alternative cover material"

Typically this section of the ECA is satisfied by the use of contaminated soil with the occasional use of other materials such as clean soil, shingles or wood chips.

To ensure the present operation of the Landfill is the most cost effective and efficient, an analysis was undertaken of the fee charged for contaminated soil by other landfill operations. Alternative daily cover scenarios were also evaluated.

1. Contaminated Soil Fee

The present fee for contaminated soil delivered to the Landfill is $20/tonne. The amount of daily cover varies year to year but based on a three-year average, approximately 24,000 tonnes of contaminated soil is used per year. Table No. 1 shows some typical contaminated soil tipping fees in other jurisdictions.

Table No. 1: Contaminated Soil Tipping Fees in Other Jurisdictions

Municipality	Contaminated Soil Tipping Fee/Tonne
Kawartha Lakes	$95
Halton Region	$35
Niagara Region	$30
Halidmand County	$33
City of Stratford	$76
Ottawa Valley	$80

As can be seen, the existing $20/tonne for receipt of contaminated soil at the Landfill is low compared to most other landfills. Although there is an inverse relationship between the fee charged and the volume of contaminated soil potentially received at the Landfill, it is felt that raising the contaminated soil fee to $40/tonne as an initial step would have minimal adverse effect on the amount of contaminated soil received at the Landfill. Any further increases would be subject to the reaction to the proposed fee increase and future studies.

To ensure all users are aware of this proposal and that they have an opportunity to express their opinions, it is proposed that Committee only approve this increase in the tipping fee in principle and that the change be advertised indicating that anybody who wishes to speak to Committee about the change can do so at the regularly scheduled meeting of September 14, 2015.

A tipping fee of $40/tonne for contaminated soil was used in the following alternative daily cover evaluations.

2. Alternative Daily Cover Scenarios

Table No. 2 describes the alternative daily cover scenarios that were evaluated.

Table No. 2: Alternative Daily Cover Alternatives

No.	Alternative Daily Cover	Description
1	Use on-site soil alone	A soil balance study showed that there is sufficient on-site soil to use as daily cover for the rest of Cell 2 and all of Cell 3 with a surplus remaining. No revenues would be received by the use of on-site soil.
2	Use contaminated soil, woodchips and shingles	This is the existing operation
3	Use steel plates with on-site soil as required	This system consists of placing a series of steel plates over the waste at the end of each day as daily cover and then removing the steel plates next morning before placing additional waste. A front end loader is used to complete this task. The plates are easily deployed and removed, allowing for minimal disturbances to the tipping face of the waste. On-site soil will be used as required.
4	Use steel plates with contaminated soil, woodchips and shingles as required.	Steel plates would be used as the primary daily cover with contaminated soil, woodchips and shingles used as required.

The cost/benefit analysis for each scenario included, where applicable, the following items:

- Waste revenue lost from use of on-site soil for daily cover;
- Potential waste revenue gained by reduction in soil use for daily cover;
- Lost revenue from reduced contaminated soil use;
- Lost revenue from reduced shingles use;
- Capital cost and maintenance of steel plates;
- Waste revenue lost from use of contaminated soil, shingles & wood chips for daily cover;
- Revenue from contaminated soil;
- Revenue from Shingles;
- Lost revenue from use of on-site soil.

After detailed analysis of these four scenarios, cost estimates were prepared as shown in Table No. 3.

Table No. 3: Cost Estimates of Daily Cover Options

	Daily Cover Option	Estimated Revenue *
A	Use of on-site soil alone	-$1,696,420
B	Use of contaminated soil, woodchips and shingles	$ 662,140
C	Use of steel plates with on-site soil as required	-$ 754,589
D	Use of steel plates with contaminated soil, woodchips and shingles as required	$ 589,789

* Assuming Contaminated Soil Tipping Fee of $40/tonne (see Section 1 of this report)

A sensitivity analysis showed that the existing system of using contaminated soil, woodchips and shingles is the best daily cover alternative when the contaminated soil fee is $40/tonne or more. If, however, the contaminated soil fee is below $40/tonne, then the use of steel plates with contaminated soil, woodchips and shingles used as required for daily cover is the best alternative.

Summary

An analysis was undertaken of both the fee charged to receive contaminated soil at the Landfill and various alternative daily cover scenarios. Based on this analysis, it was determined that a tipping fee of $40/tonne for contaminated soil was the cut-off point below which the use of steel plates as a daily cover alternative was preferred but above which, the existing system using contaminated soil, woodchips and shingles is the best

scenario. The analysis also determined that the tipping fee for contaminated soil at the Landfill was low compared to other landfills and that an increase from $20/tonne to $40/tonne would be in order.

Based on this analysis, the tipping fee is proposed to be raised from $20/tonne to $40/tonne and the existing system of applying daily cover is proposed to remain.

Submitted by,

W. H. Jackson
Director of Utility Services

Contact Name:
W. H. Jackson, P.Eng.
Director of Utility Services
Phone: 705-742-7777 Ext. 1894
Toll Free: 1-855-738-3755
Fax: 705-876-4621
E-mail: wjackson@peterborough.ca