City of Peterborough

TO:	**Members of the Waste Management Steering Committee**
FROM:	**W. H. Jackson, Director of Utility Services**
MEETING DATE:	**June 23, 2014**
SUBJECT:	**Report WMC14-008** **City of Peterborough's Organics Strategy and its Implications for the Peterborough County/City Waste Management Facility**

Purpose

A report to advise the Waste Management Steering Committee of the City's proposed Organics Strategy, and how its approval by City Council will necessitate further discussions between the City, the County and the Township of Otonabee-South Monaghan on future development and operations at the Peterborough County/City Waste Management Facility.

Recommendation

That the Waste Management Committee approve the recommendation outlined in Report WMC14-008 dated June 23, 2014 of the Director of Utility Services, as follows:

That Report WMC14-008 providing information on the City's proposed Organics Strategy be received for information.

Budget and Financial Implications

There are no budget or financial implications to receiving this report.

Background

In September 2013, Stantec Consulting Ltd. (Stantec) was engaged to investigate how the City might process the three organic waste streams (Leaf and Yard, Food, and Biosolids) in the most effective and efficient manner, including the feasibility of comingling all three into one system.

Stantec reviewed the various processes that are available based on the 17 responses received from the City's February 2013 Request for Information, analysed existing and future volumes and drew two major conclusions:

- The City would pay a very high premium to process Leaf and Yard waste together with Food Waste because of the much tighter regulations governing the Food Waste stream and the costlier technology required to process Food Waste; and

- The technology for comingling biosolids with Leaf and Yard and Food Waste is not fully mature and proven and therefore not recommended.

Based on these conclusions, the City is investigating processing each of the organic waste streams independently. Inasmuch as the Peterborough County/City Waste Management Facility (the Landfill) is only impacted by the Leaf and Yard and Food Waste streams, the rest of this report will concentrate on those streams.

1. Leaf and Yard Waste

Leaf and Yard Waste has been collected and composted at the City's Harper Road facility since 1990. The County has brought small quantities of Leaf and Yard waste to this site since 1999. The County quantities have grown recently and are expected to continue to grow.

Historic contamination issues at the Harper Road site which encompass the closed Harper Road Landfill as well as the composting area require the City to discontinue receiving material at Harper Road no later than January 2016. Under Ministry of the Environment Regulation 101/94, municipalities with over 5,000 people are obliged to collect and compost these materials. Accordingly, the City must find an alternative solution for Leaf and Yard waste in the next 18 months outside of landfilling.

The preferred site to relocate the Harper Road composting operation is the Landfill because it is close to the City, licensed to receive waste, has weigh scales and other necessary infrastructure including on-site operators and has City/County-owned lands that are available for this purpose.

Outdoor windrow composting, as is used at Harper Road, is the preferred system because it is the least expensive and simplest to construct and operate. Further, it should be relatively quick to amend the Landfill's Environmental Compliance Approval

given that Leaf and Yard waste is fairly innocuous, and the City has established an excellent record for processing this material over the past 23 years at Harper Road.

Moving forward with this proposal will require approvals from the County because of the joint ownership of the subject land and the Township of Otonabee-South Monaghan because of the need to rezone the lands under the Township's Official Plan.

Although merchant capacity such as trucking the Leaf and Yard Waste to a private facility is an alternative for processing Leaf and Yard Waste, it is unlikely to be less costly. Nevertheless, this alternative will continue to be considered as the process moves forward.

2. Food Waste

Food Waste, also known as Source Separated Organics, currently goes to the Landfill as garbage. There are no legislated requirements to divert Food Waste from our waste stream however; the rationale for doing it is strong. A Food Waste recycling "pilot program" incorporating both City and County households has been in effect for some time. The Food Waste collected under this pilot program is minimal, and is composted with the Leaf and Yard waste at the Harper Road site. Co-composting Leaf and Yard waste with a full Food Waste program is not considered viable at this time.

A Food Waste program ranks No. 1 in the City's Waste Management Master Plan (WMMP), with the potential for diverting an additional 17% of our waste stream from the Landfill. It is also listed in the County's WMMP as a Medium Term (5-10 years) Action, with the potential for an 11% increase in diversion from the County's waste. Peterborough remains one of the few municipalities of its size in Ontario which has not yet established a Food Waste program, a fact which is not lost on our residents who continue to question our delays. The challenges with Food Waste are greater than with Leaf and Yard Waste, given the higher potential for odours and the resultant regulatory hurdles. It also requires a more costly form of processing in order to keep those odours in check.

There are two main alternatives for the City to process its Food Waste stream namely:

- merchant capacity; or
- self processing.

The availability and cost of merchant capacity is best ascertained via a competitive bid process. If this turns out to be the preferred alternative, a transfer station may be required to consolidate the Food Waste from the various collection vehicles prior to shipping to the process facility. For reasons similar to those described in Section 1, the preferred location for a transfer station would be at the Landfill.

The Landfill was also identified as an ideal location for a Food Waste processing facility. Although ownership of such a facility can be private or public, it is anticipated the cheapest overall approach would be for the facility to be municipally owned.

Use of the Landfill for either a processing or transfer facility will require approval from the County and the Township of Otonabee-South Monaghan including zoning and Official Plan amendments.

Public pressure notwithstanding, timing is not as critical for the establishment of a Food Waste program as it is for Leaf and Yard waste and biosolids.

3. Preliminary Cost Estimates

Constructing a processing facility for Leaf and Yard waste would cost an estimated $3M while a facility to process Food Waste would cost in the order of $6M. A combined facility would presumably utilize common utilities and services, bringing the overall cost down.

If merchant capacity were used to process Leaf and Yard waste, it is estimated the annual cost to truck and tip this waste would be around $300,000 per year, depending upon location. This would be in addition to the cost to build a transfer station (expected to be less than $3M). Merchant capacity for Food Waste would cost in the order of $450,000 per year and, at this time, it is not clear if transfer facilities would be needed for this waste stream.

4. Next Steps

The Stantec recommendations are felt to be generally sound and provide a roadmap to move forward. Because it is recommended that the organic waste streams be processed independently, they are considered below in separate sections. There are numerous approvals and decisions yet to be made before any solution can be finalized.

4.1 Leaf and Yard Waste Processing

This area has the most pressing timetable given the need to vacate Harper Road by January 2016. The first order of business is to determine the size of site that would be required now and into the future as well as preparation of a site design. Also, the interaction between processing Leaf and Yard Waste and Food Waste needs to be fully explored. For example, economies of scale can be achieved by locating the processing facilities for Leaf and Yard and Food Waste in proximity to each other to take advantage of potential collection efficiencies, to use some Leaf and Yard Waste material as a bulking agent in the Food Waste process and to gain efficiencies in the preparation, storm water management and servicing aspects of the site.

Some of the above work was undertaken in 2008/2009 as part of a preliminary investigation into the use of an area within the Landfill for processing Leaf and Yard and Food Waste. This work needs to be updated and it is proposed to use the existing Landfill engineering firm (UEM) to do this. UEM is most familiar with the operation of the Landfill and will be shortly designing the next cell to receive waste in the North Fill Area which is close to the proposed site to be used to process both Leaf and Yard and Food Wastes.

UEM's assignment will be to confirm the suitability of the preferred site, size and design requirements, including storm water management, buffering, etc. for both a Leaf and Yard Waste composting pad, and an adjacent area for Food Waste processing or transferring. UEM will communicate with the County and Township on the necessary Official Plan and zoning amendments. This will be a City funded exercise.

4.2 Food Waste

Much of the site selection and preliminary preparation work will be done as part of the UEM mandate described in Section 4.1. The timeframe for this aspect of the organic stream is less critical than for the Leaf and Yard Waste stream and accordingly, dealing with the Leaf and Yard Waste will take precedent.

Submitted by,

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