

Green Bin Operational Issues

Date:	January 15, 2010
To:	Public Works and Infrastructure Committee
From:	General Manager, Solid Waste Management Services
Wards:	All
Reference Number:	p:/2010/swms/Feb./002PW

SUMMARY

The purpose of this report is to follow-up on City Council's direction to submit a report to Public Works and Infrastructure Committee that addresses operational issues of the Green Bin program raised by Councillor Minnan-Wong and Councillor Shiner, and to outline the ongoing and improved oversight measures related to the handling and processing of Green Bin organics.

Financial Impact

There is no financial impact resulting from this report at this time.

DECISION HISTORY

At its meeting of August 5 and 6, 2009, City Council when reviewing the Executive Committee report entitled "Amendments to Solid Waste Management Services Diversion Contracts" directed that "the General Manager, Solid Waste Management Services, be requested to submit a report to the Public Works and Infrastructure Committee, with copies to all members of City Council, to address the operational issues of the Green Bin program raised by Councillor Minnan-Wong and Councillor Shiner."

The City Council Decision Document EX33.35 "Amendments to Solid Waste Management Services Diversion Contracts" can be viewed at:

<http://www.toronto.ca/legdocs/mmis/2009/cc/decisions/2009-08-05-cc38-dd.htm>

Staff Report titled "Amendments to Solid Waste Management Services Diversion" dated April 21, 2009 can be viewed at:

<http://www.toronto.ca/legdocs/mmis/2009/ex/bgrd/backgroundfile-21559.pdf>

Since implementation of the Green Bin program, City Council has authorized numerous agreements with private contractors to process the City's Green Bin organics. In numerous cases, City Council authority was required to amend, extend or initiate new emergency agreements due to the instability of the private Green Bin processing marketplace.

Staff Report titled "Results of the Request for Proposals No. 6035-07-3064 for Provision of Organic Materials Processing Services" dated June 25, 2007 can be viewed at:
<http://www.toronto.ca/legdocs/mmis/2007/pw/bgrd/backgroundfile-5438.pdf>

At its meeting of July 16, 17, 18 and 19, 2007, City Council adopted the following motions PW7.22 "Results of the Request for Proposals No. 6035-07-3054 for Provision of Organic Materials Processing Services". The City Council Decision Document from Pages 108 to 109 can be viewed:
<http://www.toronto.ca/legdocs/mmis/2007/cc/decisions/2007-07-16-cc11-dd.pdf>

Staff Report titled "Planning Study for an Expanded Public SSO Processing System Status Report" dated August 25, 2006 can be viewed at:
<http://www.toronto.ca/legdocs/2006/agendas/committees/wks/wks060911/it008.pdf>

At its meeting of September 25, 26 and 27, 2006, City Council amended and adopted Works Committee Report No. 6, Clause No. 5 "Planning Study for an Expanded SSO Processing System Status Report". The City Council Decision Document can be viewed at:
<http://www.toronto.ca/legdocs/2006/agendas/council/cc060925/wks6rpt/cl005.pdf>

Staff Report titled "Extension and Amendment of Agreement with CCI-TBN Toronto Inc., for the Operation of the Dufferin Organics Processing Facility Contract 47009308" dated May 19, 2006 can be viewed at:
<http://www.toronto.ca/legdocs/2006/agendas/committees/wks/wks060607/it001.pdf>

At its meeting of June 27, 28 and 29, 2006, City Council adopted without amendment Works Committee Report No. 4, Clause No. 1 "Extension and Amendment of Agreement with CCI-TBN Toronto Inc. for the Operation of the Dufferin Organics Processing Facility Contract 47009308". The City Council Decision Document can be viewed at:
<http://www.toronto.ca/legdocs/2006/agendas/council/cc060627/wks4rpt/cl001.pdf>

At its meeting of February 16, 2005 City Council Notices of Motions J(9) "Source Separated Organic Material Haulage and Processing Services Groupe Conoporec Inc.". The City Council Decision Document can be viewed from Pages 58 to 59:
<http://www.toronto.ca/legdocs/2005/agendas/council/cc050216/cofa.pdf>

At its meeting of April 12, 13 and 14, 2005 City Council adopted without amendment Works Committee Report No. 3, Clause No. 5 "Extension of Agreement with CCI-TBN Toronto Inc. for the Operation of the Dufferin Organics Processing Facility". The City Council Decision Document can be viewed at:

<http://www.toronto.ca/legdocs/2005/agendas/council/cc050412/wks3rpt/cl005.pdf>

At its meeting of May 17, 18 and 19, 2005 City Council Notices of Motions (J10) “Source Separated Organic Material Haulage and Processing Services Ferti-Val and GSI Environmental Inc.”. The City Council Decision Document from Pages 79 to 81 can be viewed at:

<http://www.toronto.ca/legdocs/2005/agendas/council/cc050517/cofa.pdf>

Staff Report titled “Request for Proposal No. 9155-03-5280 Processing Capacity for Source Separated Organic Material” dated August 27, 2004 can be viewed at:

<http://www.toronto.ca/legdocs/2004/agendas/committees/wks/wks041013/it001.pdf>

At its meeting of September 28, 29, 30 and October 1, 2004 City Council received, for information Works Committee Report No. 8, Clause No. 20, Item (c) “Processing Capacity for Source Separated Organic Material Request for Proposal No. 9155-03-5280”. The City Council Decision Document from Pages 8 to 11 can be viewed at:

<http://www.toronto.ca/legdocs/2004/agendas/council/cc040928/wks8rpt/cl020.pdf>

Staff Report titled “Request for Proposal No. 9155-03-5280 Processing Capacity for Source Separated Organic Material” dated June 17, 2004 can be viewed at:

<http://www.toronto.ca/legdocs/2004/agendas/committees/wks/wks040908/it004.pdf>

At its meeting of July 20, 21 and 22, 2004 City Council adopted without amendment Works Committee Report No 6, Clause No. 3 “Processing Capacity for Source Separated Organic Material – Request for Proposal No. 9155-03-5280”. The City Council Decision Document can be viewed at:

<http://www.toronto.ca/legdocs/2004/agendas/council/cc040720/wks6rpt/cl003.pdf>

Staff Report titled “Amendment to the Design-Build Contract for the Dufferin Organics Processing Facility dated January 13, 2004 can be viewed at:

<http://www.toronto.ca/legdocs/2004/agendas/committees/wks/wks040203/it009.pdf>

At its meeting of March 1, 2 and 3, 2004 City Council adopted without amendment Policy and Finance Committee Report 2, Clause No. 31 “Amendment to the Design-Build Contract for the Dufferin Organics Processing Facility”. The City Council Decision Document can be viewed at:

<http://www.toronto.ca/legdocs/2004/agendas/council/cc040301/pof2rpt/cl031.pdf>

Staff Report titled “Source Separated Organic Waste Processing Services Groupe Comporec Inc.” dated January 13, 2004 can be viewed at:

<http://www.toronto.ca/legdocs/2004/agendas/committees/wks/wks040203/it010.pdf>

At its meeting of March 1, 2 and 3, 2004 City Council adopted without amendment Policy and Finance Committee Report No. 2, Clause No. 32 “Source Separated Organic Waste Processing Services Groupe Comporec Inc.”. The City Council Decision can be viewed at:

<http://www.toronto.ca/legdocs/2004/agendas/council/cc040301/pof2rpt/cl032.pdf>

Staff Report titled “Operating Agreement for the Dufferin Organics Processing Facility” dated August 20, 2003 can be viewed at:

<http://www.toronto.ca/legdocs/2003/agendas/committees/wks/wks030904/it027.pdf>

At its meeting of September 22, 23, 24 and 25, 2003 City Council adopted without amendment Works Committee Report No. 7, Clause No. 3 “Operating Agreement for Dufferin Organics Processing Facility”. The City Council Decision Document can be viewed at:

<http://www.toronto.ca/legdocs/2003/agendas/council/cc030922/wks7rpt/cl003.pdf>

Staff Report titled “Source Separated Organic Waste Processing Services Halton Recycling Ltd.” dated August 20, 2003 can be viewed at:

<http://www.toronto.ca/legdocs/2003/agendas/committees/wks/wks030904/it028.pdf>

At its meeting of September 22, 23, 24 and 25, 2003 City Council adopted without amendment Works Committee Report No. 7, Clause No. 4 “Source Separated Organic Waste Processing Services - Halton Recycling Ltd.”. The City Council Decision Document can be viewed at:

<http://www.toronto.ca/legdocs/2003/agendas/council/cc030922/wks7rpt/cl004.pdf>

City Council at its meeting of June 24, 25 and 26, 2003 City Council adopted without amendment to Works Committee Report No. 5, Clause No. 8 “Source Separated Organic Waste Processing Services – Requests for Proposals No. 9150-03-7002”. The City Council Decision Document can be viewed at:

<http://www.toronto.ca/legdocs/2003/agendas/council/cc030624/wks5rpt/cl008.pdf>

Staff Report titled “Source Separated Organic Waste Processing Services Request for Proposals No. 9150-03-7002” dated March 12, 2003 can be viewed at:

<http://www.toronto.ca/legdocs/2003/agendas/committees/wks/wks030326/it038.pdf>

At its meeting of April 14, 15 and 16, 2003 City Council adopted without amendment Works Committee Report No. 3, Clause No. 7 “Source Separated Organic Waste Processing Services Request for Proposals No. 9150-03-7002”. The City Council Decision Document can be viewed at:

<http://www.toronto.ca/legdocs/2003/agendas/council/cc030414/wks3rpt/cl007.pdf>

Staff report titled “Long Term Source Separated Organics Processing Strategy” dated March 11, 2003 can be viewed at:

<http://www.toronto.ca/legdocs/2003/agendas/committees/wks/wks030326/it040.pdf>

At its meeting of April 14, 15 and 16, 2003 City Council adopted as amendment Works Committee Report No. 3, Clause No. 8 “Long-Term Source Separated Organics Processing Strategy”. The City Council Decision Document can be viewed at:

<http://www.toronto.ca/legdocs/2003/agendas/council/cc030414/wks3rpt/cl008.pdf>

Staff Report titled “Source Separated Organics Processing Strategy” dated October 22, 2002 can be viewed at:

<http://www.toronto.ca/legdocs/2002/agendas/committees/wks/wks021106/it004.pdf>

At its meeting of November 26, 27 and 28, 2002 City Council adopted as amended Works Committee Report No. 12, Clause 1 “Source Separated Organics Processing Strategy”. The City Council Decision Document can be viewed at:

<http://www.toronto.ca/legdocs/2002/agendas/council/cc021126/wks12rpt/cl001.pdf>

ISSUE BACKGROUND

The questions and concerns raised by Councillor Minnan-Wong and Councillor Shiner related to the handling and processing of Green Bin materials and challenged the integrity of the Green Bin program.

COMMENTS

The questions and issues that were raised are summarized below, followed by staff’s response.

Is some of the finished compost being used for landfill cover or mine reclamation?

The City of Toronto has used fourteen contractors to process approximately 586,000 tonnes of organic waste since 2002. As documented in the Decision History Section of this Report, since 2002 staff have reported to City Council on sixteen occasions regarding Green Bin contract processors. Over this period, numerous contract Green Bin processing operations have ceased operations for a number of reasons including odour complaints and insolvencies. It has been an ongoing challenge to source consistent and dependable SSO processing capacity since the inception of the Green Bin program.

The City started shipping SSO to Quebec in August of 2003 and ceased in November 2008. All the facilities were licensed by the Quebec Ministry of the Environment. Under Province of Quebec regulations, the use of finished compost as landfill cover and/or mine reclamation is a permissible use and therefore the Quebec contractors were free to use it for that purpose. In the case of two of the Quebec SSO processors that went bankrupt, the Quebec Ministry of the Environment cleaned up the sites and directed some of the material that had been in process to landfill and some to other Quebec composters for finishing. City of Toronto staff have never directed or had knowledge of unprocessed organics going directly to landfill.

All of the City’s remaining Green Bin organics processors are now located in the Province of Ontario and under the terms of our contracts must produce unrestricted use compost or digestate. Since December 2008, per Ontario Ministry of the Environment (MOE) Interim Compost Guidelines. Under this definition, landfill cover is not an acceptable use in the Province of Ontario. 100% of the City’s Green Bin organics are

sent for the production of compost. All of our external processors in Ontario are fully permitted by the Ministry of the Environment.

In the case of allegations in the media that green bin materials have been dumped in a gravel pit in southwestern Ontario, Orgaworld, one of the City's contractors, sold the finished compost to another contractor who was operating a soil mixing operation in a gravel pit under an aggregate licence. Unbeknownst to both the operator and Orgaworld, this use was not permitted under the aggregate licence and a cleanup order was issued by the Ministry of the Environment. Orgaworld resold the finished compost to a local commercial farmer who removed the material and used it in his farming operation. All material, which was temporarily stored on the property, was ultimately used beneficially as unrestricted use compost.

The City's current contracts with its organics processors require that they only produce unrestricted use compost defined by MOE Compost Standards. Once the City has been assured that its feedstock has been converted into finished compost that meets Provincial Compost Guidelines, and that other contract provisions have been met, City officials are satisfied. Apart from the quantity returned to the City, how the other material is used or sold or what is the final use of the finished compost is a commercial transaction beyond the scope of our contracts. Through various private arrangements, unrestricted use compost may be bagged, mixed as triple mix soil, or used on commercial farms or sod farms – all acceptable end uses under Ontario Guidelines.

What is Orgaworld doing about odour complaints?

Orgaworld has enhanced the odour management program at their site. Improvements include installation of an additional biofilter and ammonia scrubber, additional media in the bioscrubber and new biofilter media. The cost to Orgaworld of these improvements was approximately \$500,000. Procedural changes at the Orgaworld Facility include comprehensive daily monitoring of all odour abatement equipment. Orgaworld, like our other organics processors, operate under Ministry of the Environment Certificates of Approval.

How much of the collected Green Bin material ends up as residue?

The City collected 117,751 tonnes of residential Green Bin organics in 2008. Of the total collected, 23,550 tonnes, or 20%, ended up as residue and went to landfill. Residue from processing the City's organics includes plastic bags used to line the indoor collection pail, the non-compostable components of diapers, non-processible organic materials such as bones and shells, and materials that residents should not have put in the green bin (such as plastic food wrapping, yogurt containers, cans and glass jars), and moisture. In fact, moisture accounts for half of the residue by weight.

A residue level of 20% is not unreasonable. Waste Diversion Ontario's Generally Accepted Principles (GAP) for calculating waste diversion, which includes standardized formulas to be used by all Ontario municipalities, applied a residue rate of 20% to the

number of tonnes of organics collected in 2007. This residue rate was changed to 15% by Waste Diversion Ontario in 2008, but the City continues to use a residue rate of 20% in its waste diversion calculations due to the inclusion of plastic liner bags and diapers.

What percentage of the collected Green Bin material becomes actual finished compost?

Approximately 35% of all Green Bin organics collected becomes actual finished compost; the remainder is converted to heat (biogas produced in some instances), moisture loss through evaporation and liquid release (e.g., juice from an apple core) and residue.

This proportion is typical of similar composting operations in other jurisdictions. In addition, the City of Toronto utilizes the province-wide sanctioned GAP waste diversion calculation methodology to determine how Green Bin processing is credited towards the City's overall waste diversion performance.

What about reports in the media that former Solid Waste employees claim organics are being mixed with waste at the Transfer Stations?

The City has investigated the allegations and has found no evidence that Solid Waste employees have routinely mixed green bin organic material with waste at City Transfer Stations as was reported. Regardless, since the timeframe of the alleged activities, the City staff have undertaken additional precautions and oversight protocols in City Transfer Stations which provide further assurance that organic materials are appropriately loaded and shipped to composting facilities.

Are there sufficient management controls in place to ensure the City's contractors are properly processing the Green Bin organics?

The City's processors are subject to frequent planned and surprise inspections by City and Ministry staff regulators (see Attachment "A" titled Historical Source Separated Organic Site Inspection Data). Various City staff will be involved in the monitoring of the City's organics processors including the Supervisor of Processing Operations, the Director of New Infrastructure Development and Contracted Services and the newly created contractor oversight officer. Each of these City staff complete site inspections, which will ensure the processors are monitored on at least a monthly basis. The oversight officer will create an audit checklist that will be followed on each site visit. Items reviewed during the site visit will include detailing site conditions including noting odour and dust in the vicinity of the operator, making visual inspections of waste piles in receiving, processing and post-processing areas, taking pictures, observing organics receiving practices for City of Toronto organic material, and speaking with site operators to determine if any operational issues are currently being experienced such as whether odour systems are fully functioning. In addition, as part of our current contract requirements, Toronto's external processors must prepare an annual report which describes the key elements of their operations, including the uses for finished compost. While City staff ensure that our contractors have a valid certificate of approval as part of

their contractual obligations, staff do not perform the Ministry's regulatory role of monitoring and enforcing odour control management.

On November 20, 2008 the City discovered that Orgaworld sent two loads (approximately 76 tonnes) of the City's SSO directly to landfill. Upon investigation it was determined that a recently hired Orgaworld employee had erroneously re-directed two Toronto loads to landfill. His explanation was that at the direction of another municipal customer, loads of SSO were explicitly instructed to be re-directed to landfill and that he mistakenly assumed that this was also the practice for City of Toronto loads.

City staff billed the contractor for the landfill costs, did not pay the processing fee for the two loads and issued a warning letter to Orgaworld stating that under no circumstances are Toronto's SSO materials to be sent to landfill.

During the week of September 14 to 18, 2009, one of the City's organics processors, Halton Recycling, sent six or seven truckloads of organics to a waste management facility in Michigan without the City's knowledge. City staff had visited the Halton Recycling facility on September 4, 2009 and operations appeared to be in order. Under the terms of its contract with the City, Halton Recycling was required to receive Green Bin organics and process them into a material that is ultimately turned into compost. The City has since terminated its contract with Halton Recycling and will seek financial redress against the company for services not performed.

Prior to the termination of the contract, Halton Recycling processed approximately five to seven percent of the City's total annual Green Bin tonnage. The material sent to landfill, approximately 200 tonnes, represents about two tenths of one percent of Toronto's annual total.

As of January 2010 the City has four SSO processing contractors capable of processing approximately 115,000 tonnes per year with options to increase the contracted capacities by approximately 50,000 tonnes per year. However, there is still uncertainty at these sites due to odour issues, that the 115,000 tonnes per year will be available on a continuous, uninterrupted basis.

A separate report before City Council will consider the award and construction of a new composting facility at the Disco Transfer Station that will result in two thirds of our organic materials being processed here in the City with our own state-of-the-art technology. The remaining third will be sent to processors who are currently expanding and improving their own systems.

Enhancement of oversight measures for the City's organics processors

In consultation with the City's Internal Audit Division, a position of oversight officer has been created to oversee and monitor Solid Waste contracts including Green Bin operations. The responsibilities of this officer will include developing and following enhanced management control processes. These enhanced management control processes will include the development of a checklist to be followed during site visits. Items reviewed during the site visit will include detailing site conditions including noting odour and dust in the vicinity of the operator, making visual inspections of waste piles in receiving, processing and post-processing areas, taking pictures, observing organics receiving practices for City of Toronto organic material, and speaking with site operators to determine if any operational issues are currently being experienced such as whether odour systems are fully functioning. In addition, the officer will be reviewing documents required to be kept on file by the City such as the operators MOE Certificate of Approval, Insurance certificates, Annual Reports prepared by the operator and weighscale records.

We are proposing that initially the oversight officer's function be performed by redeploying a SWMS employee and as such the expenditure can be accommodated in SWMS's 2009 and 2010 operating budget submissions. However, it may be necessary to increase SWMS's staff complement in subsequent years to accommodate this position. The position will report directly to the General Manager of SWMS.

The Director of Internal Audit has reviewed this report.

CONTACT

Vincent Sferrazza, Director, Policy and Planning, Solid Waste Management Services,
Telephone: 416-392-9095, Fax: 416-392-4754, E-mail: vsferra@toronto.ca

Steven Whitter, Director, New Infrastructure Development and Contracted Services,
Solid Waste Management Services, Telephone: 416-396-4771, Fax: 416-396-4156
E-mail: swhitter@toronto.ca

SIGNATURE

Geoff Rathbone
General Manager
Solid Waste Management Services

ATTACHMENTS

"A" – Historical Source Separated Organics Site Inspections Data