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TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 3, 2015
FROM:	JOHN BRAAM, P.ENG. MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT	PRELIMINARY CONCEPT FOR A LONDON WASTE TO RESOURCES INNOVATION CENTRE

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, with the support of the Director, Environment, Fleet and Solid Waste, the following actions be taken with respect to solid waste services:

- a) the concept of a London Waste to Resources Innovation Centre **BE APPROVED IN PRINCIPLE**; it being noted that the Centre would build upon the numerous innovative activities that have already occurred to date and are being planned for 2015 and 2016;
- b) the Civic Administration **BE DIRECTED** to identify potential partners, projects, resource requirements and funders; obtain initial feedback from potential partners; and, develop a scope of work for the London Waste to Resources Innovation Centre concept; and
- c) the Civic Administration **BE DIRECTED** to report back with a proposed scope of work and funding plan for the London Waste to Resources Innovation Centre.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
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Relevant reports that can be found at www.london.ca under City Hall (Meetings) include:

- Update – Key Solid Waste Management Initiatives (December 16, 2014 meeting of the Civic Works Committee (CWC), Item #12)
- Interim Waste Diversion Plan (July 21, 2014 meeting of the CWC, Item #18)
- Timeline for Major Environmental & Engineering Reports (February 25, 2013 meeting of the CWC, Item #3)
- Updates – Proposed Waste Reduction Act and Related Matters for Financing the Blue Box Program (February 3, 2014 meeting of the CWC, Item #8)
- Waste Diversion and Garbage Collection Updates (November 25, 2013 meeting of the CWC, Item #7)
- Status Report: Update of Road Map to Maximize Waste Diversion 2.0 (July 22, 2013 meeting of the CWC, Item #14)

BACKGROUND

PURPOSE & CONTEXT

The purpose of this Report is to provide a high level overview of a proposed concept with a working title called the London Waste to Resources Innovation Centre (L-WRIC) and to obtain “approval in principle” from Municipal Council to further examine this concept.

The primary goal of L-WRIC is to create a location for the ongoing examination of innovative solutions to waste reduction, resource recovery, energy recovery and/or waste conversion. Potential partners could include different levels of government, other municipalities, Western University, Fanshawe College and private companies.

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DISCUSSION

Brief History

Over the years the City of London has been involved in numerous traditional and innovative projects to divert waste from the landfill including:

- Blue Bag Recycling Pilot Project (1997 – 1998)
- Partnership with Corporations Supporting Recycling (CSR) (1998 – 2000)
- On-site Landfill Leachate Treatment Pilot Projects (1999 – 2000)
- Research/Testing using Unwanted (left over) Latex Paint in Concrete and Asphalt (2000 - 2001)
- “*BUD*” Pilot Project to Reduce Municipal Household Special Waste (MHSW) Generation (2000-2001)
- Waste Audits (2001, 2005, 2007, 2012)
- “10 %” Club to increase recycling among the identified 10% program non-participants (2002)
- Leading communications projects. Several over the years, including RCO & MWA award winning programs such as “Think outside the (garbage) Can” (2008)
- Methanotrophic (methane-oxidizing bacteria to reduce greenhouse gas emissions) Landfill Cover Research with University of Western Ontario (2001 to 2003)
- *Pilot Emissions Removals, Reductions and Learnings (PERRL) Initiative* for Landfill GHG Emissions Trading with Environment Canada (2003 – 2007)
- Participant in Development of Recycler’s Knowledge Network (2005)
- Development of composting program for Emerald Ash Borer (2007)
- Secondment with Waste Diversion Ontario/Continuous Improvement Fund (WDO/CIF) to develop Multi-residential Recycling Best Practices (2009)
- Green Bin Pilot Project (2011 – 2012)
- Western University student energy recovery projects with The Institute for Chemicals and Fuels from Alternative Resources, ICFAR (2011 – 2013)
- Material Recovery Facility (MRF) pilot projects with Stewardship Ontario examining viability of adding various materials to the Blue Box (2013 – 2014)
- MRF tours for a range of groups including Londoners, businesses, companies in the waste diversion business, other municipalities, other levels of government and individuals as far away as the Ukraine and Ghana; all supported by videos, guidebooks and industrial-noise-deadening headsets.
- Landfill tours, similar to the MRF tours, including full class visits by engineering and environmental students.

For the most part, these projects have been undertaken with involvement from many others including private businesses in London and elsewhere; funding organizations like Waste Diversion Ontario and Stewardship Ontario, funding from senior levels of government; local community groups; and participation with University and College professors and students.

City funding has ranged anywhere from not being required (several communication projects just required in-kind time of staff) to fully City funded pilot projects like the Green Bin Pilot Project (noting that City staff did receive some donated products from businesses to assist with the pilot project).

Concept for the London Waste to Resources Innovation Centre (L-WRIC)

With a proven track record of participating in creative and innovative projects to implement solutions for waste diversion, resource maximization, and, on a road to Zero Waste, going the next step of determining interest in a London Waste to Resources Innovation Centre (working title) is a logical next step.

This concept builds on our current path whereby the City wishes to examine, support, conduct research and/or implement projects under the broad classification(s) of resource recovery, energy recovery and/or waste conversion within the special policy area near the W12A Landfill Site (Waste Management Resource Recovery Area), in other locations in London, or in

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collaboration with others outside of London as part of its continuous improvement system for solid waste management. The continuous improvement system is described in several public documents including City of London Continuous Improvement System for Waste Management (1997), A Road Map to Maximize Waste Diversion in London (2007) and Road Map 2.0: The Road to Increased Resource Recovery and Zero Waste (2013).

There are currently three projects where some ground work has already been completed under our current mandate that would also be considered projects as part of L-RIC:

- Collaboration with Green Shields Energy Inc. to undertake testing and develop data/information on the viability of Gas Phase Reduction to manage various waste streams including household garbage (a report to Civic Works Committee on this initiative is on this same Committee Agenda),
- Collaboration with Western University on two Master’s student projects dealing with energy resource recovery and Green Bin materials, and
- Discussions with Union Gas and the Biogas Association to look at the financial feasibility of creating Renewable Natural Gas (RNG) from Green Bin materials and the role that using RNG in compressed natural gas vehicles might play in reducing Green Bin Program costs.

In some respects, the potential opportunities are large because in Ontario and fairly consistently across Canada, between 60% and 75% of garbage is landfilled. There is tremendous room for innovation, business opportunities and environmental benefits.

Next Steps

Over the next 6 to 9 months City staff will solicit input from others about the proposed concept to identify potential partners, projects, resource requirements and potential funders. This will be followed by a report to CWC and Council with a proposed scope of work and funding plan for the London Waste to Resources Innovation Centre. Within this time period, it is essential that the three potential projects identified above remain a top priority along with other Council directed actions.

ACKNOWLEDGEMENTS

This report was prepared with assistance from Mike Losee, Manager - Solid Waste Engineering & Planning; Anne Boyd, Coordinator, Waste Diversion; and Jamie Skimming, Manager Air Quality

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