



## STAFF REPORT ACTION REQUIRED

### Mixed Waste Processing Study Health Impact Assessment

<b>Date:</b>	June 10, 2010
<b>To:</b>	Board of Health
<b>From:</b>	Medical Officer of Health
<b>Wards:</b>	All Wards
<b>Reference Number:</b>	

#### SUMMARY

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Toronto Public Health (TPH) oversaw the Health Impact Assessment (HIA) component of the Mixed Waste Processing Study conducted by Golder Associates on behalf of Solid Waste Management Services (SWMS). This study was initiated to evaluate the options for managing Toronto's mixed waste in order to help achieve the City's Target 70 waste diversion objectives. Potential impacts from various approaches to dealing with City of Toronto residential mixed waste were assessed using HIA screening and scoping approaches. This report presents the findings of the HIA and the recommendations the Medical Officer of Health (MOH) has made for future action by SWMS.

The HIA was conducted in two phases. The first phase assessed various technology options and informed SWMS's decision to move forward with Mechanical Biological Treatment with Anaerobic Digestion (MBT with AD) as the preferred technology for a residential mixed waste processing facility. The only city-owned site that has sufficient area to accommodate the full processing and final curing operations is next to Green Lane Landfill in the Township of Southwold (near London, Ontario).

Once the preferred site and technology were identified, TPH held an HIA workshop with stakeholders from the community neighbouring the selected site. The participants at the workshop identified both negative and positive potential impacts from the proposed facility. Potential mitigation efforts were also discussed.

The Medical Officer of Health has communicated his recommendations on ways to address stakeholder concerns during the design and operation of the proposed facility to the General Manager, SWMS. SWMS has indicated that they will implement these recommendations. The MOH will continue to work with SWMS and the Residual Waste

Working Group to ensure health issues are considered during the next phases. The HIA process helped influence the selection of a mixed waste treatment technology option such that the one with the least environmental and health impact was chosen.

## **RECOMMENDATIONS**

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### **The Medical Officer of Health recommends that:**

1. the Board of Health forward this report to the Public Works and Infrastructure Committee for information; and
2. the Board of Health forward this report to the Elgin St. Thomas and Middlesex-London Boards of Health, and the Township of Southwold Council.

### **Financial Impact**

There are no financial impacts arising directly from the adoption of this report.

## **DECISION HISTORY**

At its meeting held on February 5, 6, 7 and 8 2007, City Council considered the Public Works and Infrastructure report PW2.3 “CEAT [Community Environmental Assessment Team] Update Report for January 17, 2007 Public Works and Infrastructure Committee Meeting”. Council adopted the recommendations that the MOH, in consultation with the General Manager of SWMS, oversee development of a framework for a health impact assessment (HIA) to be used in the evaluation of potential technologies and sites for managing Toronto’s solid waste (see <http://www.toronto.ca/legdocs/mmis/2007/cc/decisions/2007-02-05-cc02-dd.pdf>).

At its meeting of April 21, 2008, the Board of Health requested that the HIA by Solid Waste Management Services be placed on an upcoming agenda of the Board of Health for comment (see <http://www.toronto.ca/legdocs/mmis/2008/hl/decisions/2008-04-21-hl13-dd.pdf>).

## **ISSUE BACKGROUND**

At the direction of Toronto City Council, Toronto Public Health (TPH) and Solid Waste Management Services (SWMS) have worked together to apply an HIA approach to assist the evaluation of options for managing Toronto’s mixed waste to help meet the City’s Target 70 waste diversion initiatives. Mixed waste is the portion of waste that remains after materials for other city waste diversion programs, such as the Blue Bin (recycling) or Green Bin (composting), have been separated at source by Toronto residents and

businesses, and collected by or on behalf of the City. This waste still contains materials that can be diverted so that it is not disposed of in landfill. To aid in the HIA work, in 2007 TPH and SWMS commissioned the development of an HIA Framework. This framework includes a screening tool which identifies a range of factors to be considered during an HIA. These are grouped in five categories of determinants of health: physical environment, social and economic environment, lifestyle, access to services and equity.

## **COMMENTS**

This report was prepared in collaboration with Solid Waste Management Services and the Public Consultation Unit.

In late 2008, SWMS retained Golder Associates consulting group to conduct a Mixed Waste Processing Study to inform the City on the best options for managing its mixed waste for the period 2010 to 2035. As part of this study, the City requested that the consultant conduct an HIA. The HIA framework developed for TPH was to be used to identify a preferred strategy. Attachment 1 “Report on the Health Impact Assessment (HIA) for the Proposed City of Toronto Mixed Waste Processing Facility” describes the process and outcomes of the HIA. The HIA was conducted in consultation with the Residual Waste Working Group (RWWG).

### **Phase 1**

At the beginning of the study, SWMS considered seven technology options and twelve potential sites on which to build a new facility. An internal TPH working group reviewed the information available to inform decisions early on in the study. Six environmental factors were seen to have the greatest potential impact on health for the proposed technologies: odour, noise, built environment, groundwater quality, air quality and surface water quality. The air and water quality factors can have a direct impact on health. The remaining factors often have a more indirect impact on health and quality of life.

The results of this phase of the HIA were among the parameters that informed SWMS’s decision to identify Mechanical Biological Treatment with Anaerobic Digestion (MBT with AD) as the preferred technology for a mixed waste processing facility. As the land next to the Green Lane Landfill in the Township of Southwold was the only City-owned site available with sufficient area for the full processing and final curing operations, the HIA did not factor into the site selection.

### **Phase 2**

Considering comments received from an open house held in the Township of Southwold to provide the local community with information on the proposed facility, SMWS and TPH decided to hold an HIA workshop involving stakeholders from the community around the selected site. The HIA workshop included representatives from four

stakeholder groups: First Nations communities, Township of Southwold Council, the Green Lane Landfill public liaison committee and the local public health units. The objectives of the workshop were to better understand the stakeholders' perspectives on potential health impacts from the proposed facility and to identify mitigation efforts that could address stakeholder concerns. Local stakeholders identified both negative and positive potential impacts that may occur as a result of building the mixed waste processing facility. Most of these were the same as those identified in the first stage.

## **Outcomes of the HIA**

1. All stakeholder groups identified odour as a priority potential health concern. Township of Southwold Council representatives specifically identified the need for SWMS to contain the composting windrows within a building. Our understanding is that building an enclosure to address odour is one of the more costly odour mitigation strategies. SWMS has identified enclosing the windrows with a fabric cover system specifically designed for composting operations as the preferred approach to address odour. The Medical Officer of Health has recommended that SWMS monitor the effectiveness of the proposed strategy, and if it does not prove to be sufficient to mitigate odours from composting, SWMS should explore additional measures in consultation with the local public liaison committee and TPH.
2. The stakeholder representatives from the local public health units requested that the City conduct a cumulative impact assessment to better understand the extent to which adding a new facility would impact the whole airshed. The Medical Officer of Health has encouraged SWMS to conduct a more detailed assessment in collaboration with TPH staff. This assessment would aim to evaluate potential impacts associated with exposures to chemicals released during the construction and operation of the proposed project. Since air is the main route of human exposure to environmental releases from the proposed facility and air quality is of primary concern to local stakeholders, the Medical Officer of Health has agreed that the focus of the assessment should be an evaluation of potential exposures to chemicals in ambient air in the airshed of the proposed project and surrounding communities. The assessment will take into account existing background ambient air concentrations and consider exposures to sensitive populations (i.e., First Nations, young children and elderly) in the surrounding communities. The assessment will use conservative assumptions to ensure that potential exposures and health risks are not underestimated and incorporate the results from the life-cycle assessment of the facility.
3. To ensure that health and environmental concerns identified in the HIA are addressed in the design and operation of the facility, the Medical Officer of Health has recommended that the terms of reference for the contractors require them to clearly identify the design and operational elements that have been incorporated to mitigate or minimize health and environmental impacts.
4. The stakeholder groups also identified opportunities for a number of potential positive impacts. These included incorporating an educational centre to promote

waste diversion and programs for schools, strengthening local recycling programs, and research on the beneficial use of the compost-like output of the facility, including pilot programs with local farmers. The Medical Officer of Health has encouraged SWMS to pursue these opportunities through the procurement process for the design, permitting and operation of the facility.

The Medical Officer of Health has communicated these recommendations to the General Manager, SWMS (see Attachment 2) and TPH will continue to be involved in the process of design and implementation of the facility as required. SWMS has indicated that they will implement these recommendations.

## **CONCLUSIONS**

In collaboration with SMWS and in consultation with the RWWG, TPH has successfully implemented an HIA for the proposed mixed waste processing facility. The HIA process helped influence the selection of a technology option such that the one with the least environmental and health impact was chosen. It also helped to identify stakeholder concerns and appropriate mitigation strategies. Based on the results of the HIA, the Medical Officer of Health has made recommendations to SWMS on ways to address stakeholder concerns during the design and operation of the proposed facility. TPH will continue to work in partnership with SWMS and the RWWG to provide input to the project to ensure that health and environmental issues are also properly considered during the next phases.

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## **SIGNATURE**

Dr. David McKeown  
Medical Officer of Health

## **ATTACHMENTS**

Attachment 1:

Report on the Health Impact Assessment (HIA) for the Proposed City of Toronto Mixed Waste Processing Facility

Attachment 2:

Correspondence from the Medical Officer of Health to General Manager of SWMS:  
Mixed Waste Processing Study Health Impact Assessment (HIA) Recommendations