TORONTO

STAFF REPORT
ACTION REQUIRED

Residual Waste Planning Study

Date:	June 13, 2007
To:	Public Works & Infrastructure Committee
From:	Geoff Rathbone Acting General Manager, Solid Waste Management Services
Wards:	All Wards
Reference Number:	p:/2007/swms/June/016PW.doc

SUMMARY

Since March 2006, staff and the Community Environmental Assessment Team (CEAT) have been working diligently to prepare terms of reference for an individual environmental assessment (EA) for the long-term management of Toronto's residual waste. Key principles of the study were discussed at numerous CEAT meetings and during two rounds of public consultation. The project team also heard from other stakeholders, including government agencies and Toronto's Medical Officer of Health. Draft terms of reference were issued to stakeholders in March 2007 and a third round of public consultation was held in April to discuss feedback on the draft.

On March 23, 2007 the Province of Ontario enacted a new regulation which changes the EA requirements for waste management projects. Individual EAs are now required for only a few specific types of waste management projects. All other waste management projects, including those that are being considered by the City, are either exempt from the EA Act or can follow a new screening process set out in the new regulation. The new regulation also requires proponents to choose between an individual EA and the exemption and screening provisions. That is, if a proponent submits terms of reference for an individual EA, the exemption and screening provisions no longer apply to the projects included in the individual EA.

This report recommends that the City not submit the terms of reference to the Province at this time. It recommends that the City instead carry out a comprehensive residual waste planning study based on the principles set out in this report.

By completing a comprehensive planning study instead of an individual EA The City should save both time and money.

RECOMMENDATIONS

The Acting General Manager, Solid Waste Management Services recommends that:

(1) the proposed terms of reference for the long term residual waste management study not be submitted to the Minister of the Environment;

(2) the Acting General Manager of Solid Waste Management Services be directed to carry out a comprehensive residual waste planning study based on the principles and terms set out in Attachment A;

(3) purchase order No.6020066 to MacViro Consultants Inc. for the preparation of the proposed terms of reference be increased by $62,200 excluding GST to a total of $296,200 excluding GST to account for MacViro's attendance at additional public meetings and participation in the development of the Health Impact Assessment framework;

Subject to the adoption of recommendations (1) and (2), the Acting General Manager, Solid Waste Management Services further recommends that:

(4) the Acting General Manager of Solid Waste Management Services and the Director of Purchasing and Materials Management be authorized to issue a request for proposals for professional technical services to undertake the planning study described in recommendation (2);

(5) the Community Environmental Assessment Team (CEAT) be split into the 3Rs Working Group recommended in the report entitled "Proposed Initiatives and Financing Model to get to 70% Solid Waste Diversion by 2010" and a Residual Waste Working Group as described in Attachment B to this report;

(6) that the Acting General Manager of Solid Waste Management Services, in consultation with CEAT, develop a transition plan for the splitting of CEAT into the 3Rs Working Group and the Residual Waste Working Group and report back to the Public Works and Infrastructure Committee with the details in the fall; and

(7) the appropriate City officials be authorized and directed to take the necessary action to give effect thereto.

Financial Impact

The adoption of recommendation 3 will result in a Capital expenditure in 2007 of $62,200 excluding GST. This amount can be accommodated in the approved 2007 Capital budget for the residual waste study, CSW004-16-01.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

Decision to carry out an individual EA
At its meeting held on September 22, 23, 24 and 25, 2003, City Council considered Works Committee Report No. 7, Clause 66, "Other Items Considered by Committee: New and Emerging Technologies, Policies and Practices Environmental Assessment Timeframe and Work plan" and adopted recommendations to undertake an individual environmental assessment for the management of Toronto's residual waste and to issue and RFP to hire a consultant to assist staff in carrying out the individual environmental assessment.
http://www.toronto.ca/legdocs/2003/agendas/committees/wks/wks030904/it005a.pdf

Decision to retain MacViro as the project consultant
At its meeting held on May 18, 19 and 20, 2004, City Council considered Works Committee Report No. 3, Clause 1, "Professional Services for Environmental Assessment Terms of Reference Residual Municipal Solid Waste Management RFP No. 9121-04-7077" and adopted the recommendation that the services of MacViro Consultants Inc. be retained to prepare the Terms of Reference for an Environmental Assessment on Toronto's residual solid waste management.
http://www.toronto.ca/legdocs/2004/agendas/committees/wks/wks040428/it042.pdf

Formation of CEAT
At its meeting held on June 14, 15 and 16 2005, City Council considered Works Committee Report No. 6 Clause 1, "Citizen Participation Model for Environmental Assessment of a Long-term Residual Solid Waste Management System" and adopted the recommendations that the Community Environmental Assessment Team ("CEAT") be established to participate with staff and the project consultants in the development of the terms of reference, the consultation plan, and the individual environmental assessment that would be prepared on behalf of the City.
http://www.toronto.ca/legdocs/2005/agendas/council/cc050614/wks6rpt/cl001.pdf

Decision to prepare a Health Impact Assessment (HIA) Framework and Privacy Impact Assessment (PIA)
At its meeting held on February 5, 6, 7 and 8 2007, City Council considered Public Works and Infrastructure report PW2.3 "CEAT Update Report for January 17, 2007 Public Works and Infrastructure Committee Meeting" and adopted recommendations to

develop a framework for a Health Impact Assessment ("HIA") and a Privacy Impact Assessment ("PIA").
http://www.toronto.ca/legdocs/mmis/2007/pw/bgrd/backgroundfile-610.pdf

ISSUE BACKGROUND

In September 2003, when Council directed staff to develop terms of reference for an individual environmental assessment (EA) for the management of Toronto's residual waste, the City was shipping its residual waste to Michigan and it was clear that Michigan-based disposal was not a secure long term solution. At that time, most Ontario-based residual waste management options (including landfilling, thermal treatment, and any processing facility that generated over 200 tonnes per day of residue) required an individual EA. Under the circumstances it made sense to conduct an individual EA to ensure all reasonable options were considered to improve the City's chances of securing a safe, reliable long-term residual waste management solution.

In June 2005 Council approved the creation of a Community Environmental Assessment Team ("CEAT"), to participate with staff in preparing the terms of reference and carrying out the individual environmental assessment. At its meeting of January 31, February 1st and 2nd 2006, Council approved the membership of CEAT and on March 2nd 2006 CEAT held its first meeting.

Since March 2006, staff, CEAT and the project consultant (the project team) have been working diligently to prepare the terms of reference for the study. Key principles of the study (such as the amount of waste to be processed, which technologies would be considered, the evaluation methodology, etc.) were developed in consultation with stakeholders. They were discussed at 115 CEAT meetings and at 20 public meetings during three rounds of public consultation. The project team also heard from other stakeholders, including government agencies and Toronto's Medical Officer of Health.

In September 2006, the City purchased the Green Lane landfill. This changed the nature of the City's residual waste EA since the City now had an Ontario-based long-term residual waste management solution. As such, there was no longer a need to develop a solution, just a desire to develop a better solution.

On March 16, 2007, draft terms of reference, which took stakeholder feedback and the purchase of Green Lane into account, were issued to stakeholders (including CEAT, government agencies, First Nations and City divisions and agencies, including Toronto's Medical Officer of Health) and posted for a 30 day public review period.

On March 23, 2007, the Province of Ontario enacted a new regulation (O. Reg. 101/07) which changed the EA requirements for waste management projects. The regulation requires individual EAs for only a few specific types of waste management projects. All other waste management projects, including those that are being considered by the City, are either exempt from the EA Act or can follow a new screening process, which is set out in the regulation.

The new regulation:

- requires individual EAs for:
  - landfills; and
  - thermal treatment facilities without energy recovery;

- creates a new screening process for:
  - thermal treatment facilities with energy recovery; and
  - other waste facilities that produce more than 1,000 tonnes per day of residue; and

- exempts all other waste projects.

The new regulation allows proponents to voluntarily conduct an individual EA for any waste project but requires proponents to choose between an individual EA and the exemption and screening provisions. Section 25 of the regulation indicates that if a proponent applies to do an individual EA (that is, if it submits terms of reference to the Province), the exemption and screening provisions of the regulation can no longer be applied to the waste projects included in the terms of reference. This is a very important consideration for the City. If the City submits terms of reference to the Province for an individual EA for its residual waste, the exemption and screening provisions will no longer apply to any of the projects included in the terms of reference. This has significant time implications for the City's diversion goals.

The following key points must also be considered:

- the new regulation does not exempt waste projects from any other environmental legislation;

- the screening process set out in the new regulation is quite rigorous and includes mandatory public consultation;

- the new regulation includes bump-up provisions. If at the end of the screening process, a stakeholder is not satisfied that his/her concerns have been addressed, he/she can ask the Ministry of the Environment to elevate the project to an individual EA.

A third round of public consultation, consisting of four public meetings and on-line commenting, was held in early April 2007 to obtain feedback on the draft terms of reference and discuss the implications of the new regulation.

Feedback from CEAT and the public indicates general support for the concept of not submitting the terms of reference at this time and, instead, carrying out a comprehensive residual waste planning study, provided that the study:

- is rigorous;
- is based on the protection of public health and the environment; and
- includes meaningful public consultation.

CEAT reviewed a draft of this report at its June 6, 2007 meeting and voted to support the report's recommendations to not submit the terms of reference and, instead, to carry out a comprehensive residual waste planning study.

COMMENTS

Comprehensive Planning Study

Submitting proposed terms of reference to the Ministry of the Environment would mean the options considered in the EA (including mechanical, biological, thermal and chemical treatment) could not be developed until the EA is completed and approved. Depending on the level of opposition, this could take years and could possibly include an Environmental Assessment Board hearing.

If the City chooses to move forward with an individual EA and determines part way through the EA that its preferred alternative is one that would have been exempt by the new regulation, it must still complete the EA since section 25 of the new regulation says that once a proponent applies to begin an individual EA, the screening and exemption provisions no longer apply to that project.

Alternatively, the City could conduct its own similarly comprehensive planning study outside of the EA process to determine its preferred alternative for managing its residual waste. If the City chooses this path and determines that its preferred alternative is exempt from the EA Act or is subject to the new screening process, the City would have those options available to it. The components of the work conducted in the recommended comprehensive planning study can be reused in the new screening process thereby saving The City considerable time and money. The City would also have the option of conducting an individual EA at that time.

Staff is recommending that the City not submit the terms of reference at this time and, instead, proceed with a comprehensive planning study outside of the EA process.

Staff is recommending that the study be based on the principles and terms set out in Attachment A, which reflect feedback received from CEAT, the public and other stakeholders and are based on the following principles:

- protection of human health and the environment;
- conservation of natural resources;
- consideration of a wide range of alternative technologies;
- rigorous evaluation methodology that includes a health impact assessment; and
- meaningful public consultation.

Since the study may lead into a screening process or an individual EA, it should be based on the same principles as those processes.

A comprehensive planning study outside of the EA process moves decision making from the Province of Ontario to the City and allows for a made in Toronto decision making process. It also allows the City to move forward more quickly with its residual waste processing projects.

Residual Waste Working Group

In order to provide staff with regular community feedback as it carries out the study, staff recommends that a Residual Waste Working Group be established to provide input and advice. Staff recommends that the working group:

- consist of approximately 8-10 members;
- be representative of the broader community;
- meet approximately once per month;
- provide regular feedback on all aspects of the residual waste study;
- participate in public consultation events;
- submit an annual status report to the Public Works and Infrastructure Committee jointly with the Acting General Manager of Solid Waste Management Services; and
- have its chair and/or vice chair participate on an Integrated Solid Waste Stakeholder Group, which will be a discussion forum attended by staff and the chairs and vice chairs of the city's various solid waste working groups for the purposes of sharing information.

MacViro Consultants Inc.

The RFP for the project consultant was written and awarded prior to the formation of CEAT. The original RFP did not envision the number of meetings that would ultimately be required to complete the project. Staff is recommending that MacViro's budget be increased by $62,200 to accommodate the additional meetings and other scope changes including participation in the development of a Health Impact Assessment framework.

CONTACT

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ATTACHMENTS

Attachment A – Key Terms of the Residual Waste Planning Study
Attachment B – Principles of Residual Waste Working Group

Attachment A – Key Terms of the Residual Waste Planning Study

This attachment sets out key terms of the proposed residual waste planning study, which is based on the following principles:

- protection of human health and the environment;
- conservation of natural resources;
- consideration of a wide range of alternative technologies;
- rigorous evaluation methodology that includes a health impact assessment; and
- meaningful public consultation.

The key terms reflect feedback received from CEAT, the public and other stakeholders on a number of key issues including:

- What waste should be included?
- What technologies should be considered?
- Where facilities should be located?
- How alternatives (sites and technologies) should be evaluated?
- How and when stakeholders should be consulted?

Proponent

The proponent for the study is the City of Toronto.

Partnerships

Partnerships or other forms of contractual relationships (partnerships) may be pursued with public and/or private sector partners that offer mutual benefits to both the City and the potential partners in the selection, siting and/or development of residual waste processing facilities.

Any such partnerships would be pursued in consultation with the public and would be subject to Council approval.

Problem or Opportunity

Toronto manages in the order of one million tonnes of waste and recyclables per year.

Toronto has existing and planned waste diversion programs to achieve 70% diversion from landfill by 2010.

The Green Lane landfill site provides the City with approximately 13 million tonnes of approved disposal capacity, which will last until approximately 2034 if the City achieves its 70% diversion target.

The City is aware that options are available to lessen the amount of residual waste requiring landfill disposal. Conservation of landfill space would provide greater certainty that the City's long-term disposal requirements would be met. It would also delay the need to seek additional landfill capacity. The City is also aware that options are available that recover additional resources (materials and/or energy) from the residual waste stream.

Broad Range of Options

The broad range of options that could lessen the amount of residual waste requiring landfill disposal at Green Lane include:

- increased at-source diversion, including waste reduction, reuse and recycling: while this option will continue to be explored by the City, the at-source diversion targets set out in the City's Getting to 70 Plan are considered reasonable and will be used for planning purposes;
- export of residual waste to facilities outside of Ontario: due to the uncertainties surrounding possible border closures, continued export to the USA is not considered reasonable. Similarly, export to Quebec is not considered a reasonable option due to the distance from the waste source, challenges getting approval to import waste into Quebec, and the risk of transporting waste to a jurisdiction outside of Ontario;
- export of residual waste to facilities located in northern or eastern Ontario**:** due to the distance from the waste source, added risk and difficulty ensuring the proper operation and management of remote facilities this option is not considered reasonable – however, if another proponent offers capacity at an approved facility in Ontario, the City would give it due consideration;
- development of residual waste processing facilities within south-central and south-western Ontario: given the environmental benefits of limiting the distance waste is trucked and considering the risks of operating and managing remote sites, this is a reasonable area to consider for the development of residual waste processing facilities for Toronto; and
- disposal of residual waste at the Green Lane landfill will be considered as the do-nothing alternative: given that the City owns landfill capacity at Green Lane and also has the option of contracting with other landfill owners in Ontario, the development of new landfill capacity will not be considered as an option.

Study Area

The area the City will consider for the development of residual waste processing facilities is south-central and south-western Ontario.

Purpose of the Undertaking

The purpose of any waste processing facilities developed through to this study would be to process – mechanically, biologically, chemically, and/or thermally – either all or a portion of the waste that remains after the implementation of the initiatives described in Toronto's Getting to 70 Plan in order to recover resources and to reduce the amount of material requiring landfill disposal.

Waste to be Managed

The waste to be managed will be:

- residual waste from single family and multi-family residential sources that is collected and managed by the City or is accepted at the City's transfer stations;
- residual waste from City agencies, boards (including school boards), commissions and divisions as well as charitable and religious institutions that is collected and managed by the City or is accepted at the City's transfer stations;
- residual waste from eligible small commercial establishments (Yellow Bag waste) that is collected and managed by the City;
- residual waste from litter containers located in the City's public spaces that is collected and managed by the City;
- residual municipal solid waste from potential partnerships that may be established as part of a preferred residual waste processing system.

Consideration may be given to including non-residential MSW accepted at the City's transfer stations. This waste stream, however, is unpredictable and therefore offers special planning challenges.

Capacity

The residual waste processing system should be capable of processing some, or all of the approximately 250,000 tonnes per year of residual waste projected to remain after the achievement of the City's Getting to 70 Plan, plus residual waste from potential partners, if any.

Alternative Technologies

The following alternative technologies will be considered:

- mechanical processing;
- biological processing;
- chemical processing; and
- thermal processing.

Alternative Sites

The study will only consider sites that are within the study area and are reasonably available to the City. The sites that could be considered include:

- sites that are owned by the City of Toronto;
- sites that are offered for sale to the City of Toronto; and
- sites that are proposed by potential public and/or private sector partners.

Evaluation Methodologies and Criteria

The proposed evaluation methodology links the evaluation of technologies and the evaluation of sites early in the process. This evaluation methodology has three major components, with the first two occurring concurrently:

- Identification, Screening and Evaluation of Technologies - resulting in the identification of a short list of reasonable technologies/systems.
- Identification, Screening and Evaluation of Sites - resulting in the identification of a short list of reasonable sites.
- Development and Evaluation of Site Specific Systems - resulting in the identification of a preferred site-specific system.

Figures 1 and 2 provide an overview of the proposed evaluation method, including specific points of consultation.

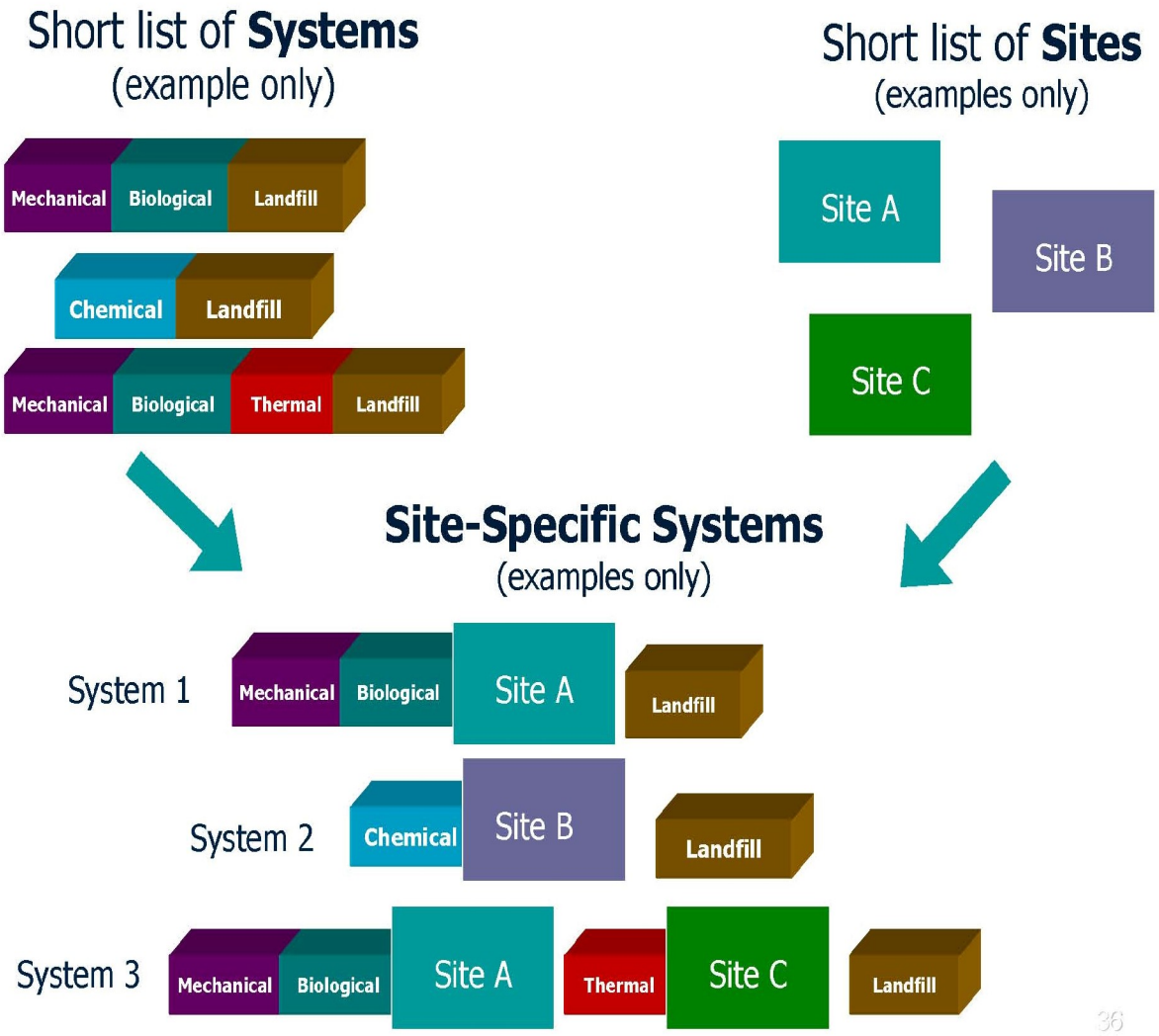
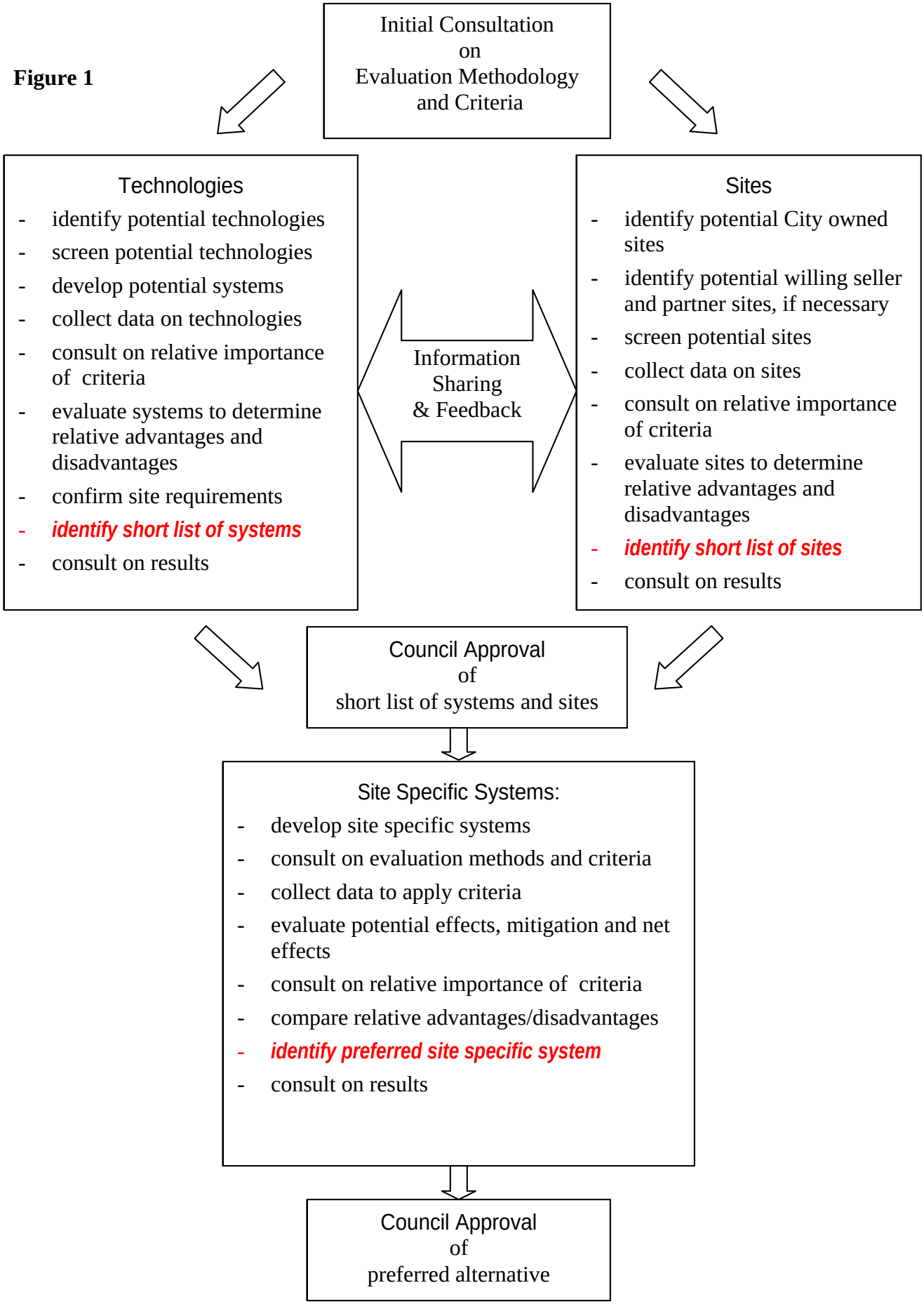

Short list of **Systems**
(example only)
Mechanical
Biological
Landfill
Chemical
Landfill
Mechanical
Biological
Thermal
Landfill
Short list of **Sites**
(examples only)
Site A
Site B
Site C
Site-Specific Systems
(examples only)
System 1
Mechanical
Biological
Site A
Landfill
System 2
Chemical
Site B
Landfill
System 3
Mechanical
Biological
Site A
Thermal
Site C
Landfill
36

Figure 1


Initial Consultation
on
Evaluation Methodology
and Criteria
Technologies
- identify potential technologies
- screen potential technologies
- develop potential systems
- collect data on technologies
- consult on relative importance of criteria
- evaluate systems to determine relative advantages and disadvantages
- confirm site requirements
- identify short list of systems
- consult on results
Information
Sharing
& Feedback
Sites
- identify potential City owned sites
- identify potential willing seller and partner sites, if necessary
- screen potential sites
- collect data on sites
- consult on relative importance of criteria
- evaluate sites to determine relative advantages and disadvantages
- identify short list of sites
- consult on results
Council Approval
of
short list of systems and sites
Site Specific Systems:
- develop site specific systems
- consult on evaluation methods and criteria
- collect data to apply criteria
- evaluate potential effects, mitigation and net effects
- consult on relative importance of criteria
- compare relative advantages/disadvantages
- identify preferred site specific system
- consult on results
Council Approval
of
preferred alternative

Identification, Screening and Evaluation of Technologies

This part of the study will include:

- identification and screening of potential technologies;
- development of residual waste processing systems that combine technologies;
- evaluation of processing systems using technology-specific criteria; and
- selection of a short list of systems.

Identification and Screening of Technologies

A broad set of mechanical, biological, chemical and thermal processing technologies will be considered in the study. The technologies that have been identified to date will be reviewed and further research undertaken to identify any other technologies that were not included, resulting in preparation of a long list of potential technologies.

Screening criteria would be applied to the long list of technologies so that only those that have reasonable potential to manage Toronto's residual waste will be considered. Technologies that cannot meet all of the screening criteria will not be considered further.

The proposed screening criteria include:

Environmental Suitability / Ability to Meet or Exceed Regulations

> It must be demonstrated that the technology will be able to meet Ontario's regulatory requirements and that all necessary environmental approvals can be secured. The technology must be able to meet or exceed current and planned regulations that have been identified by regulatory authorities at the time the study is being undertaken.

Proven Technology

> The technology must have a proven operating history at a reasonable capacity. For the purpose of the study, this is initially defined as operating for at least one year following the successful commissioning of the facility on a generally continuous basis processing residual waste.

The application of screening criteria will be based on a review of information that is published and readily available on the long list of technologies.

Development of Residual Waste Processing Systems

Although ultimately it may be determined that the City would only process a portion of the residual waste stream, for the purpose of developing and evaluating systems it will be assumed that each residual waste processing system must have the capability of managing the entire projected residual waste stream in the event that the City requires that all its residual waste be processed.

Each system would combine processing technologies such that they are functionally different.

Landfill requirements will not be included as a component of each system, but will be identified as a means of disposing of materials that are not diverted and/or recovered by the processing system.

A landfill only system will be considered as the do-nothing alternative against which the processing systems can be compared.

Data Collection to Apply Criteria

Data (such as cost, diversion rate, ability to recover resources, amount of land required, etc.) will be collected for each of the residual waste processing systems for the purpose of applying technology-specific comparative evaluation criteria.

Evaluation of Residual Waste Processing Systems

The technology-specific evaluation criteria will be applied to each of the systems and the potential effects will be identified. Mitigation measures will be considered to determine the net effects to the environment. The systems will be compared based on the net effects to the environment using the evaluation criteria listed below and criteria weightings (i.e., relative importance) established in consultation with the public and other stakeholders.

The preliminary list of technology-specific evaluation criteria includes:

- ability to divert materials from landfill;
- ability of the systems to recover resources (e.g., recyclable materials, energy);
- consumption of resources (e.g., water, electricity, natural gas, etc.)
- capital and operating costs;
- amount of land required to site facilities;
- potential for emissions to air, land and water;
- ability to deal with changing residual waste quantity over time;
- ability to deal with changing residual waste composition over time;
- potential residues requiring landfill disposal; and
- predicted reliability.

The results of the evaluation and the recommended short list of residual waste processing systems will be brought to Council for approval.

Confirmation of Siting Requirements

Each of the short listed residual waste processing systems is anticipated to have specific siting requirements that will vary, based on the combination of technologies that are included in the systems. In some cases, the technologies would be closely coupled requiring a site that could host an integrated facility. In other cases it may be reasonable to assume that system components can be sited in different locations.

Based on the short list of residual waste processing systems, minimum site requirements would be confirmed for the selection of sites.

Identification, Screening and Evaluation of Sites

This part of the study will include:

- identification and screening of potential sites;
- evaluation of sites using site specific criteria; and
- selection of a short list of sites.

Identification and Screening of Potential Sites

The identification of potential sites will include three major elements:

- sites currently owned by the City, either inside or outside the urban boundaries of the City will be identified;
- if insufficient City-owned sites are available, the City may seek submissions from willing sellers of suitable sites in south-western or south-central Ontario;
- recognizing that there may be benefits to the City, if partnerships or other contractual arrangements are pursued to develop facilities, the City may seek potential partnerships in south-western or south-central Ontario.

Potential sites will be identified and screened so that only those sites that can reasonably accommodate components of residual processing systems are carried forward for evaluation. The preliminary site requirements that will be used to identify and screen potential sites include:

- initial estimates of the amount of land required for processing facilities and associated buffer zones;
- existing land uses for the site and surrounding area that are compatible with residual waste processing facilities;
- site accessibility; and

- site servicing including water, sewer and energy services.

The following list of lands that would generally be excluded from consideration will be fully defined and confirmed in consultation with government agencies during the study:

- lands protected by provincial or federal legislation;
- residential areas;
- natural heritage features and areas, including:
    - significant habitat of endangered and threatened species and species at risk;
    - significant areas of natural and scientific interest;
    - significant wetlands, woodlands, etc.;
    - ground water discharge/recharge areas;
    - wellhead protection areas and infiltration areas;
    - designated hazard land; and,
    - conservation areas;
- lands with known archaeological and/or cultural heritage;
- highest priority agricultural lands;
- park lands and recreational lands; and
- institutional lands.

Data Collection to Apply Criteria

Data (such as current use, surrounding uses, uses along haul route, etc.) will be collected for each of the potential sites for the purpose of applying site-specific comparative evaluation criteria.

Evaluation and Short-listing of Sites

The site-specific evaluation criteria will be applied to each of the sites and the potential effects will be identified. Mitigation measures will be considered to determine the net effects to the environment. The sites will be compared based on the net effects to the environment using the evaluation criteria listed below and criteria weightings (i.e., relative importance) established in consultation with the public and other stakeholders.

The preliminary list of technology-specific evaluation criteria includes:

- existing characteristics of the site (e.g. current designation, current use, current condition, etc.);
- proximity to required infrastructure (e.g. electricity, water and sewer, etc.);
- site accessibility (e.g. rail, major highways, public transit, etc.);
- potential impacts of the haul route (e.g. distance, land uses along route, traffic noise, etc.);
- size of the property (e.g. room for one or more facilities, room for expansion, etc.);
- general compatibility with surrounding land uses (e.g. surrounded by agricultural, industrial, commercial or residential uses, etc.); and
- proximity to airports (e.g. some types of facilities cannot be located near airports).

The results of the evaluation and the recommended short list of sites will be brought to Council for approval.

Development and Evaluation of Site-Specific Systems

The evaluation of the site-specific residual waste processing systems will be a comparison of the relative advantages and disadvantages associated with each system, using a net effects analysis as set out below.

Development of Site-Specific Systems

Site-specific systems will be developed by combining the short list of residual waste processing systems and the short list of potential sites that have been approved by Council. The site specific systems will be developed such that each system is unique and is able to manage the expected tonnage of residual waste.

Generation of Data for Comparative Evaluation

Data (such as costs, diversion rates, quantity and types of emissions to air, etc.) will be collected for each of the site-specific systems the purpose of applying the comparative evaluation criteria.

Potential Effects, Mitigation and Net Effects

The data collected for each of the site-specific systems will be used to determine the potential effects to the following elements of the environment:

- human health;

- natural environment;
- social / cultural environment;
- economic / financial environment; and
- technical / legal environment.

The availability of measures to mitigate (i.e., measures to reduce or eliminate a negative potential effect) or enhance (i.e., measures to improve or increase a positive potential effect) the effects will be considered and applied to identify the remaining net effects.

Comparison of Relative Advantages/Disadvantages and Selection of a Preferred Site-Specific System

The sites specific systems will be compared based on the net effects to the environment using the preliminary list of evaluation criteria listed below and criteria weightings (i.e., relative importance) established in consultation with the public and other stakeholders to develop a list of the relative advantages and disadvantages associated with each site specific system. These criteria and indicators should be considered preliminary and may be further refined based the results of consultation during the study.

The preferred site-specific system will be the one that has the preferred balance of advantages versus disadvantages. The results of the evaluation and the preferred site-specific system will be brought to Council for approval.

The preliminary list of site-specific system evaluation criteria includes:

- potential for local and global effects on air**:** determined by estimating emissions to air of pollutants such as greenhouse gases, heavy metals, smog precursors, acid gases and dioxins etc. using life cycle type analysis and reviewing local air quality and meteorological conditions in the vicinity of the sites;
- potential for local and global effects on water: determined by estimating water consumption and emissions to water of pollutants such as biochemical oxygen demand, heavy metals and dioxins and types and quality of watercourses in close proximity of the site(s);
- potential for ecosystem or habitat disruption: determined by assessing the proximity to and potential to impact designated natural heritage features and areas including significant wildlife and fish habitat; significant areas of natural and scientific interest; significant wetlands, significant woodlands, designated hazard lands and conservation areas, the potential to impact species of special concern or threatened or endangered species identified by Ministry of Natural Resources (MNR), and the extent to which woodlands, hedgerows, etc. would have to be altered to develop the system;

- potential for land-use conflicts: determined by assessing the number and proximity of sensitive land-uses such as residential areas, parks and recreational areas and sensitive institutional facilities such as schools and hospitals;

- potential for impacts related to site access: determined by estimating the number and type of sensitive land-uses along the haul route and the number and type of additional vehicles accessing the site compared to the baseline taking into account road types, existing traffic volumes, etc.;

- potential to recover materials for beneficial uses: determined by estimating the amount and types of materials that would be recovered from the residual waste and sent to beneficial use;

- potential residues requiring final disposal: determined by estimating the amount and types of residues that will require landfill disposal;

- potential for renewable energy generation: determined by estimating the net quantity of usable energy in various forms (gas, electricity, heat, steam) generated by the system from renewable sources, taking into consideration the ability to market the energy.

- potential nuisance issues: such as odour, noise, dust or litter emissions or complaints;

- potential system costs: taking into consideration the capital costs, operating costs, closure and post-closure costs, debt charges, and potential revenues from the sale of recovered resources;

- potential design or operating risks: including reliability of the component technologies, ability to upgrade component technologies over time and ability of component technologies to tolerate changes in waste quantities or composition;

- potential legal or contractual risks**:** determined by assessing the types and complexity of approvals and agreements required to implement the systems;

- potential job creation and business opportunities: determined by estimating the number and types of direct and indirect jobs and business opportunities resulting from the design, construction and operation of the systems;

- potential cultural impacts: determined by assessing the number and significance of known archaeological and cultural areas in proximity to the sites based on review of documented sites; and

- potential health impacts: including potential workplace health and safety risks and potential public health risks to be determined in accordance with the principles to be set out in the health impact assessment framework being developed for the study.

Health Impact Assessment (HIA)

The study will include, as a component, a Health Impact Assessment (HIA). The proposed evaluation process proposes to use criteria that are consistent with the principles and fundamentals of the HIA process during the evaluation of technologies, sites and site-specific residual waste processing systems. An HIA framework and methodology is currently being developed by Toronto Public Health to provide further detail on the integration of the HIA within the study.

Key elements of the HIA will be integrated into the study evaluation methodology. For example, a high level overview of potential health related issues related to technologies could be discussed as part of the evaluation of residual waste processing systems. Health related advantages and disadvantages for potential sites could be evaluated. Determinants of health could be identified and considered during the evaluation of site-specific systems. The objective of the HIA would be to ensure that the preferred site specific system would be established and operated in a manner that has taken the protection of human health and the environment into account.

Consultation

Throughout the process of evaluating alternatives, there will be a number of consultation opportunities for the general public, advisory committees, Aboriginal Peoples and government agencies. Generally, consultation will take place prior to each major component of the evaluation process, during each component of the evaluation process and at the end of each component to present the results of the evaluation process.

In general, there are five categories of persons to be consulted over the course of the study. Together, these categories are considered to cover the full range of interested persons that may have an interest in the study and include:

- Toronto's Residual Waste Working Group: which will provide feedback on all aspects of the study and will be involved in the development and implementation of the consultation plan;

- Aboriginal Peoples: as identified by the City of Toronto in consultation with the Ontario Secretariat for Aboriginal Affairs (OSAA) and the federal agency, Indian and Northern Affairs Canada (INAC) that may be potentially affected by the outcome of the study.

- Government and Agencies: which represent the interests and mandate of various governmental departments, ministries and agencies potentially affected by the outcome of the study; and

- General Public: which includes all residents and businesses within the Study Area and in the vicinity of potential sites that could be affected by the outcome of the study

- Site Liaison Committees: where a site liaison committee exists for a site under consideration, the site liaison committee will be consulted.

This is a preliminary list of persons to be consulted. Over the course of the study, the contact list will be updated.

To effectively disseminate information on the study and to provide opportunities for interested persons to provide specific or general input to the study, the City will develop a communications plan. The communications plan will address issues such as:

- methods of disseminating information and notifying interested persons of upcoming consultations, such as maintenance of a study website;
- the development and issuance of public advisories, notices and news; and
- the provision of a range of avenues for communicating and consulting with interested persons (i.e. open houses, focus groups, etc.).

The communications plan will be maintained and updated, as required, for the duration of the study.

The proposed scope of public consultation during the study is outlined as follows.

First Point of Consultation: will be prior to the evaluation of technologies and sites, as follows:

- initial consultation on identification, screening and evaluation of technologies: to obtain feedback on proposed evaluation methodology, screening criteria and evaluation criteria for technologies/systems;
- initial consultation on identification, screening and evaluation of sites**:** to obtain feedback on proposed evaluation methodology, screening criteria and evaluation criteria for sites.

Second Point of Consultation: will be during the evaluation of technologies and sites, as follows:

- consultation on the relative importance of technology-specific criteria: to present the list of potential technologies/systems and the data collected for those technologies/systems and obtain feedback on the relative importance of the technology-specific evaluation criteria.
- consultation on the relative importance of site-specific evaluation criteria**:** to present the list of potential sites and the data collected for those sites and obtain feedback on the relative importance of the proposed site-specific evaluation criteria;

Third Point of Consultation: will be at the end of the evaluation of technologies and sites, as follows:

- consultation on the short list of systems and short list of sites: to present the results of the technology/system evaluation and the site evaluation and the recommended short lists of systems and sites.

Fourth Point of Consultation: will be prior to the evaluation of site-specific systems, as follows:

- consultation on development and evaluation of site-specific systems: to present the list of potential site-specific systems and obtain feedback on the proposed methodology and criteria to be used to evaluate site-specific systems.

Fifth Point of Consultation: will be during the evaluation of site-specific systems, as follows:

- consultation on the relative importance of site-specific system evaluation criteria: to present the list of potential site-specific systems and the data collected for those site-specific systems and obtain feedback on the relative importance of the proposed site-specific system evaluation criteria.

Sixth Point of Consultation: will be at the end of the evaluation of site-specific systems, as follows:

- consultation on results of evaluation of site specific systems: to present the results of the site specific systems evaluation and the recommended preferred alternative.

Possible Seventh Point of Consultation: consultation may be undertaken during site-specific studies to confirm suitability of the preferred site-specific system.

Flexibility

In the course of completing the study, the City may determine that adjustments to the approaches and methodologies described herein are necessary and/or appropriate. This may include adjustments to:

- the consultation plan to address concerns expressed by interested persons or which may be necessary or desirable due to study results and/or circumstances;

- the evaluation methodology and criteria to address concerns expressed by interested persons or which may be necessary or desirable due to study results and/or circumstances;

- the sequence of study events to address concerns expressed by interested persons or which may be necessary or desirable due to study results and/or circumstances; or,

- the study, which may be necessary or desirable due to changed legislation or changed waste management circumstances.

Where there is likelihood that circumstances will require a fundamental change in the study, staff will advise Council on a recommended course of action.

Attachment B – Principles of Residual Waste Working Group

In order to provide staff with regular community feedback as it carries out the study, it is recommended that a Residual Waste Working Group be established to provide input and advice. It is recommended that the establishment of the working group be based on the following principles:

- consist of approximately 8-10 members;
- be representative of the broader community;
- meet approximately once per month;
- provide regular feedback on all aspects of the residual waste study;
- participate in public consultation events;
- submit an annual status report to the Public Works and Infrastructure Committee jointly with the Acting General Manager of Solid Waste Management Services; and
- have its chair and/or vice chair participate on an Integrated Solid Waste Stakeholder Group, which will be a discussion forum attended by staff and the chairs and vice chairs of the city's various solid waste working groups for the purposes of sharing information.