

What is a Health Impact Assessment?

A Health Impact Assessment (HIA) is a process to assess positive or negative health effects that a project may have on individuals that have potential to be affected.

Toronto Public Health (TPH) is leading the HIA for this project, to determine potential health effects that may result from each short-listed biosolids management alternative being considered for the HCTP. Information from the HIA will be used to support the Class EA decision-making process.

To complete the HIA, the project team consulted with stakeholders within the study area, considered input from the public at PIC No. 1, and completed a detailed review of subject literature. Based on these activities, the following considerations related to biosolids management alternatives are identified as having the most potential for impacts on human health:

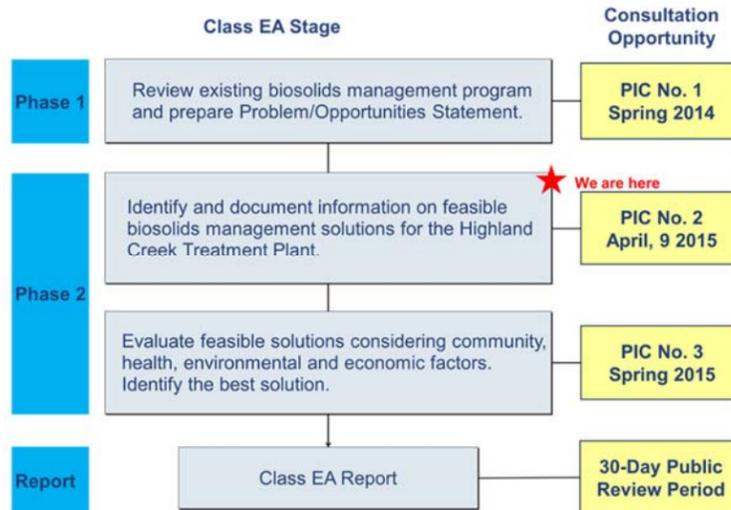
- Emissions and effect on air quality
- Odour increase
- Truck traffic and effect on traffic safety
- Noise increase
- Contamination of water and soil
- Effect of new facilities on neighbourhood housing/property values
- Effect of new facilities on recreation and leisure in the neighbourhood

In-depth investigations are underway to evaluate health effects associated with each short-listed biosolids management alternative. Results will be presented in the final HIA Report.

More details on the HIA study plan and process to identify priority health areas are provided on the project website at www.toronto.ca/hctpbiosolidsea

Next Steps in the Class EA Study

The chart below shows the steps in the Class EA process. The project team has identified the short-list of alternatives, and information is being developed on each alternative related to environmental, health and community effects, and economics.



Get Involved

Public Information Centre No. 2

Date: Thursday, April 9, 2015

Time: 6:00 pm to 9:00 pm

Presentation: 7:00 pm

**Location: Royal Canadian Legion
45 Lawson Road, Scarborough**

More Information

Visit the project website for more information or contact us if you would like to be placed on our mailing list.

www.toronto.ca/hctpbiosolidsea

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Highland Creek Treatment Plant Biosolids Management Schedule B Class Environmental Assessment

NEWSLETTER #2

March 2015

Study Overview

The Highland Creek Treatment Plant (HCTP) is located at 51 Beechgrove Drive in the south eastern Scarborough community of West Hill in the City of Toronto's Ward 44. It is one of four City-owned treatment plants that treats wastewater generated by the entire City. Biosolids are the treated residuals remaining from the wastewater treatment process.

A Class Environmental Assessment (Class EA) study is being conducted to determine the best biosolids management solution for HCTP. The study was initiated April 2014 and is expected to be completed summer 2015. Detailed project information and information presented in this newsletter is available on the project website at:

www.toronto.ca/hctpbiosolidsea



Location of Highland Creek Treatment Plant

Feedback from Public Information Centre No. 1 - June 16, 2014

Consultation with the public, relevant agencies and project stakeholders is an integral part of the Class EA process to ensure all views are taken into account when selecting the preferred solution. To encourage public input, three public information centres (PICs) are included in this Class EA study.

The first PIC was held June 16, 2014 to provide the background and rationale for the study, present information on the study process, and outline general biosolids management approaches. Information was presented on posters, and members of the City and consultant project team were available to answer questions. Comment sheets were provided for members of the community to submit questions and comments about the project.

PIC No. 1 Facts

Number of public attendees	70
Number of comment sheets received	31

The City responded to all input received during PIC No. 1 and posted the responses on the project web page. Detailed responses are organized under the following headings:

1. Rationale for Class EA Study
2. Study Approach
3. Public Consultation
4. Health Impact Assessment (HIA) Stakeholders Group
5. Timing for Implementation of Selected Biosolids Management Solution
6. PIC Format and Content
7. Biosolids Generation and Management Alternatives
8. Biosolids Transport Off-Site
9. Land Application of Biosolids or Processed Biosolids Products
10. Air Emission Impacts

The next PIC will be held April 9, 2015.

Starting with a Long List of Biosolids Management Alternatives

The project team completed a comprehensive review of biosolids management approaches used worldwide. Alternatives were grouped into three biosolids management categories shown in Table 1 below. The project team documented information on the process, facility requirements, experience at other facilities, and governing regulations for each alternative. All of the management alternatives reviewed can be constructed and operated within the existing regulatory framework in Ontario and Canada that protects public health and the environment.

Table 1 Biosolids Management Categories

Biosolids Management Category	Description	Technology Alternatives Reviewed
1 – On-Site Thermal Destruction	Technologies in this category operate at high temperature, similar to existing multiple hearth incinerators, to significantly reduce the quantity of biosolids. A new thermal destruction facility would need to be constructed at HCTP.	<ul style="list-style-type: none"> Fluidized bed incineration (Figure 1) Gasification Pyrolysis Plasma assisted oxidation Vitrification
2 – Off-Site Management	Biosolids would be hauled off-site (without further processing) for management. A new truck loading facility would be constructed at HCTP. One or more contractors would be retained by the City to manage the biosolids. Contractors would: <ul style="list-style-type: none"> Manage biosolids as-is, without further processing (e.g. land application or landfill) Haul biosolids to an off-site processing facility to generate a material that would be distributed and/or marketed (e.g. fertilizer or compost). 	<ul style="list-style-type: none"> Facility to load trucks with biosolids, to be hauled off-site for management
3 – On-Site Processing into a Fertilizer Product	Biosolids would be further processed in a new facility at HCTP to a quality that enables it to be registered as a fertilizer product under the Federal Fertilizers Act. The fertilizer product would be distributed to end-markets.	<ul style="list-style-type: none"> Pelletization (Figure 2) Alkaline stabilization Lystek (hydrolysis) Composting

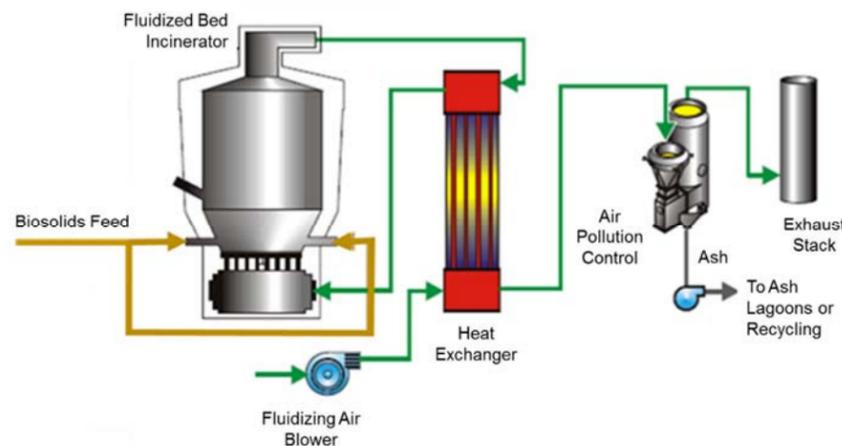


Figure 1 Fluidized Bed Incinerator



Figure 2 Pellets

Getting to a Short List

To select a biosolids management solution that will be feasible for HCTP, all of the alternatives on the long list were screened. The following four criteria were developed that represent 'must-meet' requirements for HCTP:

- Demonstrated at similar scale in North America for more than 2 years
- Can fit within HCTP site
- Provides reliable biosolids management year-round
- Does not increase traffic to and from the HCTP site

Table 2 presents screening results for the biosolids management technologies.

Table 2 Screening Results

Management Alternatives	Demonstrated in North America	Can fit within HCTP Plant Site	Provides Year-Round Reliability	No Increase in Truck Traffic to/from HCTP
1. On-Site Thermal Destruction				
Fluidized Bed Incineration	✓	✓	✓	✓
Pyrolysis and Gasification	✗	✓	✓	✓
Other Emerging Technologies	✗	✓	✓	✓
2. Off-Site Management				
Off-site management	✓	✓	✓	✓
3. On-Site Processing into a Fertilizer Product				
Pelletization	✓	✓	✓	✓
Alkaline Stabilization	✓	✓	✓	✗
Lystek (hydrolysis)	✓	✓	✓	✗
Composting	✓	✗	✓	✗

The screening process was used to identify the following three biosolids management alternatives, which are included on the short-list for further evaluation:

1. Fluidized Bed Incineration
2. Off-site Management
3. Pelletization and Off-Site Management as a Fertilizer Product

It is important to note that while some on-site processing technologies were screened out, the Off-Site Management (Category 2) allows use of off-site processing technologies, if determined available and cost-effective for the City.

Best Method for Transporting Biosolids from Highland Creek Treatment Plant

Transport of material (biosolids or pellets) from HCTP will be required on a daily basis for Alternatives 2 and 3). An evaluation of the following four possible transportation modes was completed to determine the best method for transporting these materials:

- Pipeline
- Trucks
- Rail
- Barge (water)

Transport by trucks (Figure 3) was determined to be the best transportation method. This approach is lowest cost, provides flexibility for a greater number of outlets for hauled material, and eliminates risks to the project schedule associated with approvals. More details on the evaluation of transport methods can be found on the project web page at www.toronto.ca/hctpbiosolidsea

Based on the transport by truck option, truck traffic would be as follows:

- Alternative 2 - Biosolids: 4-6 trucks per day
- Alternative 3 - Pellets: 1-2 trucks per day



Figure 3 Typical Biosolids Transport Truck