



City of London Biosolids Management Master Plan



Virtual Public Information Center #1



Welcome to virtual Public Information Center #1

The Master Plan will look at how the City is currently managing wastewater solids at its five wastewater treatment plants and guide how we will continue to meet the demands of our growing community over the next 30 years.

1. Please sign in
2. Review the project information
3. Complete the questionnaire to provide input
4. Reach out to the project team with questions and comments

This is the first of three Public Information Centers where you will have the chance to help shape the Master Plan.



Community engagement plan

The City of London wants to provide an opportunity for community members, First Nations, and agencies to offer suggestions, comments and ideas for the Master Planning process.

There will be three (3) Public Information Centers (PIC) during the Master Plan process.

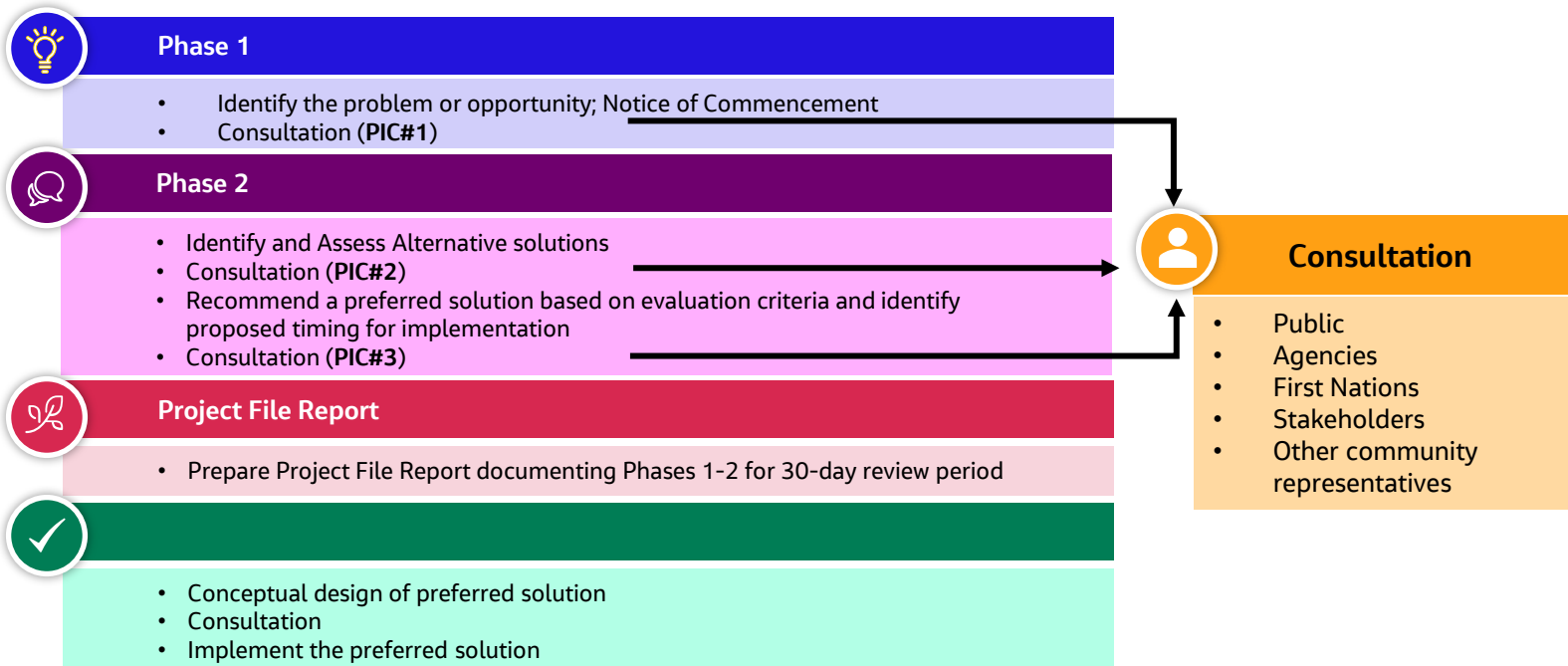
- **PIC #1** (We are here): Today, we will present the study overview, problem and opportunities statement, decision-making process, and evaluation criteria.
- **PIC#2** (planned for Winter 2021): Will present information on the long list of technologies and strategies, rationale for short-listed alternatives, and preliminary evaluation results.
- **PIC#3** (if necessary, depending on study progress): Will present information on the conceptual design, implementation strategy and schedule, capital costs, impacts, and benefits for the preferred alternative.

For the most up-to-date information related to the Master Plan, please refer to the study webpage:
<https://getinvolved.london.ca/biosolids>

Class Environment Assessment (EA) process

The Master Plan will complete **Phases 1 & 2** of the Class EA Process.

We are Here



Master Plan study area & focus

Photos of
wastewater solids



Thickened

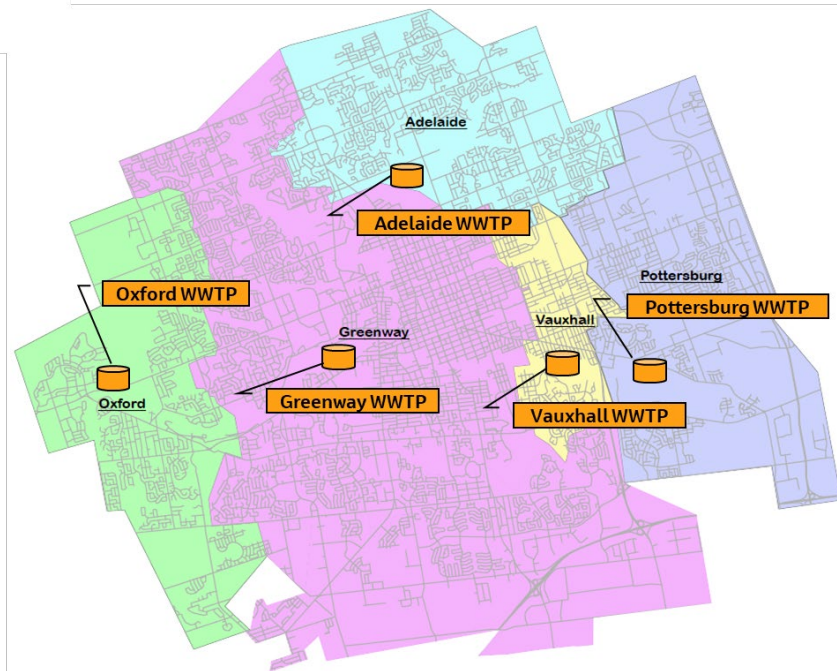


Dewatered

The City's five wastewater treatment plants collect and treat wastewater from within the urban boundaries of London. Treated water is discharged to the Thames River.

Solids resulting from the treatment process are managed at the largest plant, the Greenway plant. This Master Plan will focus on the City's wastewater solids management approach.

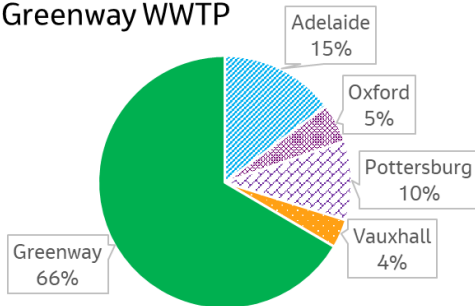
Wastewater solids are an organic material with energy and nutrient value.



Existing solids generation

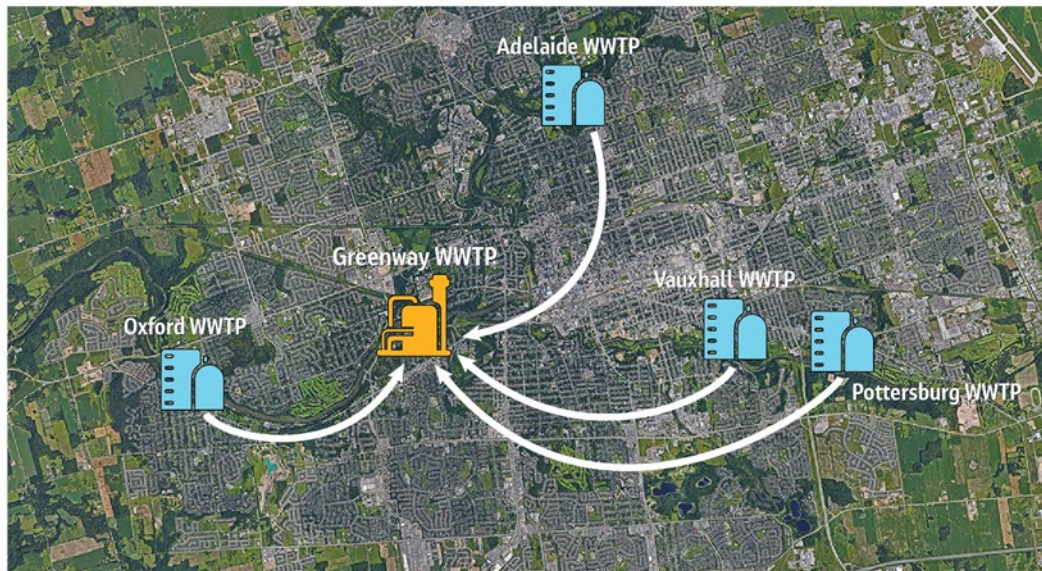
Greenway is the largest plant. Solids from the other four plants are transported to Greenway daily for dewatering and incineration.

Distribution of solids treated at Greenway WWTP



Data generated based on average from 2015 to 2019

Solids Trucking to Greenway WWTP



 Thickening Only



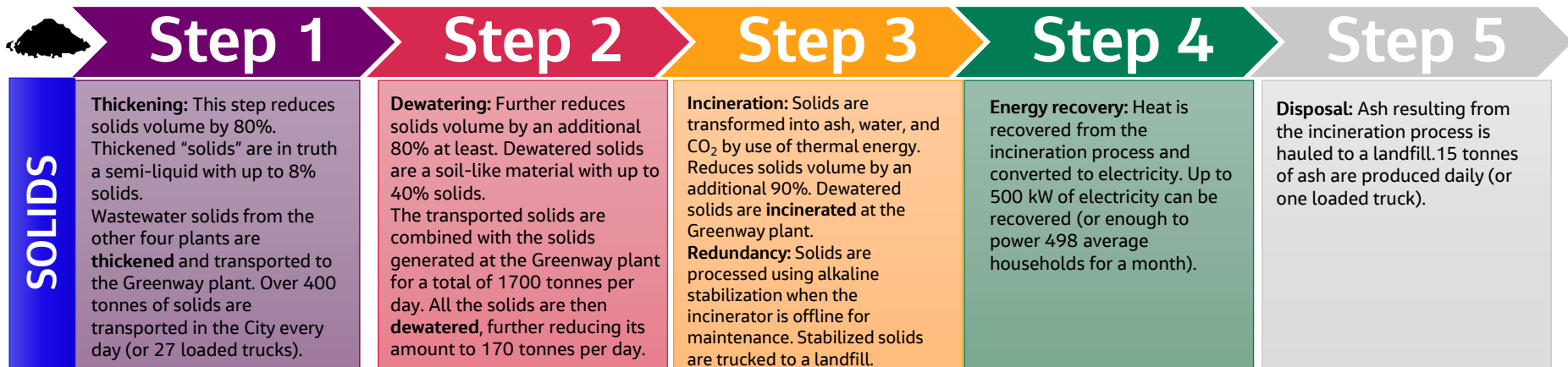
Thickening, Dewatering, & Incineration



Truck Haulage

Management of wastewater solids in London today

Over 200,000 cubic meters of wastewater is treated each day ... or 2,800 backyard swimming pools.



Why does the City need a Master Plan?

The Master Plan offers an opportunity to consider new technologies and methods that may offer benefit in terms of energy efficiency or recovery, nutrient value recovery, and cost-effectiveness. There is a need to start planning now to meet future growth and ensure resiliency in future service.

Opportunities for Improvement



Growth

As the City of London's population grows, so will the demand for solids treatment. There is an opportunity to increase treatment capacities and resiliency.



Environmental Constraints

In 2019, the City of London declared a climate emergency and introduced the Climate Emergency Action Plan. There is an opportunity for reducing greenhouse gas emissions and increasing energy and nutrient recovery from the City's residuals management processes.

Risk Management



Resiliency

Diversity in solids processing will allow the City to manage change without disruption. Options include addressing aging infrastructure and providing alternative end-uses for solids.



Regulatory Changes

Updates to regulations may restrict residuals management options. Current and future regulations will be considered.

Future conditions

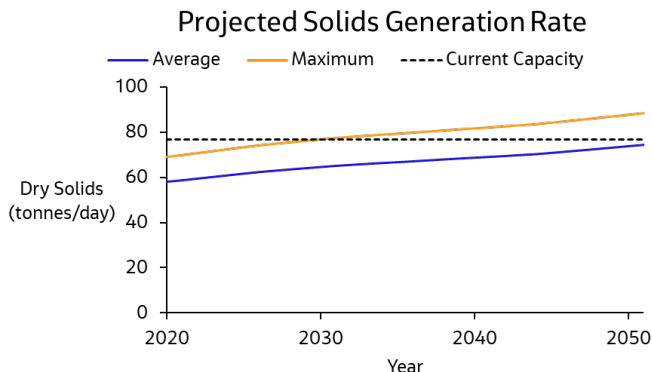
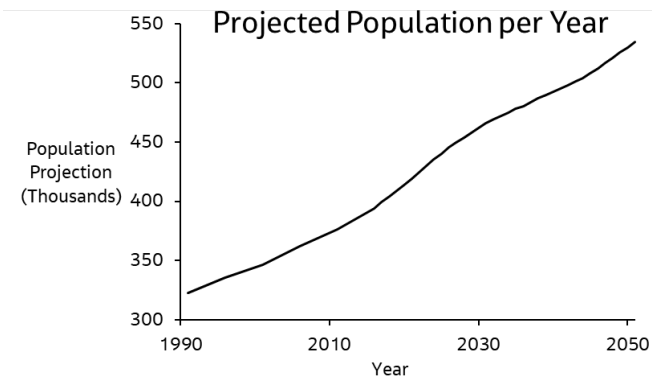
Capacity constraints:

The City of London is projected to have a population of 534,370 by 2051.

The incineration process at the Greenway plant has a capacity of 275 tonnes of solids per day (or 18 loaded trucks). The capacity for the incineration process is projected to be reached as early as 2031 and additional solids management capacity will be required.

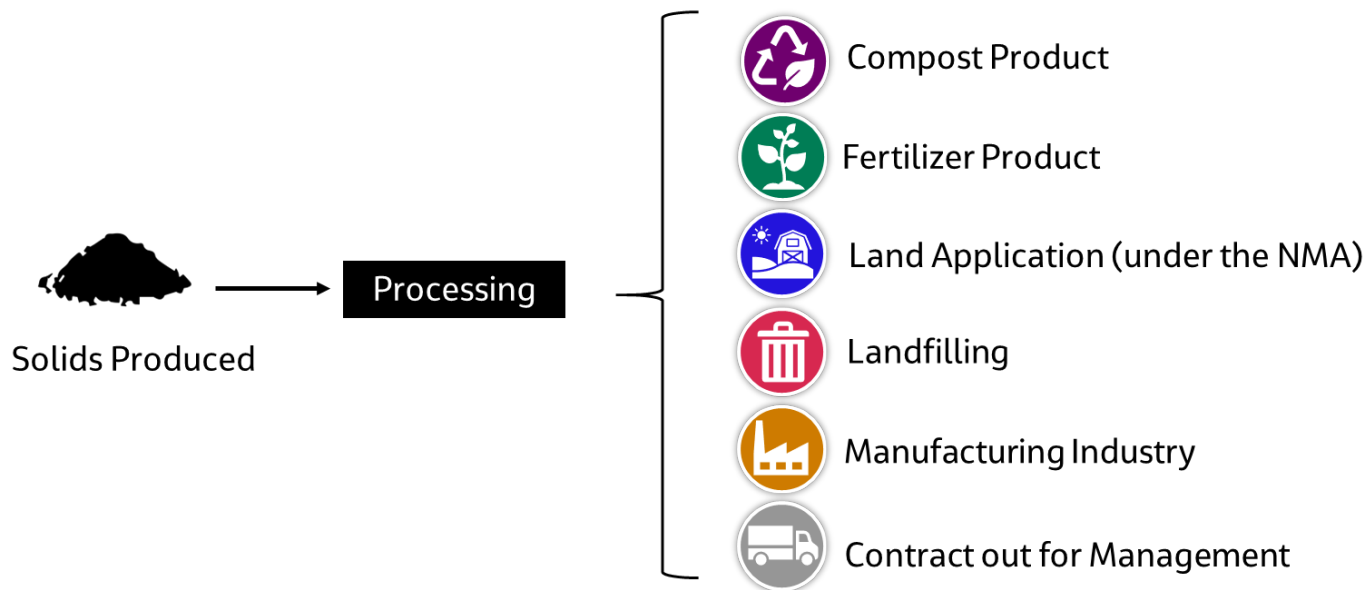
Equipment constraints:

In addition, the existing incinerator is expected to reach its end of useful life as early as 2037. Replacement or an alternative solids management approach is required to meet expected growth.



Solids management approaches (end-uses)

All wastewater solids management approaches require pre-processing to convert the solids into a form acceptable for the end-use. There are many ways to manage solids. These methods range from disposal in a landfill to more complex processes that enable energy or nutrient recovery.



Long list of solids management options



Compost Product

- Marketed and sold as Compost Category A
- Technologies: Composting
- Regulations: Ontario Compost Quality Standards



Fertilizer Product

- Technologies: Pelletization, Alkaline Stabilization, Thermal Hydrolysis Process + Digestion, Lystek
- Regulations: Federal Fertilizers Act, Fertilizers Regulations



Land Application (under the Nutrient Management Act)

- Examples: agricultural land application, landfill cover
- Technologies: Digestion, Composting (Category B)
- Regulations: Nutrient Management Act



Landfilling

- Technologies:
 - Incineration and Ash Management
 - Any of the above
- Regulations: Site-specific environmental compliance approval



Manufacturing Industry

- Cement manufacturing
- Vitrification
- Fuel products:
 - Oil from Biosolids
 - Pyrolysis and Char
 - Gasification
 - Hydrothermal Processing
- Regulations: industry-specific



Contract Out for Management

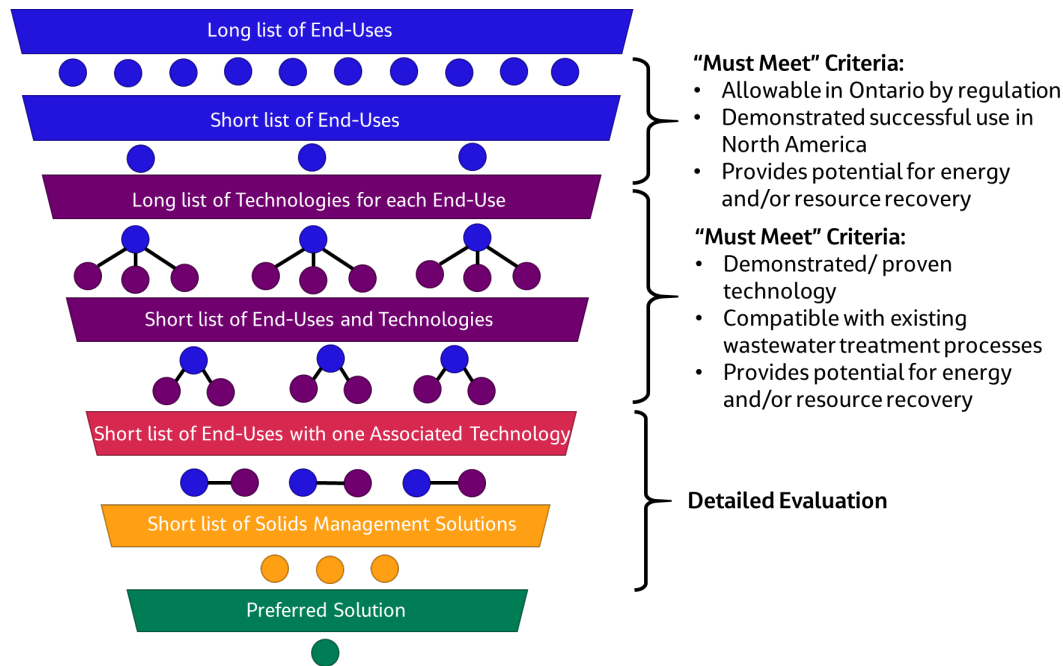
- No further processing beyond existing thickening/ dewatering
- Haul away thickened or dewatered sludge
- Example: Lystek
- Regulations: to be managed by contractor

Decision-making process

A long-list of solids management end-uses (**“Where will the solids go?”**) will be developed and screened (remove non-starter) against a set of “must meet” criteria to create a short list.

A long list of compatible processing technologies (**“How do we need to treat/process the solids?”**) will be developed that are compatible with each short-listed end-use. These technologies will be screened against a second set of “must-meet” criteria.

The short-list of end-uses and associated technologies will be assessed in the detailed evaluation phase and combined to produce solids management solutions. The outcome of the detailed evaluation phase is a single preferred recommended solution (may include more than one end-use and associated technology for resiliency purposes).





Next steps

Thank you for your interest in the City's Biosolids Management Master Plan.

Your feedback is an important part of the Master Plan process.

- Join the project mailing list to receive project updates. Please provide your contact information (name and email) to the contacts below. You can also provide feedback through the Get Involved site at <https://getinvolved.london.ca/biosolids>.
- In the next phase of the project, we will follow the screening process to narrow the long-list of residuals management end-uses and technologies down to a short-list for detailed evaluation.

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