

Introduction

The purpose of this report is to provide the Committee with an update on the development of an alternate site for processing construction & demolition waste at the Sudbury Landfill.

According to Statistics Canada data, construction and demolition waste accounts for approximately 12% of all solid waste generated in Canada. In Greater Sudbury, handling and processing a large portion of this waste category has helped reduce the consumption of landfill space and is expected to extend landfill life by three years. This is a key goal in the management of solid waste.

Current Operation

The majority of construction & demolition waste delivered separately to the Sudbury Landfill has been and continues to be stockpiled and handled within the waste disposal footprint. The waste disposal footprint is the only area within a landfill site that can ultimately be used to bury garbage. Refer to Appendix A for additional details.

At the Sudbury Landfill, areas within the waste disposal footprint are also used to process organic waste, stockpile and process major categories of construction & demolition waste, stockpile cover material and store landfill equipment and supplies.



Sudbury Landfill: Partial view of the waste disposal footprint.

Future Operation

At the Sudbury Landfill, non-disposal activities such as the handling of construction & demolition waste and the processing of organic waste will need to be relocated away from the waste disposal footprint.

The first process to be relocated will be the handling and processing of construction and demolition waste. A new area to deal with this waste has been developed within the site and will be operational in mid 2021 under the next operational contract.

The handling and processing of organic waste will be the next major project. Staff is currently reviewing options for processing organic waste and will report back to Committee later this year with processing options.

New Construction & Demolition Material Recycling Area

A new and dedicated area has been developed to handle and process construction and demolition materials. The area is located within the buffer zone of the Sudbury Landfill, west of the small vehicle drop-off and south of the waste disposal footprint.



Sudbury Landfill: New Construction & Demolition Material Recycling Area

Work on the new area was staged and included:

- Clearing and grubbing of the area
- Construction of a two lane access road
- Perimeter ditching, check dams, interlocking concrete bunkers and a shelter
- Construction of a single lane alternate emergency access road
- Installation of signs

Staff also submitted an application to amend the site's environmental compliance approval for the new handling and processing area. The amendment included permission to process construction and demolition waste at this new location, including the ability to process additional waste categories. The new area is now licensed to handle and process paper, cardboard, carpeting, plastic materials, inert granular materials, non-wooden flooring; scrap steel, mixed and specialty metals; drywall; non-recyclable glass; asphalt roofing; concrete, brick & block; ceramic fixtures; clean & other wood waste and mixed construction & demolition waste.

Although the City's license to accept and process the numerous categories of construction & demolition waste was approved by the Province, current service levels for the processing of this waste is listed in Appendix B. Items not listed in the chart are immediately buried upon receipt, with the exception of reusable items pulled from mixed loads by the landfill operator and sold on-site at the Reuse Store (e.g. doors, windows, cabinets etc.).

Expanding the Construction & Demolition Material Recycling Program

The City's current approved service levels process the most significant categories of segregated construction and demolition waste with the exception of sheetrock/drywall/plasterboard, dedicated loads of asphalt roofing shingles and mixed construction & demolition loads. This is based on a 2010 waste audit (refer to Appendix C) conducted on 12 inbound mixed construction & demolition loads. Although the audit was completed 9 years ago, staff considers the results current and representative of today's waste stream.

Staff will continue to monitor and evaluate the possibilities of expanding the program, especially for areas that will significantly conserve landfill space. These evaluations typically follows successful pilot projects, confirmation of sustainable end-markets, viable alternative end uses and/or the establishment of new producer funded programs. If these conditions develop, staff will be prepare a report, including a business case for the Committee's consideration.






Appendix A

Aerial View of the Sudbury Landfill



Appendix B

Current Approved Service Levels for Construction/Demolition Waste

<p>Concrete, Brick & Block</p> 	<p>The material is stockpiled within the waste disposal footprint. The material is ground once per year or used as is for substitute granular materials.</p>	<p>Processing fee for this category of waste delivered without other garbage is \$43 per tonne.</p>
<p>Other Wood Waste</p> 	<p>The material is stockpiled within the waste disposal footprint. The material is ground four times per year and mixed with cover material as an alternate daily cover or applied on temporary internal access roads during inclement weather.</p>	<p>Processing fee for this category of waste delivered without other garbage is \$43 per tonne.</p>
<p>Clean Wood Waste</p> 	<p>The material is stockpiled on the Leaf & Yard Pad. The material is ground regularly and shipped to Vale. Vale blends the material with other organic waste materials and uses the blended mix to reclaim tailings.</p>	<p>Processing fee for this category of waste delivered without other garbage is at no charge.</p>
<p>Scrap Metal</p> 	<p>Scrap metal is placed in containers and regularly shipped off site to scrap yards/end-markets for recycling.</p>	<p>Processing fee for this category of waste delivered without other garbage is at no charge.</p> <p>Processing fee for this category of waste delivered with garbage is \$155 per tonne.</p>
<p>Cardboard and Paper</p> 	<p>Cardboard and paper are placed in containers at the small vehicle drop off. This material is then shipped to the Recycling Centre for further processing.</p>	<p>Processing fee for this category of waste delivered without other garbage is at no charge.</p> <p>Processing fee for this category of waste delivered with garbage is \$233 per tonne.</p>

Appendix C

Construction & Demolition Waste Audit

C&D Landfilled Waste Stream	Average Composition (by weight)
Recyclable Paper/Packaging *	1.83%
Recyclable Plastics *	0.54%
Recyclable Metals *	0.03%
Recyclable Glass *	0.07%
HSW	0.19%
Compostable Organics/Paper *	0.82%
Leaf & Yard Waste *	1.67%
Electronics *	0.35%
Tires *	0.00%
Carpeting, Underlay	1.05%
Vinyl flooring, Linoleum and Tiles	0.25%
Sheetrock, Drywall, Plasterboard, etc. (mostly treated)	6.15%
Concrete, Brick & Block *	12.66%
Asphalt Roofing (often delivered in segregated loads)	0.78%
Plastic pipes and fittings	0.02%
Insulation	1.24%
Wiring, fixtures, etc.	0.12%
Non-metal sinks, toilets, etc.	1.36%
Scrap Metal *	3.37%
Window and door glass	1.13%
Pallets, Lumber *	12.06%
Doors, Cabinets, Painted Lumber, etc. *	17.16%
All other wood waste	4.10%
Rock, stones, sand, clay, other fines (certain items can be reused internally)	13.54%
Other Waste Not Currently Divertible	19.51%
Total All	100.00%

* reused/recycled if segregated

The samples were taken from mixed loads of construction and demolition waste and not from dedicated loads of one type of waste material (e.g. wood, concrete, asphalt roofing etc.). The City does receive segregated loads of asphalt roofing and that type of waste is not adequately represented in the above table.