

Smith Waste Disposal Site Service Review



Environmental Compliance Approval A341601

November 23, 2020

Prepared for:

The Corporation of the Township of Selwyn

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Executive Summary

The Corporation of the Township of Selwyn (Township) obtained the services of Cambium Inc. to complete a service review for the Smith Waste Disposal Site (Site). The intent of the Study was to review available information on-site servicing and make recommendations for improving operations and administration activities related to the Site.

Cambium met with Township staff and visited the Site in August to obtain information from operators and administrators for the Site as well as observe operations. Overall the Site functions well with numerous successful diversion operations in place and tidy and well-defined areas for waste collection.

Based on the information reviewed in this Study several recommendations are being made that will either optimize operations or improve efficiencies. These recommendations are based on knowledge of other municipal operations, best practices, experience and waste policy and direction. The main change options being recommended for implementation include:

- Optimizing the management of brush on-site
- Reviewing and potentially improving cover and compaction activities
- Improving waste records management for reporting include investigating upgrades or use of new software
- Adding credit card payment option
- Obtaining internet service at the Site
- Amending on-site tipping fees
- Completing waste composition audits

There are also several services that the Study determined should remain the same at this time including:

- Construction and Demolition Program
- Limited Organics Collection



- Hours of Operation

As there are significant changes occurring in waste management with the implementation of extended producer responsibility it is recommended that staff stay informed of highlights on transition developments and the County's plans for transition of the diversion programs. Additionally, the Site life at the end of 2019 has been identified as 15.8 years. It will be important for the Township to consider longer term plans in the next 5 to 10 years including how they will transition the Site for closure or operation as a transfer station.

Respectfully submitted,

Cambium Inc.

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1.0 Introduction

The Corporation of the Township Selwyn (Township) contracted Cambium Inc. (Cambium) to complete a Service Review (Study) for the Smith Waste Disposal Site (Site).

The goal of the Study was to gain a thorough understanding of the operational details of the Site in order to make recommendations to the Township that meet the goals of optimization and efficiency, while keeping environmental responsibility in mind.

The Township is faced with challenges and opportunities associated with operating one waste disposal site for a large geographic area. The population is spread out across the area and somewhat seasonal in nature. Additionally, waste management programs in the Township are managed at both the Township and County of Peterborough (County) level which adds complexity to coordinating operations. Gaining as great an understanding as possible of the current operations, challenges, and opportunities, helps to ensure suggested courses of action are appropriate and achievable with the resources available.

1.1 State of Waste in Ontario

This Study is being undertaken at a time where a relatively high level of both uncertainty and opportunity exists in the area of waste management. The Waste Free Ontario Act, enacted in 2016, represents an opportunity to move the province toward the circular economy (where waste is essentially eliminated), and shift the responsibility for waste from municipalities to the producers.

In 2017, the province of Ontario released a Strategy for a Waste Free Ontario: Building the Circular Economy (Ontario, 2017), which builds on the Waste Free Ontario Act, and outlines the intent to transform the way that we do business and manage waste in the province of Ontario. The goals of the Waste Free Ontario strategy were to reduce waste and greenhouse gas (GHG) emissions by making producers responsible for end of life management of their products and packaging. In 2018 the provincial government released it's a Made-in-Ontario Environment Plan (Ontario, 2018), which maintained the provinces commitment to a shift towards a circular economy and Individual Producer Responsibility (IPR). In 2020, we have



begun to see this shift in material management with some producers already being regulated to manage their waste (tires and batteries) and others scheduled to shift to this new system between now and 2025 (electronics, hazardous waste, and blue box recycling).

In addition to shifts in the management of material packaging the provincial direction includes action items required to manage issues around food waste and its GHG emissions (Ontario, 2018). Both provincial and federal government's mandate to reduce GHG emissions has the potential to impact the food waste issue and possibly waste related transportation.

The overall landfill life remaining in Ontario is approximately 14 years as of 2018, which is quite short given the requirements and time necessary to open new landfills (Ontario Waste Management Association, 2018).

1.2 Objectives

Cambium utilized research and knowledge of leading "best practices" in waste reduction programs and planning for municipalities, and applied awareness of trends and anticipated future changes relating to practice and regulatory policy to support recommendations. The Township put together a Project Team who were provided opportunity to participate and work directly with the Cambium team.

The Township required a Study with some foresight to achieve one or more of the following:

- Reduce the net costs for waste management;
- Decrease waste per capita;
- Increase waste diversion; and
- Optimize system operations;

Reducing net costs can be accomplished through reducing operating costs (increasing efficiency and/or increasing the revenue derived from the current waste management programs, eliminating programs). Decreasing waste per capita can be accomplished through waste reuse and reduction programs. Increasing diversion entails increasing the success of the current diversion programs and/or adding new diversion programs. System optimization is



completed by reviewing the processes in place to achieve the desired outcome and identify areas for improvement.

The Study goals and objectives align with the Townships Strategic Plan, developed to guide decisions and actions within the community (Township, 2018). The Township of Selwyn is focused on creating “a progressive and sustainable community” and ensuring decisions are “environmentally responsible”. Additionally, the Township is prioritizing the reduction of greenhouse gases as part of the Townships Climate Change Action Plan. To date many ‘Green’ initiatives have been implemented to support the Strategic Plan and Climate Change Action Plan. The Study is funded by the Provincial Modernization Program and therefore is also intended to drive efficiencies in municipal operations.



2.0 Background

2.1 Site Description

The Site is on Lot 20, Concession VIII, geographic Township of Smith, 1480 County Road 18 (8th Line of Smith) and operates under Ontario Ministry of Environment, Conservation, and Parks (Ministry) Environmental Compliance Approval (ECA) No. A341601 (Appendix A), approved on December 15, 2011, and amended on October 11, 2013.

The Site is centrally located in the Township of Selwyn and services a large rural geographic area as well as the villages of Lakefield and Bridgenorth as shown on Figure 1. The Site is primarily surrounded by wooded area with wetland tributaries to Miller Creek located to the northwest.

The Site currently operates Tuesday to Saturday, opening at 9am each morning. In the summer, the Site closes at 5pm on each operating day except Wednesday when it remains open until 7pm and Saturday when it closes at 3pm. In the winter, the Site closes at 4pm on each operating day except Saturday when it closes at 3pm.

The Site is permitted to receive solid non-hazardous waste for landfill and operate several waste diversion programs including but not limited to blue box, electronics, hazardous waste, scrap metal, and construction demolition material.

2.2 Site Service Area

As reported by the Census in 2016, the Township has a population size of 17,060 (Statistics Canada, 2019). The Site is the only waste disposal site in the Township and is only permitted to receive materials generated within the municipal boundaries. To confirm municipal residency, site access is regulated by access cards issued annually to residents (2 cards per household). There is currently no access pass requirements for commercial customers but they are asked to provide the address of the location which they are servicing when they attend the Site. Residents of the Township are also permitted to take waste materials to the

Bensfort Road waste disposal site (Bensfort WDS), which is jointly owned by the City and County of Peterborough.

2.3 Landfill Capacity

The landfill at the Site is approved for a 10.1 ha filling area within a 52.2 ha licensed area and approved for a total volume of 536,000 m³ of waste (Cambium, 2010). Remaining landfill capacity is presented in Embedded Table 1 and updated annually as part of the Annual Monitoring Program for the Site. Since 2016, the Landfill has been able to significantly reduce the annual volume of waste being landfilled resulting in a longer projected lifespan for the waste disposal capacity.

Embedded Table 1 Summary of Landfill Waste Capacity

Year	Average Annual (m ³)	Existing Volume	Remaining Capacity	Remaining Life
2014	11,467	388,235	147,765	12.9
2015	11,739	397,200	138,800	11.8
2016	8,528	405,685	130,315	15.3
2017	7,470	409,170	126,830	17.0
2018	7,617	417,130	118,870	15.6
2019	7,229	421,670	114,330	15.8

Note: 5-year average annual volume used to estimate remaining life

2.4 Waste Policy and Regulation

2.4.1 Bylaws

In addition to Federal and Provincial policy and regulations, the Township has adopted municipal bylaw 2019-008 to outline specific waste requirements. The bylaw was updated in 2019 to reflect the new clear bag program currently being launched and becoming mandatory by September 2021. It also describes curbside bag limits, sets out requirements and times and exemption processes for waste tipping fees. The Township has a separate User Fees and Charges Bylaw 2016-026, which details waste tipping fees. Further analysis of the tipping fees is included in Section 5.1.4, 5.1.4.2, 5.2.3, and 6.1.9.



2.4.2 Environmental Compliance Approval

The ECA outlines requirements for operation including but not limited to fill and cover requirements, limits for materials which can be accepted at the Site and record keeping requirements. The Site is operating in accordance with Ministry requirements and currently meeting or exceeding the expectations.

2.4.3 County Responsibilities

Waste management responsibilities are shared by the Township and the County. The County plays a significant role in waste diversion operations in all of its member townships. The County supports the Township by overseeing the curbside collection and recycling of blue box material, leaf and yard waste and some kitchen organics. The County provides a mattress diversion program at the Bensfort WDS, and hosts events for collection of various diversion materials including bulky plastics, hazardous waste and electronics, and occasionally carpet or textiles. Additionally, the County administers and/or operates a number of waste diversion programs at the Site as listed below.

- Electronics - administered by County, operated by Township
- Blue Box Materials – administered by County, operated by Township
- Hazardous Waste – administered and operated by County
- Leaf and Yard Waste Composting – County covers the cost of some leaf and yard waste received in the spring and fall at the Site to be transferred off-site to a composting facility.

Although the County administers these programs by coordinating contracts for hauling and processing, the Township is significantly involved in the operation of the programs as they monitor the waste diversion areas for electronics, blue box materials, and leaf and yard waste and are responsible for overall operation of the Site.

There are no recent/formal agreements between the County and Township detailing the parameters for the shared programs. The County levies the Township annually for curbside



collection of blue box materials, leaf and yard, and organics as well as administration of on-site depot operation of diversion programs noted above.

The levies also cover the Townships share of operating costs of the Peterborough County/City Bensfort WDS, Harper Road leaf and yard composting site (Harper Rd), and the Pido Road hazardous waste and Blue Box Material Recovery Facility (Pido Rd). Levies include the tipping fees and/or processing fees for all materials collected curbside and brought to these facilities (recycling, garbage and leaf and yard).

Residents are charged tipping fees when individually visiting the Bensfort WDS. Staff at the Bensfort WDS track the origin of materials brought to the site by city or township. Therefore, it is possible to determine for example, how many mattresses are currently being generated for disposal by Township residents or how many visits are made to the Bensfort WDS by Township residents.

3.0 Methodology

The approach to the Study involved four phases:

- Detailed review of current programs and practices
- Evaluate performance of current programs and practices
- Understand financial cost of existing operations
- Develop and prioritize options and opportunities that would assist in achieving the Study goals.

The approach involved a considerable amount of data gathering and research. It was important to gain a clear understanding of the current waste management situation in the Township, including: program operational details, waste performance and how it was measured, and the financial costs associated of the existing programs.

In conducting the review, the following key factors were considered:

- Study's, reports and audits completed by the Township and County to date;
- Current waste generation and diversion rates;
- Geographic expanse and make-up of the municipality as well as location and capacity of the landfill;
- Policy changes at a provincial level, which will impact the Township in terms of roles and responsibilities and costs for waste diversion (i.e. the Resource Recovery and Circular Economy Act);
- Existing waste management contracts and arrangements for collecting and processing of waste materials at the landfill;
- The Townships plans and services and how they integrate with the County's requirements; and
- Site operating procedures



4.0 Current Programs and Practices

In order to effectively assess operational efficiencies, Cambium met on Site with operations staff on August 13, 2020 to discuss and identify areas of success and potential areas for improvement. This Section provides a summary of Site programs and operations based on information obtained from the Township. For reference, photographs of the waste disposal areas are found in Appendix C.

4.1 Operating Procedures

4.1.1 Garbage

The Township offers a curbside garbage collection program to all residents and small commercial businesses within the municipality. Residents are permitted to set out 2 containers weekly whereas commercial establishments are permitted to set out 4 containers of garbage weekly. Garbage collected curbside by Waste Connections Canada is brought to Bensfort WDS, with the exception of waste collected on holiday Mondays which goes to the Site. Approximately 3,100 tonnes of waste per year is diverted to Bensfort WDS whereas approximately 100 tonnes is brought to the Site on holiday Mondays.

Based on the information provided, most of the residential garbage generated is collected curbside and brought to the Bensfort WDS. Waste not collected at the curb may be brought to the Site by residents and local commercial businesses. Customers are required to bring garbage to the tipping face or designated area for disposal. All waste is weighed on hydraulic scales and customers are charged a weight-based tipping fee after garbage disposal.

Site equipment operators ensure that garbage is properly placed in the landfilling area. At the end of every day in summer and twice a week in winter an 816CAT Compactor is used to crush garbage prior to application of cover. A 624K John Deer Loader is used to move cover material to the tipping face for daily cover application.

The Township uses a mix of materials for cover including road ditching material, composted leaf and yard waste mixed with sand, wood chips, and sand/soil from a municipally owned pit located on the adjacent property.



4.1.2 Construction Demolition Material

Customers must cross the scales and pay a tipping fee to dispose of construction demolition waste. Construction demolition materials are separated by the customer by placing waste in a designated area onsite. The onsite loader then fills 40-yard bins with the construction material and notifies the waste hauler and processor (Waste Connections Canada Inc.) for collection. Cambium understands from discussion with staff that Waste Connections Canada Inc. takes construction demolition material to their waste disposal facility for further processing, consolidation and transporting to end markets. Materials accepted in the program include:

- Untreated wood
- Plaster and drywall
- Toilets
- Sinks
- Cupboards

4.1.3 Leaf and Yard Waste

Residents must cross the scales with leaf and yard waste and place material in a designated area. This active leaf and yard disposal area is maintained by onsite equipment. Throughout the year the material is brought from the drop off area to a leaf and yard storage area where the material is left to decompose. Historic test results have shown the material does not meet Ministry standards for end use as compost and therefore no effort is expended to meet any composting standards following placement in the leaf and yard composting area. Decomposed leaf and yard waste is currently mixed with soils and used as alternative daily or interim cover. A small portion of the leaf and yard waste is transferred annually to Harper Rd for composting. In 2017-2018 approximately 2,000 cubic metres (m³) of leaf waste was stockpiled onsite. By the end of 2019 1,000m³ had been used as cover material and some shipped offsite to Harper Rd. The County will transfer and compost leaf and yard waste up to a value of \$8,600 (hauling and processing fees) if the material is received at the Township at no cost. The Township



therefore schedules free leaf and yard waste days at the Site to coincide with the dates of curbside leaf and yard collection administered by the County.

The County offers a curbside leaf and yard material collection service to some residents in the Township, located in Bridgenorth, Arnott and Gifford Drive Area, Ennismore (settlement), Emerald Isle, Terraview Heights and Woodland Acres, Youngstown (and Area) and Lakefield. Leaf and yard material collected at the curb is brought to Harper Rd for composting.

4.1.4 Brush

Residents must cross scales and pay fees as required to drop off brush onsite. There is no limit to the quantity of brush that residents are permitted to drop off. Brush is kept separate from leaf and yard waste and chipped into wood chips which are mixed with sand and used as daily cover. At the time of the Site visit a significant quantity of unchipped brush material was noted onsite. It has been noted during the past 3 years of site surveying that the brush pile has been increasing in size, starting at 3,000m³ at the end of 2017 to over 6,000m³ by the end of 2019. A recent survey completed in October 2020 indicates the pile has been significantly reduced since August to 2,575m³.

It was identified during the Site visit by operators that wood chips are only suitable as daily cover during specific times of the year when weather permits. Wood chips can create challenges when used during wet times of the year as they break down and create undesirable operating conditions at the waste tipping area.

4.1.5 Scrap Metal and Refrigerant Appliances

Residents bringing scrap metal to the Site must cross the scales and pay the regular waste tipping fee as well as an additional fee for freon removal if applicable. Scrap metal is currently placed in a designated area by residents and loaded into 40-yard bins by onsite equipment for transport to a recycling facility. Appliances requiring removal of refrigerants (e.g. air conditioners, fridges, freezers, and dehumidifiers) are placed in a separate location until the refrigerant has been removed and then they are loaded into the 40-yard bins onsite. There is a per bin fee for scrap metal pick up and a corresponding rebate based on scrap metal prices



reported by the hauler (currently Waste Connections Canada). There is a per unit charge by a licenced contractor for removal of refrigerants from appliances.

4.1.6 Tires

Tires are currently accepted at the Site. The collection and diversion of tires is managed by the Township. There is currently a limit of 10 tires per resident per visit. Less than 50 tires were noted, neatly stacked onsite at the time of the Site visit. Collection of tires is sometimes a concern for municipalities but it has not been identified as an issue for the Township. The current service provider is R&E Tire. Tires was the first program to transition to full producer responsibility under the Resource Recovery and Productivity Act (RPRA). Under this program tire producers are obligated to collect used tires for recovery.

A search of the RPRA tire directory shows multiple locations offering tire collection service in the area including auto garages and dealerships in Bridgenorth, Lakefield, and the City of Peterborough. It should be noted that by offering a Tire collection service at the Site, the Township is supporting producers in meeting their collection requirements while providing a convenience to residents; however, it is not a requirement. The Township should keep this in mind as other programs transition to Extended Producer Responsibility (EPR). Some municipalities such as the City of Kawartha Lakes have chosen to opt out of tire collection and leave that service to the repair shops and locations that sell tires and are required to collect post-consumer tires.

4.1.7 Household Batteries

Household batteries are accepted outside of Hazardous Waste Depot hours by Township staff. These are placed in a designated location beside the scale house in a covered collection container. Township staff arrange pick up of batteries.

4.1.8 County Diversion Programs

Residents arriving at the Site with County supported diversion materials (waste electronics, blue box, hazardous waste, and batteries) are directed to drop off materials in the designated



area adjacent to the scales. There is no charge to drop off waste electronics, blue box materials, hazardous waste or batteries so the area is set up to eliminate the requirement for residents to cross the scales. Weights of materials are recorded in the landfill software program when it is being collected by the waste hauler. The number of customers using this service is estimated by the scalehouse operator and noted in the Sites software program. The quantity/proportion of material that is from commercial customers in the area is not recorded by Township staff.

4.1.8.1 Electronics

Electronics are deposited on a table by residents and Township staff load the materials into roll off containers. This ensures that only acceptable materials are placed in the bins and that electronics are stacked to optimize the use of space and quantity of materials that can be shipped in a load. The Township must notify the County to coordinate collection when the bins are full and not the waste hauler directly. This can sometimes result in miscommunication or delays. Currently the service is provided by Quantum Life Cycle LPP, who are under contract with the County.

4.1.8.2 Blue Box

The two-stream recycling program (containers and fibres) is located at the Site where blue box materials are placed into 8-yard front end bins by residents. The bins have signs indicating which materials goes in which bins but residents often need the assistance of Township staff to confirm the materials are being placed in the correct location. Specifically, it was noted that although bagged film is collected in the fibre bin, this is not indicated on the signs. During the visit Cambium observed that there is not clear separation/distinction between the container and fibre bins. All the bins are blue and located in a single line with a slight increase in the distance between bins where the bin type switches from fibres to containers as shown in Appendix C. Bins are emptied by the Counties blue box recycling collector, currently Emterra Environmental, and brought to the Material Recovery Facility (MRF) at Pido Rd in Peterborough.



4.1.8.3 Hazardous Waste

The Hazardous Waste Depot is entirely managed by County staff and is currently open seasonally on Thursdays. Township employees are not required to track customers using the hazardous waste service or handle any hazardous waste. Hazardous waste can also be brought by residents to Pido Rd.

4.2 Administrative Procedures

4.2.1 Weigh Scale Software and Record Keeping

The Township uses a program provided by JF Custom called Weigh Manager to track waste material categories, weights, and fees. The system includes several functions allowing the operator to manage what information is entered into the system. Operators can add customer information, material types and pricing tables. Additionally, operators can run a number of different reports to review the information collected from customers.

Report outputs are available in PDF format, and there is no integration with other municipal software such as accounting. As there is no network connection, backup data are placed on USB and shared with the Township office to conduct accounting requirements. Currently, reports are printed from the system and information is entered manually into record keeping sheets as required. The tracking of information and management of records for reporting has been identified as an operation needing improvement.

The Township currently enters most information into the software system to keep all data tracking in one place. The administration office also receives information from the County on diversion data, and Waste Connections for tonnes of curbside waste, depot construction demolition, and depot scrap metal. Currently, the Township doesn't receive information from the City or County on the use of shared facilities such as Bensfort WDS, and Pido Rd by Township residents.

Data management is an important tool to support optimal and effective waste services.



4.2.2 Site Transactions

The software system provides operators with information about the load and fees due by the customer. Currently customers are permitted to pay via cash, debit or account. There is no internet access onsite and debit is available by dial-up connection only. Staff reconcile their ticket and payment information at the end of day and provide it to administrative staff at the Township office to verify, enter data into the financial services software, and deposit payments to the bank.

Accounts can be requested by commercial customers to be invoiced monthly based on transactions at the Site. Occasionally there are issues with unpaid accounts and invoicing account holders is an additional administrative requirement.

The lack of internet access and credit card options as well as the management of landfill accounts have been identified as opportunities for improving landfill transactions.

4.2.3 Site Passes

Site passes are issued to residents to ensure that material accepted at the Site is generated within the Township, a requirement of the ECA. Passes allow residents access to the Site but they are still required to pay respective fees to dispose of their materials. Residents are mailed two passes with their tax bill annually. Replacement passes can be purchased at the township office for \$10. Record keeping requirements for this process are minimal.

Commercial customers do not have landfill passes to access the Site but are asked to identify the location from which the material originates and staff have to know if these locations are within township boundaries. Current road lists at the scalehouse office are outdated and additional information could be provided to staff to assist with this process.

It was recently identified that the Township may be moving to an electronic tax billing system and are looking at options for the management of landfill passes moving forward.



4.2.4 Internal Communication

During operating days staff onsite use 2-way radios to communicate regarding site requirements. There is also a radio in the Township office located at 1310 Centre Line Road, however staff at the Site opt to use the phone to connect with administrative staff in the Township office when possible. The 2-way radios work well for onsite communication and staff have not identified any concerns with this technology.

The County are contacted by phone directly from the Site and staff at the Township office use phone and email to communicate information with the County. There are no internet capabilities at the Site.

Internet and email capabilities would assist landfill staff to communicate with administrative and management personnel at the Township office as well as with County staff.



5.0 Performance Analysis

5.1 Operational Analysis

Several performance measures were evaluated as part of the program review, including waste generation and diversion rates, environmental and operational considerations, and comparison to municipalities of similar size and characteristics.

5.1.1 Waste Generation and Diversion

Information was obtained from the Township on waste tonnage and landfill capacity usage. The Site is estimated to have 15.8 years remaining landfill capacity at the end of 2019 based on current rates of fill. The Site capacity estimates increased significantly when the average fill volume was re-evaluated in 2019. The five-year average annual volume (7,230m³) was significantly less than historical estimates of 13,000m³, as reported in the Design and Operations Plan (DOP) (Cambium, 2010).

Waste generation rates estimate that Township residents are currently generating approximately 560kg/person/year of waste. This is based on 2016 census data, waste quantities available including residential and commercial waste quantities obtained at the Site and through curbside programs, and excludes materials dropped off directly at County facilities by Township residents. If recorded commercial weights are excluded then the generation rate is closer to 390 kg/person/year. However, neither of these generation rates account for the seasonal influx in population or the materials hauled by Township residents or commercial businesses directly to Harper Rd or Pido Rd, and the information on residential vs commercial waste has limited accuracy. The actual waste generation rate is likely much lower if the seasonal population is accounted for. In the Ministers message regarding the Strategy for Waste Free Ontario, 2017, he cited the average Ontarian produces 850kg of waste each year.

Waste tonnage information available for the Township was organized into garbage and diversion categories for the purpose of calculating diversion from landfill. Based on the information available, Cambium estimates the diversion rate for the Township to be between 37% and 53%. There are 2 common waste diversion reports for Municipalities, one based on



all wastes received and diverted and the other based on just residential wastes. The reason for the two separate waste diversion rates is that cost recovery for Municipalities in provincial regulations applies to residential diversion of material only. However, for landfill site longevity it is important to understand the diversion rate of all materials, hence the second calculation. The lower diversion rate described above applies to overall diversion and the higher end applies to residential only.

It should be noted that the residential diversion rate would likely be less if tracking of residential versus commercial loads is done more accurately. All waste information is presented in appended Table 1.

5.1.1.1 County Information

The County reports waste diversion to the RPRA datacall program for blue box material annually. To support the data review, Cambium reviewed the 2018 datacall information available publicly on the RPRA website. In 2018, the County of Peterborough reported managing blue box recycling for a population of 56,619. The Township represents 30% of this population. The County reported a 50.3% residential diversion rate in 2018 and a per capita waste generation rate of 404 kg/person/year. Comparable sized municipalities in Ontario reported waste diversion rates ranging from 27.7% to 62.4% but most fell within a similar range to the County.

It is important to note that the differences in diversion rates and generation rates are a reflection of the County as a whole and reported residential tonnages of waste. Additionally, the information included in the Townships waste generation calculations in Section 5.1.1 don't include resident self haul to Peterborough City and County facilities for either landfill or diversion. Overall, the Townships diversion rate is likely somewhere between 40 and 50% when you account for these variances. Waste generation rates reported by the County and calculated from the Townships data are comparable, with the County reporting a 404kg/person/year versus 390 kg/person/year calculated from the Townships information.



5.1.2 Landfill Material Audit

At the time of the Study, the Township conducted a five-day waste audit of material coming into the landfill site for disposal. The audit was informal and conducted by Site attendants in order to gain a general sense of the types of materials being disposed in the landfill. The types of materials and weights of loads were documented and summary of the audit results are available in Table 2. Audit results show customers are primarily bringing in household generated waste that is not typically placed at the curb such as hoses, furniture, kids' toys, blankets, carpet and construction demolition materials such as treated and untreated wood and vinyl siding. There was no indication of industrial or commercial wastes from major waste haulers other than construction renovation materials which was about 8% of loads noted during the audit inspections. Additionally, it was noted that about 22% of the loads contained black bags assumed to consist of household waste. Based on the number of bags and an average weight of 15kg/bag, it is estimated that the weight of residential waste was about 10% of the total waste coming in during the audit. Current software tracking programs don't differentiate between residential customers and commercial customers. It is assumed that smaller loads (minimum fee) are all residential but it is unknown which percentage of the larger loads are residential and which are commercial.

It is important to note that waste auditing procedures were loosely defined and results could be confirmed through a more thorough tracking procedure for commercial vs residential material in the software or more defined auditing instructions for future audits.

Of the customers that were included in the audit, only one used clear bags. This indicates that additional information will have to be provided to residents and commercial customers prior to the compliance date of September 1, 2021 for clear bags.



5.1.3 Landfill Cover and Compaction

5.1.3.1 Cover

The D&O Plan recommends a 4:1 volume ratio of waste to daily/intermediate cover, a minimum 600 mm thickness of final cover, and 150 mm of soil cover and vegetation. As incoming waste is measured in tonnes and the material density varies compared to cover material it is challenging to estimate volume of waste versus cover landfilled without making too many assumptions. When reviewing the cover tracking reports provided by the Township along with the waste tonnage reports it appears that the quantity of cover being used may be greater than designed. The Site is well maintained to reduce blowing litter and address prior Ministry requirements for more daily cover placement. It is also noted that estimated tonnage of incoming cover material exceeds that currently being used or required onsite.

5.1.3.2 Compaction

A landfill compactor is used at the Site to assist with good management of landfilled wastes. A compactor is designed to use its weight and sharp teeth on the wheels to crush and break waste into smaller pieces. These smaller pieces of waste can be compacted to produce a more even surface for cover application and reduce unused air space in the landfill. During the site visit it was noted that wheels on the 816CAT Compactor were significantly worn. This was also identified by staff when asked about the performance of the equipment.

Despite the worn packer wheels the data suggests the Site is still able to achieve a good compaction rate. In the Design and Operations Plan, Cambium used a compaction rate, of 500 kilograms per cubic metre (kg/m^3), a compaction density often used to estimate capacity at small rural landfill sites (Cambium, 2010). This is a conservative estimate and data presented in Embedded Table 2 show that compaction rates are in line with or slightly below this estimate. Compaction rates noted by the US Environmental Protection Agency for a small landfill site are higher up to 700-1000 kg/m^3 (USEPA, April 2016).



Embedded Table 2 Landfill Cover and Compaction

	2017	2018	2019
Total Waste Landfilled (tonnes)	3,082	2,995	2,921
Total Cover Landfilled* (tonnes)	2,109	2,044	2,377
Total Capacity (m ³)	7,366	6,743	5,675
Overall Material Compaction (kg/m ³)	705	747	934
Compaction of Waste (kg/m ³)	418	444	515
Total Cover Inbound (tonnes)	N/A	3,510	4,884
<i>Note: soil density of 421.39 kg/yd³ used to calculate total daily cover and total inbound cover(US EPA)</i>			

Based on tonnage reports and capacity usage the Site is meeting expected compaction standards. There are several factors that can account for this including the removal of wastes that are difficult to compact such as mattresses, bulky plastics, and construction materials. Additionally, higher volumes of soils which already have a high density and can fill small voids can improve compaction rates but unnecessarily consume air space in the landfill.

5.1.4 Comparative Municipalities

A review of other municipal programs offers insight into how other municipalities are choosing to manage their waste, typical service level standards and opportunities for improvement. A total of nine municipalities with waste disposal site operations were chosen for comparison with the Site. Each of the municipalities used in the comparison offer some level of curbside waste and diversion material collection.

The Townships of Douro-Dummer, Havelock-Belmont-Methuen, and North Kawartha were selected as comparable Townships within the County that also offer curbside collection services to all or some of their residents as well as operating waste disposal site(s). It should be noted that each of these Townships are significantly smaller in population compared to the Township of Selwyn.



The Ottawa Valley Waste Recovery Centre (OVWRC), the Town of Blue Mountain, the Township of South Frontenac, and the County of Brant were all selected as municipal groups that offer similar services and have comparable population and geography. These municipal groups are all listed as rural collection south in the RPRA datacall program for blue box material.

Finally, the City of Kawartha Lakes and the City of Peterborough were considered as they are adjacent municipal facilities, although they service a significantly greater population size.

A comparison was completed for each municipality including hours of operation, number of sites, tipping fees, and waste disposal site programs. Embedded Table 3 provides a summary of general waste operation services offered by each comparable municipality.



Embedded Table 3 General Municipal Comparison Information

	Population	Curbside Collection	WDSs	Access by Permit	Payment Method	Waste Generation Rate (kg/capita)	Diversion Rate (kg/capita)
Township of Selwyn	17,060	Yes	1 L	Yes	Debit and Cash	404	203
Township of Douro-Dummer	6,709	Yes	1 TS	Yes	Debit only		
Township of Havelock-Belmont-Methuen	4,530	Yes, in specific areas	4 TSs	Yes	Cash only		
Township of North Kawartha	2,479	Yes	2 TSs	Yes	Cash or Cheque		
Ottawa Valley Waste Recovery Centre	38,174	Yes	1 L	No - higher tipping fee for non-partner municipality	Cash, Debit, and Credit	498	216
Town of Blue Mountain	7,025	Yes	1 L	Yes	Debit and Credit (temp no cash)	461	214
Township of South Frontenac	18,646	Yes	5 L's	No- must have ID	Debit and Cash	283	94
County of Brant	29,466	Yes	1 L 1 Ts	No	Debit and Credit (temp no cash)	569	197
City of Kawartha Lakes	75,423	Yes	5 L's	No	Debit and Credit (temp no cash)	445	167
City of Peterborough	82,094	Yes	1 L	No	Cash, Debit and Credit	438	238

Notes: Waste Disposal Sites are listed as (L) Landfill or (TS) Transfer Station

Population reported is based on Statistics Canada 2016 report with the exception of Ottawa Valley Waste Recovery Centre and County of Brant which are based on the 2018 datacall as information is not available on Statistic Canada for the areas as described.



5.1.4.1 Hours of Operation

The Site operates five days per week, offering 40 hours of operation to residents in the summer, and 34 hours in the winter. During the summer months, the Township provides one day a week when the Site is open until 7:00pm and on Saturdays is open from 9:00am to 3:00pm. In the winter, the Site is open 9:00am to 4:00pm, Tuesday to Friday, and 9:00am to 3:00pm, Saturday. Comparatively, although serving a larger area and population, the City of Peterborough, adjacent to the Township, is open 51.5 hours, six days per week. The County of Brant operates two waste disposal sites, one landfill site and one transfer station with a total of 54.75 hours per week between the two sites. The County of Brant has a slightly smaller population however, there are no extended hours into the evening and weekend hours are condensed.

The OVWRC has a larger population size to the Township of Selwyn and provides slightly more availability in terms of hours of operation (46 to 58) at the facility. The OVWRC is open five to six days per week in the summer, generally eight to ten hours per day, with some extended hours during the busy season.

The Township of South Frontenac has five landfills with operating hours that total 56 hours per week in both the winter and summer. The Township of South Frontenac differs in that it has rotating hours for the landfills each day of the week, meaning each landfill is open one or two days per week, likely due to the area the municipality covers.

The other townships that were examined in the surrounding area, Douro-Dummer, Havelock-Belmont-Methuen and North Kawartha, have significantly smaller population sizes, but most have sites open five to seven days a week.

Overall the hours of operation at the Site are considered to be slightly below the average but within a comparable range as shown in Embedded Table 4. Additional assessment of hours of operation is in Section 5.1.5.

Embedded Table 4 Municipal Comparison of Site Hours of Operation

	Summer (hours/week)	Winter (hours/week)
Township of Selwyn	40	34
Township of Douro-Dummer	24	12
Township of Havelock-Belmont-Methuen	113	60
Township of North Kawartha	58	42
Ottawa Valley Waste Recovery Centre	58	46.5
Town of Blue Mountain	21	temp hours
Township of South Frontenac	56	56
Country of Brant	54.75	52.75
City of Kawartha Lakes	115	105
City of Peterborough	51.5	51.5
Average	59	51

5.1.4.2 Tipping Fees

Tipping fees are an important consideration when reviewing waste operations. Tipping fees need to consider both the costs of operating the site as discussed in Section 5.2.3 as well as costs of comparable and more importantly neighbouring municipalities. If the municipal tipping fees are too high or too low it could change where a customer chooses to bring their waste.

Tipping Fees for all municipalities are in Table 3.

- **Minimum Tipping Fees**

Township of Selwyn has a minimum tipping fee of \$3.50 for less than 50kg for all waste material. Almost all of the nine municipalities of comparison have a higher minimum tipping fee. This comparison, indicated that sites typically charge a minimum fee per load, ranging from \$5.00 to \$20.00.

- **General Waste Tipping Fees**

The Townships general waste tipping fee is consistent for residential, construction, demolition and commercial waste at \$100 per tonne. Tipping fees in the adjacent municipalities of Douro-Dummer, and City of Peterborough, as well as OVWRC all have tipping fees slightly less at \$95/tonne, while Kawartha Lakes (also adjacent) has tipping



fees of \$120/tonne. It was noted during the review that the City of Peterborough is planning to increase the tipping fees at the Bensfort WDS in January 2021 to \$125/tonne. While it is good that the Township rates are currently slightly higher than City of Peterborough so as to encourage more waste to go to that Site if possible this will change come January 2021. Given the drastic difference between the City of Kawartha Lakes, new City of Peterborough fees and the Township fees, there is a possibility that waste from outside the Township will come to the Site. The garbage tipping fee at the County of Brant and Town of Blue Mountain are significantly higher than the other comparison municipalities likely due to their geographic location and tipping fees in those areas. Two Townships charge per truck load, with no specified weight ranging from \$30.00 to \$200.00 as there are no scales on those sites to determine weight-based fees.

- **Mixed Load/Unsorted Fees**

Four of the comparison municipalities have a higher rate per tonne charged for unsorted or mixed loads. The intent of these fees is to encourage residents to source separate materials into correct waste streams rather than landfill a mix of garbage and divertible materials. The mixed load applies to the separation of all materials with diversion programs at the sites including blue box, metal, construction demolition materials or other as applicable to the municipality. To the extent possible mixed loads are identified to the customer on the way into the site, however sometimes the scale house is notified of a mixed load by staff working at the tipping face. Although not all mixed loads will be identified without extreme scrutiny, the fees act as a disincentive to bring in unsorted material or to unload diversion materials in the incorrect location. The Town of Blue Mountain charges \$160.00 per tonne for sorted residential waste and \$320.00 for unsorted and the County of Brant charges \$291.00 per tonne for unsorted loads and \$97.00 per tonne for garbage separated from other materials. The City of Kawartha Lakes charges \$120.00 per tonne for standard loose waste but a mixed load is \$220.00 per tonne.



Kawartha Lakes also applies the mixed load rate to help enforce their clear bag program. If the load contains more than 10% opaque bags a higher rate applies: clear (\$120.00/tonne) versus opaque (\$220.00/tonne).

- Yard Waste Tipping Fees

Similar to the Township, most municipalities accept leaf and yard waste for no charge up to a specified weight. The Township, for example, accepts leaf and yard waste up to 100kg for no charge and beyond that charges a fee of \$45 per tonne. The City of Peterborough charges the same rate, however it will be increasing to \$95/tonne, whereas the City of Kawartha Lakes allows 250kg at no charge and over this amount is \$120 per tonne. The County of Brant has a fee of \$65.40 per tonne and the Township of North Kawartha charges per truck or trailer load which ranges from \$30.00-\$75.00. The remaining sites do not charge for leaf and yard waste.

- Construction Demolition

Construction and demolition waste for many sites has the same tipping fee as residential waste. However, the Town of Blue Mountain and the County of Brant have different fees based on whether the construction material is sorted and if it can be diverted. For example, the County of Brant separates specific items, like shingles (\$97.00 per tonne), wood construction materials, doors, tile, metal (\$97.00 per tonne), concrete with rebar (\$30.70/tonne), pre-sorted concrete with no rebar, brick, masonry pipe, asphalt and soil (\$15.35/tonne).

- Asbestos

Approximately half of the sites used in this comparison accept materials containing asbestos. The Township of Selwyn, the City of Peterborough, the OVWRC and the City of Kawartha Lakes charge the highest rates per tonne, between \$200.00 and \$250.00. However, the OVWRC charges an additional fee per load of \$150.00. Many of the other sites do not accept asbestos material and the County of Brant has a much lower rate of \$153.20 per tonne. Rates charged by the Township are comparable to adjacent municipalities for this material.



5.1.4.3 Waste Disposal Site Programs

Generally, each of the municipalities used in this comparison have landfills, the three sites that do not are the Townships of Douro-Dummer, Havelock-Belmont-Methuen and North Kawartha which only offer transfer stations. All municipalities offer curbside pickup, most of which are dual stream blue box collection. The County of Brant is the only municipality used in this comparison that has a single stream blue box collection. Each of the nine municipalities allows scrap metal and bulky plastics and most collect tires, aside from the City of Kawartha Lakes.

5.1.5 Hours of Operation

As noted in Embedded Table 4 the hours of operation at the Site are on the lower end when compared with other municipalities. The Site hours are being effectively used as can be further supported by the vehicle count recorded onsite. In 2019, the monthly number of vehicles was divided by the average monthly hours of operation for the Site to determine the approximate number of vehicles entering the site per hour as shown in Embedded Table 5. The assessment shows that the Site is well used and on average the hours are sufficient to provide good service. Approximately 15% of the visits are to the recycling depot only, the rest of the visits attend both the recycling depot and the landfill site or just the landfill site. In 2019, Site visits peaked in August at an average of 29 vehicles per hour. Assuming an average of 30 seconds is spent on the scale in and 30 seconds on the scale out and that 15% of visits are to the recycling depot only, the average vehicle count per hour should not be greater than 35 or it would be a challenge to serve all customers efficiently. Conversely, if vehicle counts are low, changes to the hours of operation may be recommended based on service requirements. Additional information gathered on time of customer visits would allow for a more detailed analysis of Site use.



Embedded Table 5 Site Use

	Number of Vehicles	Hours of Operation	Number of Vehicles per Hour
January	1500	147.22	10
February	1500	147.22	10
March	2000	147.22	14
April	3000	147.22	20
May	4500	160.21	28
June	4500	173.2	26
July	4000	173.2	23
August	5000	173.2	29
September	4000	173.2	23
October	4000	160.21	25
November	3000	147.22	20
December	2000	147.22	14

** hours were calculated by multiplying the number of hours per week by 4.33 (May and October each assumed half a month of summer hours and half a month of winter hours)*

5.2 Financial Analysis

As costs of services are continually increasing, it is important to review operational costs and capital expenditures to ensure decisions consider financial implications.

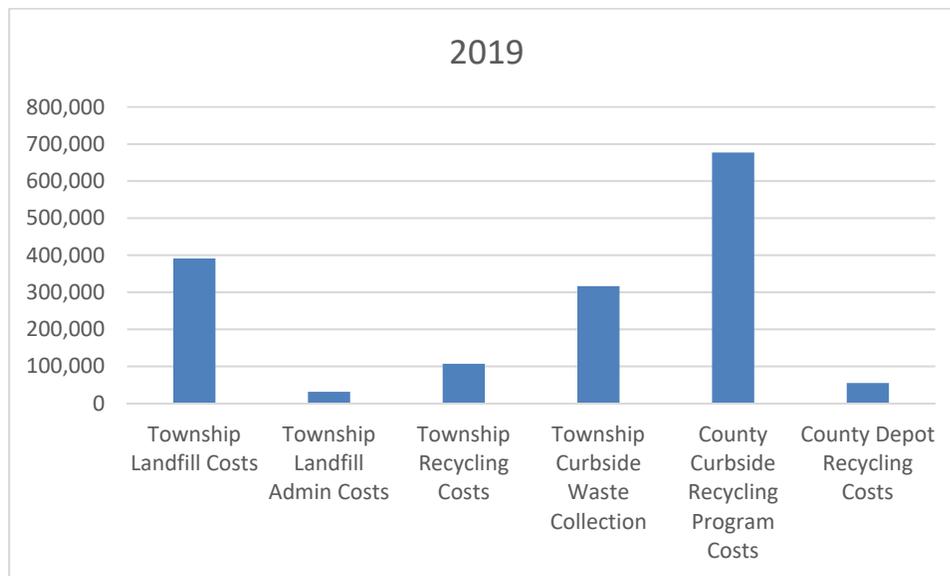
Cambium completed an assessment of the value of the landfill site capacity based on available information. The assessment concluded that the value of the landfill space for waste is approximately \$90/m³ or \$175/tonne. This value considers the closure and post closure costs of the landfill as well as annual operating costs and initial start-up costs (assumed to be \$50,000 as this was completed approximately 40 years ago). When the time comes for the Township to consider future disposal capacity the value of space assessment should be re-assessed to consider the start-up costs for designing and approving new waste disposal capacity. The assessment is included as Appendix B.

5.2.1 Overall Waste Management Service Costs

The Township provided Cambium with financial information for 2017 to 2019 inclusive for the operation of the Site to assist in evaluating expenses and areas of possible savings. In addition to the costs outlined in the General Ledger (GL) waste accounts, Cambium estimates an



additional \$30,000 in labour costs to operate the site are incurred by the municipality to provide management, customer service, finance, administration, and human resource services. There are also County levies to the Township including \$677,000 in costs annually for curbside recycling, as well as and \$55,000 in costs for recycling services provided directly at the Site. These County levies also cover some leaf and yard management, the pilot organics collection, special events and recycling programs such as bulky waste events, textile collection, the operations at Pido Road, mattress recycling, as well as the Townships share of operating Bensfort WDS. Information is not available publicly on the cost per tonne for program delivery for the various RPR municipal comparison groups. Therefore, Cambium is not able to comment on the costs of County services for waste diversion other than to note that they are just over 45% of the total estimated waste management costs for the Township. As approximately 40% of wastes are reported as being diverted and fees include garbage disposal costs at the Bensfort landfill, this seems like a reasonable allocation of costs. Annual Costs for Waste Management Services in the Township are outlined in Embedded Figure 1.



Embedded Figure 1 Waste Management Annual Operating Costs



5.2.2 Landfill Operating Costs

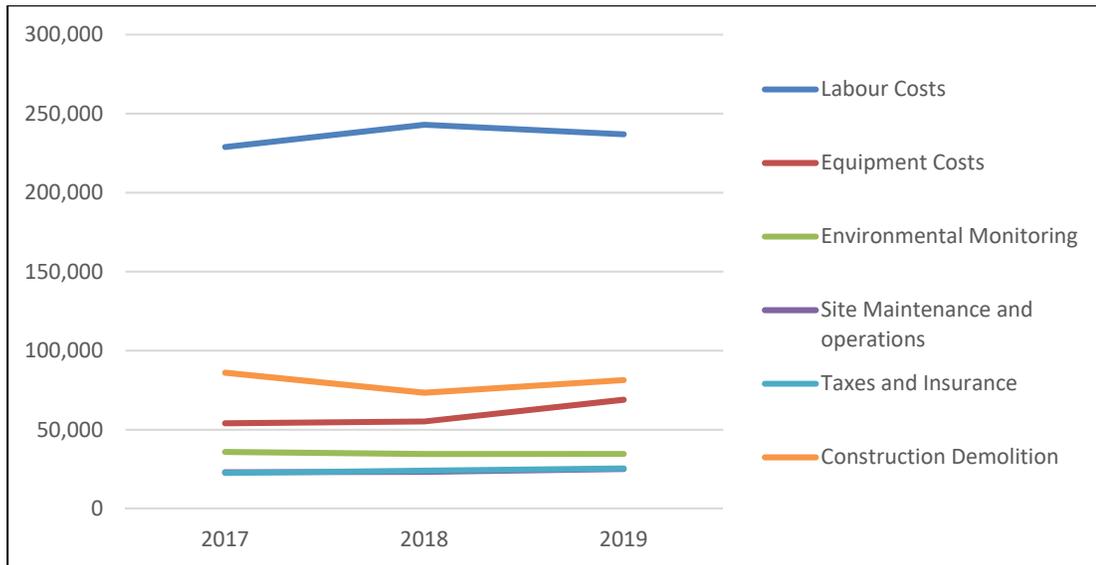
As is common with landfill operations, the main costs associated with operations of the Site are the labour, equipment and environmental monitoring costs as shown in Embedded Figure 2. The costs identified are in line with Cambiums experience and knowledge of operating costs at other waste disposal sites. Based on information provided at the time of the Site visit, three people are normally working onsite. This number seemed appropriate at the time to serve customers and ensure proper handling of waste. During slower seasons (December to March) less staff may be required onsite.

A significant cost for some municipalities is the supply of waste cover materials. The Township's costs for covering garbage include owning and obtaining materials from the adjacent pit and equipment costs. The costs associated with chipping brush, and composting leaves would be required regardless of whether the materials were used for cover and the using road ditching material offsets costs of obtaining cover material from other sources. There are no fees charged for accepting road ditching material or street sweeping material for use onsite as alternative daily cover.

It is also worth noting that costs for chipping brush are accounted for in the equipment rental account. It is estimated that these costs are about 15% of that budget.

The Township is charged a fee for the collection and processing of the construction demolition waste material. Based on a review of tonnage of material shipped and expense the cost per tonne for managing the material is approximately \$87/tonne.

Scrap metal financial arrangements seem reasonable. Upon reviewing July invoices there were 2 pick ups at an average cost of \$41.50/tonne and rebates of an average of \$146/tonne.



Embedded Figure 2 Landfill Annual Operating Costs

5.2.3 Tipping Fees

Current tipping fee rates bring in approximately \$390,000 per year in revenue. This revenue covers the Sites costs as identified in Embedded Figure 1. However, considering the \$30,000 cost estimated for landfill administration as well as closure and post closure costs identified in Section 5.2 the tipping fees could be increased to better account for longer term landfill costs. Generally, landfill site tipping fees should cover onsite landfill and waste transfer operations and tax levies should cover any curbside services and recycling programs. The waste tipping fees at the Bensfort WDS will increase to a minimum \$12/load and \$125/tonne for mixed waste in January 2021. If the Township matched those fees they would be closer to full cost recovery and reduce the burden on staff who are required to ensure that only Township generated wastes come to the Site. It is estimated that an increase in tipping fees to match those proposed by the City and County of Peterborough for the Bensfort WDS would result in an estimated \$100,000 increase in revenue per year.

5.2.4 Asset Evaluation

The Site includes a number of capital assets for reference as outlined in Embedded Table 6. The Township is still developing an asset management plan and therefore details on all assets



onsite were not available for review. In order to evaluate the impact of assets on the operation and effectiveness of the site it is important to incorporate their capital costs as well as expected replacement schedule to determine if there are opportunities for change in the future. It is expected that an annual cost of approximately \$75,000 is required for capital asset management for the landfill based on information collected during the Site visit and included in Embedded Table 6. Some additional assets that may be considered in the future were also included in the table for reference. The amortization period and estimated costs can be updated with actual values to provide a clearer indication of capital asset value onsite.

Embedded Table 6 Site Assets

Landfill Site Assets	Age	Amortization period	Estimated Cost (per unit)	Number of Units	Annual Cost
816CAT Compactor*	2011	10	\$206,573	1	\$20,657
624K John Deer Loader	2014	10	\$275,000	1	\$27,500
Canadian Scales and Scale House	2011	15	\$100,000	2	\$13,333
Fencing (per meter)		15	\$75	1000	\$5,000
Site electrical (per meter)		20	\$90	180	\$810
water/sanitary (per meter)		20	\$500	180	\$4,500
signage (per large sign)		7	\$1,000	6	\$857
paving (per square meter)		15	\$35	200	\$466
gravel pad (per square meter)		10	\$10	600	\$600
ECA Approvals		20	\$15,000	1	\$750
Concrete Sawtooth Bin-wall (per bin/min 5 bins)		20	\$8,000	0	\$0.00
20-yard bins		7	\$7,000	0	\$0.00
40-yard bins		7	\$10,000	0	\$0.00
Roll off Truck		10	\$180,000	0	\$0.00
Site Lighting (per light pole)		15	\$800	0	\$0.00
Total					\$74,474

**actual cost of compactor refurbishment in 2011 (CIF, 2020)*



6.0 Options and Recommendations

In completing our analysis of current programs and performance, opportunities for improvement and optimization were noted, and benchmarking will be utilized where practical. The information gathered from this review are considered further in the options assessment below and summarized in Embedded Table 7.

Embedded Table 7 Options Summary

Number	Option	Description	Cost/Savings/Benefit	Page Number
1	Construction Demolition	<ul style="list-style-type: none"> Continue with current program – look into option to separate vinyl siding for recycling 	Cost \$85,000/year saving 2000m ³ /space or \$180,000 worth of landfill space/year	10, 36
2	Leaf and Yard	<ul style="list-style-type: none"> Continue accepting material for free during collection weeks. Through education and tipping fees, direct as much material as possible to Bensfort WDS as it is taken to a proper composting facility. Consider implementing a maximum acceptable load size. 	County covers up to \$8,600 of material received free during the leaf and yard collection weeks. Residents can self haul to Bensfort WDS	10, 25, 36
3	Brush	<ul style="list-style-type: none"> Provide wood chips to other Township departments to use as ground cover Provide wood chips to residents to use as ground cover Ensure that contract for chipping brush includes minimum annual quantities and frequencies to reduce frequency of large stockpiles – consider issuing an RFP 	Provide additional service to public Reduce quantity of wood chips landfilled	11, 37
4	Organics	<ul style="list-style-type: none"> Wait for regional organics program to start separating this material from the waste stream 	No change to current	38
5	Cover and Compaction	<ul style="list-style-type: none"> New/Refurbished Packer Wheels Stockpile excess cover material outside of the waste footprint to use at a later time 	Cost \$30,000 to \$50,000 saving \$575,000 in landfill space over 5 years (based on 1/3 reduction in tonnes of	9, 20, 39



		<ul style="list-style-type: none"> Complete weight checks – to confirm tonnage of cover materials received and used onsite 	cover and cost of tonne identified in costing model)	
6	Data Management	<ul style="list-style-type: none"> Record Management System – in excel Investigate Upgrade or New Landfill Software 	<p>There would be no added cost to improving the record management system and ultimately this would increase efficiency for staff reporting information.</p> <p>New landfill software or upgrades typically range from around \$1,500-\$2,000 for licences with annual services fees between \$1,500-\$2,000.</p> <p>New or Upgraded Software would increase efficiency for Township administration of waste accounting and reporting</p>	14, 41
7	Point of Sale	<ul style="list-style-type: none"> Consider acceptance of credit card onsite Review accounts set up and management 	Cost \$3,000-\$6,000 annually, benefit in increase service	15, 42
8	Internet	<ul style="list-style-type: none"> Implement internet capabilities 	Cost \$5,000-\$10,000 annually	44
8	Site Passes	<ul style="list-style-type: none"> Consider alternative for site passes when tax bills transition to electronic system 	Benefit of electronic tax bill – residents can request mail out or pick up of landfill pass if electronic tax bill users.	15, 44
9	Tipping Fees	<ul style="list-style-type: none"> Increase minimum tip fee to \$5/load Implement a mixed/unsorted load fee Increase leaf and yard tip fee to \$100/tonne > 100kg to be greater than proposed for 2021 at City of Peterborough Incremental tip fee increases to meet City of Peterborough 2021 rate of \$125/tonne. 	<p>Minimum tip fee estimated to increase revenue \$15,000/year</p> <p>Implement mixed/unsorted load fee is expected to increase material diversion from landfill and encourage the use of clear bags. Would be a benefit in increase tipping fee and/or increase diversion depending on how customers react to the requirement.</p>	25, 32, 47
10	Hours of Operation	<ul style="list-style-type: none"> No changes recommended 	No change to current	24, 28, 49



11	Bulky Plastics	<ul style="list-style-type: none"> Continue to monitor for opportunities 	Increase diversion by 10 tonnes. Cost unknown	50
12	Textiles	<ul style="list-style-type: none"> Verify quantities through composition studies 		50
13	Landfill Audits	<ul style="list-style-type: none"> Recommend biennial or annual landfill audits completed by staff or third party 	Cost approximately \$5,000 for a week-long audit assessment	51
14	Clear Bag Implementation	<ul style="list-style-type: none"> Ensure plans are in place for mandatory clear bag transition 	Cost is mainly staff time and promotional costs but will provide benefit post transition	51
15	Transition Plans	<ul style="list-style-type: none"> Communicate with the County and stay up to date on transition regulations 		52
16	Long-term Site use	<ul style="list-style-type: none"> Collect additional data on site use 		53

Notes: Landfill space savings are calculated assuming the value is \$90/m³ as described in Section 5.2

6.1.1 Construction Demolition Material

Cambium reviewed information on the tonnes and cost of the construction demolition recycling program. Currently the Township charges \$100/tonne tipping fee which offsets the \$87/tonne collection and transportation costs and the costs of operating the Site for this service. It is estimated that at a minimum 2,000m³ of landfill space is saved each year through this program, equivalent to over 3 years of site life at existing landfilling rates. The Township can continue to offer construction demolition recycling as long the service is available under current conditions. The Township may investigate with their service provider the option to include vinyl siding and/or concrete and bricks in the construction demolition program. These materials have been identified in the material audits discussed in Section 5.1.2. The program should be re-evaluated with changes to the service fees and cost.

6.1.2 Leaf and Yard Management

Leaf and yard waste is currently accepted primarily decomposed on-site to be used as alternative daily cover. A small portion of leaf and yard waste is transferred to Harper Rd for composting. The Township should continue to accept leaf and yard free during a seasonal



period to be eligible to transfer material to Harper Rd under the County program. Leaf and yard waste is better managed at the Harper Rd site where it can be properly turned and monitored and subsequently used as compost. The material kept at the Site is not currently managed to regulatory standards and significant investment in time and resources would be required in order to meet all of the compost standard requirements as detailed in Ontario regulation 101/94.

Whenever possible residents should be encouraged to place leaf and yard waste in the curbside collection programs or bring it to the Bensfort WDS. This can be encouraged by adjusting the tipping fees as discussed in Section 6.1.9 or by educating the public that materials sent to Bensfort WDS are composted whereas the materials at the Site are not. Larger loads of leaf and yard waste should be discouraged onsite as it is only stockpiled and used as alternative daily cover or interim cover when needed. Consider implementing a maximum quantity that can be accepted at the Site. The maximum quantity would need to be determined following a review of leaf and yard load weights. There are other materials brought to the Site that can better accommodate the requirement for cover material such as ditching material, wood chips and street sweepings.

6.1.3 Brush

Under existing operations, the management of brush has been identified as an area for improvement. Large brush piles present a fire hazard and if left long enough can encourage vectors and vermin onsite.

It is recommended that the complete pile of brush be chipped at least twice annually to coincide with the end of major drop off seasons (late spring, late fall). This will reduce the quantity of unchipped material being left onsite, provide a more consistent source of wood chips to be used as alternative daily cover and reduce risk of onsite fire from dry wood piles. Consider retendering the contract for chipping brush to ensure the frequency and/or quantity of brush being chipped meets the Townships needs.

Additionally, if brush is kept free of painted, treated or laminated wood it can be chipped and provided to the public for use as ground cover. Wood chipped material should be placed in a



location where it can be accessed by customers without the requirement to cross the scales. Staff can weigh several loads of wood chips (wet and dry) to determine an estimated weight per bucket load of material. Bucket loads of wood chips brought to the location for pick up by residents can then be recorded to estimate quantities of wood chips leaving the site. Typically, materials would be manually loaded by the resident. A similar and successful program is currently being operated at City of Kawartha Lakes Lindsay Ops landfill site. A visit to observe their operation may assist the Township with an implementation plan if they wish to pursue this option.

It should be noted that operators will have an increased responsibility to document the quantity of materials that they are bringing over to the location for pick up by residents, as well as ensuring that the materials that they select to put into this location are relatively clean. The Township should include notices of risk associated with using the material to residents to reduce any liability associated with use of the material on their advertising pages and at the pick-up location.

Under the Environmental Protection Act and R.R.O. 347, wood chips of clean wood, brush etc. would not require testing for quality to be eligible for use as ground cover.

6.1.4 Organics Collection

There are two main considerations taken into account when evaluating the possibility of increasing the organics composting program in the Township; the quantity and destination of current materials, and the processing options.

Section 5.1.2 describes materials currently coming to the Site as mostly bulky waste (broken toys, furniture, renovation waste etc.) and limited amount of household waste which would contain organics. Based on available information it is estimated that there is approximately 5 tonnes per year of organic waste suitable for composting that could be captured from materials currently being landfilled at the Site. The main reason for the low quantity of material is that the majority of organic waste is found in residential garbage which is collected curbside and destined for the Bensfort Landfill Site. The volume of waste that 5 tonnes represents is



relatively insignificant in terms of landfill space savings or greenhouse gas reduction to warrant investing in a program at this time.

Cambium estimates 550 to 900 tonnes of compostable organic waste is found in the curbside waste stream. As the Township offers a curbside waste collection program, an organics program would likely have to follow the same curbside service to be successful. If the organic material was to be captured there would be an added cost for source separated collection as well as a compost processing fee. Other municipalities with no curbside collection program have an advantage to successful depot organics program as residents are already visiting the site regularly to dispose of household waste.

Cambium reviewed options for source separated organics as four Townships in the County offer this service at select depots: Townships of North Kawartha, Trent Lakes, Havelock-Belmont-Methuen, and Douro-Dummer. The organics from these sites are brought to Harper Rd for composting. The Township has previously consulted with the County and were informed that Harper Rd did not have capacity for additional material from the Township. The Township could consider processing compost onsite using technology however, this technology ranges in cost from \$100,000- \$300,000 in capital costs and additional operational costs. Additionally, a curbside collection program would likely need to be considered to capture enough material to make these technologies feasible.

It is recommended that the Township wait for a regional source separated organics program to expand on the existing services. For the interim, continue to promote backyard composting and food waste reduction programs either through the Townships waste department or in collaboration with the County.

6.1.5 Cover and Compaction

As indicated in Section 5.1.3 it appears that a significant quantity of cover material is being used to provide effective daily cover. This may be the result of a few variables including equipment, cover material type and cover material tracking.



Overall the landfill is managed with sufficient and appropriately sized equipment. At the time of the Site visit the equipment was visually inspected and it was noted that wheels on the CAT compactor are worn and require replacement in the next couple years in order to ensure effective compaction of waste and maximizing capacity. This is especially important as most waste received at the Site are bulky and less residential wastes are placed in the landfill to fill gaps and voids made from ineffectively compacted bulky waste. Compactor wheels are designed to break apart materials into smaller pieces making them easier to compact. Inadequate compaction may also be resulting in excessive cover use. It is estimated that upgrading packer wheels could cost somewhere between \$30,000 and \$50,000 depending on the service provider for 5 to 10 years of improved compaction. This increase in capital cost could be offset by a decrease in cover material required to properly cover waste. By increasing the shredding of waste and therefore increased compaction there should be a decrease in air gaps that will be filled when applying cover and therefore less cover material should be required. If the volume of cover material used could be reduced by one third, the Township could expect to add 2 to 3 years of landfill capacity based on existing fill rates and existing volume of cover material recorded.

Sufficient cover material was available at the time of the Site visit. As there is no cost to the municipality for the cover material being imported the current methods are considered cost effective. However, it seems that significant quantities of material are being used to effectively cover the tipping face. Cover materials such as road ditching material that are in excess of what is required should be stockpiled in a designated location to be used at a later time when required or for final cover.

Township staff do an excellent job tracking cover material. This tracking has assisted in completing this assessment. Some other municipalities are able to track tonnage of cover material used onsite where others don't monitor cover material quantity at all. It would be beneficial for the Township to weigh some loads of road ditching material and street sweepings in order to get approximate weights per truck and per bucket that can be used to more accurately estimate the quantities of cover received and used onsite. These weights should be



documented separately from waste quantities to not duplicate cover material reports and can be provided to waste consultants annually to include in reporting.

6.1.6 Data Management System

Through this review process Cambium has spent significant time importing and reviewing data. As the Township relies on a variety of sources to evaluate their waste management performance a good tracking system is important. Cambium recommends the use of an electronic spreadsheet (e.g. MS Excel) to manage the various sources of information available on waste quantity and generation. Each tab in the spreadsheet should represent a different information source and can then be summarized in a master list. The tabs can be organized in a manner similar to the following:

- Waste Summary
- Curbside Waste Tonnages (from waste hauler)
- Inbound Waste Tonnages from Landfill Software
 - Waste Breakdown by Material Type
- Outbound Waste Tonnage from Landfill Software (choose to track each material by receipts invoices from hauler/processor or from outbound weights).
 - Scrap Metal
 - Construction Demolition
 - Tires
 - Units containing refrigerant (note that tonnages would be included in scrap metal)
- County Waste Tonnages (including diversion tonnes through depot programs as well as use of the Bensfort Landfill)

It would also be beneficial for the Township to gain a better idea of the number of customers who are residential versus commercial. Currently, all minimum tip fee weights are attributed to residential customers and loads weighing greater than 50kg are attributed to commercial

customers. However, many of the loads greater than 50kg are probably residents conducting yard clean-up activities etc. as opposed to true commercial customers. A commercial customer would be anyone receiving compensation for providing the service and would normally be identified by a business logo on their vehicle. This information will be helpful in the future as the landfill reaches capacity and the Township needs to evaluate its services. The tracking of this information should be available through a software program where staff are able to select if the customer is commercial or residential.

To facilitate improved data management and service the Township could consider adopting new weigh scale software if the existing system cannot be adapted to meet all the Township needs. Cost for new software are estimated at \$1,000-\$2,000 per year, provided by DM&T Service Ltd, although other options may be available as well. New software or upgrades to existing software can improve operations by including additional benefits such as:

- integration with accounting software
- abilities to track commercial and residential visits separately
- expanded data exporting and reporting options
- flagging and customer notification abilities (unpaid accounts or previous issues etc.)
- storing tared vehicle weights – improve tracking of cover material (weigh in but not out)

6.1.7 Landfill Transaction Management

In order to improve service delivery Cambium reviewed current point of sale processes, account processes and cash handling procedures.

6.1.7.1 Point of Sale Process

Currently the Township doesn't offer a credit card payment option. The process for establishing a credit card point of sale is relatively simple. There are fees associated with accepting credit cards onsite determined by a service provider (or acquirer) based on a number of parameters. This cost could be as much as 3% of sales via this method of payment and is estimated that if 25-50% of transactions occur using this method the cost could be



between \$3,000 and \$6,000 per year depending on the service provider and parameters of consideration. A review of payment options offered by other municipalities shows that all of the municipalities of comparable size to the Township offer credit card service.

It is expected that use of credit cards onsite will improve service delivery in several ways:

- Increase convenience to customers
- Reduce the value of cash that attendants are required to manage
- Combined with internet access this change in process is also likely to reduce the amount of time to process a transaction

The Township Finance Department should establish an approved process for use of credit cards, and staff should be trained on the process.

6.1.7.2 Account Process

There is an ability in the software program to add customers and to show a list of existing customers with accounts. Landfill accounts are important for clients with numerous operators who may visit the landfill site as it may be impractical for them all to have a copy of a credit card. The process for setting up and managing accounts should be reviewed to ensure it includes the following:

- Process for setting up accounts including:
 - Requirement for deposit or credit check
 - Up to date address and invoicing information
 - Property tax information if required
- Process for identifying and dealing with unpaid accounts including:
 - Suspension of account and use of landfill site
 - Process for obtaining owed funds (possibly through taxes)
 - Procedure for reinstating account if applicable



- The customer listing should be reviewed annually and unused/unpaid accounts should be removed from the system to ensure that information maintained for the accounting process is kept up to date.
- The credit card option can be used as an alternative for account holders that do not follow through on payments regularly. It is also recommended that the Township continue to offer an account option for an interim basis until it can be determined if the credit card will be a viable option for customers who currently have accounts.

6.1.7.3 Cash Handling Procedures

Cambium reviewed cash handling procedures onsite. The procedures in place serve their intended purpose and no changes are being recommended at this time.

6.1.7.4 Internet

It is recommended that the Site obtain internet capabilities. Internet connection will allow information from landfill software to be uploaded directly to the network and avoid requirement to save all information daily to USB and later uploaded to the network. Point of sale units can be updated to have capabilities with internet connection that will increase the speed of financial transactions and improve site efficiencies. The internet can also improve the flexibility for on-site staff to communicate and share resources with the administrative office via email if permitted. Internet connection will also allow on-site staff to use web tools such as online maps to verify resident's location is within the Township.

6.1.8 Site Passes

During the review, the Township identified the intent to modernize the taxation program and conceivably move to an electronic billing system. This would eliminate the mailing of tax bills which is the current means by which the site passes are distributed. If we consider the current method of distribution to be zero cost, as we are piggy backing on another process, the optimal solution will also be zero cost. The replacement cost for passes provides the Township with a revenue of approximately \$2,000/year to cover administrative costs of the program.



Review of access passes in other jurisdictions indicate there are several alternative options or combination of options that can be considered for administering passes:

- Online request by resident triggers a pass to be mailed or picked up at the township office
- Pick up at the township office
- Pick up at the waste disposal site
- Electronic pass system
- No passes

Municipalities such as the Township of South Stormont allow residents to submit a request for a landfill pass online which can either be mailed or picked up as per the resident's request. In order to obtain a pass, they must provide proof of ownership or authorization of landowner if a tenant and indicate if they would like their passes mailed or picked up. A nominal fee could be applied to residents requesting a mailed pass if cost recovery is important. Additional passes could continue to be charged an additional fee.

The Township can also allow for pick up of passes at either the Township office or the waste disposal site. A \$10 charge can still be applied to replacement passes as long as a verified record keeping system is in place to document the first free pass pick up. It is recommended that a good tracking system for site pass issuance is developed to run this program. It may be difficult for attendants at the Site to issue waste passes if they are busy and verification/information recording is required. A system to support simple delivery for the attendant would need to be established to avoid delays if the Site is busy.

There could also be a form of electronic management for this process, whereby residents apply online for a pass and receive confirmation which is presented to the attendant at the scalehouse. Some software programs could be designed in this fashion to read proximity cards, such as the system from DM&T, however there is additional administration of the proximity cards required as a result. The current waste pass system doesn't address commercial customers who do business for local residents. Under the current system commercial customers need to inform the attendant where the material is coming from but



there is no pass. This electronic management system could incorporate commercial materials and require passes for those customers and loads as well. This system is likely to be more expensive and result in additional administration depending on the parameters established for the issuance of passes.

The benefit of a landfill pass is that it provides residents with some anonymity in that they don't have to provide their full address to attendants in order to gain access to the Site. However, an alternative to landfill passes is no passes, whereby attendants ask site users to indicate where the waste is coming from and possibly show ID or documentation with local address. If there is indication based on attendant's knowledge of the customer and the area that the material came from outside of the Township boundaries, the attendant would refuse the load until proper verification could be obtained. This is the same process that is currently in place for other larger municipalities such as the City of Kawartha Lakes, the Bensfort WDS and the Township of South Frontenac. This system would be best implemented with a software program that could flag customer licence plates once they have been identified as non-residents that have tried to bypass the system in the past. Additionally, if this verification system is required it may increase the length of time associated with dealing with a customer and may require an increase to the hours of operation at the Site, at least in the summer, to manage the additional requirements. The impacts of this change would need to be monitored by staff and adjustments made as required.

A significant concern has been identified by staff that tipping fees increasing at the Bensfort WDS will result in non-residents attempting to use the Site. Therefore, a pass system is recommended to continue for the interim until the impacts of the difference in tipping fees can be more accurately assessed.

The existing landfill pass system should be maintained with the option for residents who receive an electronic tax bill to pick up their free passes at the Township office. Commercial customers should continue to be required to provide proof of their job address in the Township to be allowed to access the Site. It is recommended that commercial customers continue to be allowed to use the Site until more detailed information regarding the quantity of residential vs

commercial waste can be obtained. At a later date with that assessment the Site could potentially be limited to residential customers and passes only.

6.1.9 Tipping Fees

The tipping fees were compared to adjacent municipalities as well as similar sized municipalities as described in 5.2.3. Based on information obtained in a background review and municipal comparison Cambium is recommending consideration be given to two tipping fee changes to be implemented prior to clear bags becoming mandatory. As well, Cambium has suggested another two tipping fee options that may be considered.

- **Minimum Fees:**

Tipping fees at the Site are generally \$100/tonne with a \$3.50 minimum fee established for materials less than 50kg. As 50kg of material would cost \$5.00 at \$100/tonne, the minimum tip fee should be increased to \$5.00 for any loads of waste coming in under 50kg. The City of Kawartha Lakes also has a \$5 minimum fee, whereas the County of Brant has a \$10 minimum fee, City of Peterborough will soon have a \$12 minimum fee and a few other municipalities have a \$20 minimum load fee. These fees also encourage residents to use curbside programs that are available and limit unrequired trips to the landfill. Assuming 10% of the transactions on-site are minimum fee the increase would result in an estimated \$15,000 in annual tip fees.

- **Mixed Load Fees:**

One challenge to successful diversion of waste from landfill is encouraging users to sort materials into correct disposal locations as opposed to dumping mixed waste at the tipping face of the landfill. Although staff are usually available to answer questions about where to dispose of material, loads of material are often dumped at the tipping face before mixed load issues are identified (i.e. a customer may dump a load of construction debris and metal at the tipping face instead of properly sorting this material into the correct locations on-site). Staff are available to re-sort some of this material into proper



locations but this additional work for on-site staff may result in materials being improperly handled if time doesn't permit sorting activities by staff.

With the implementation of a clear bag policy it will be important to identify a management strategy for customers coming to the site with opaque bags. There is an option to deny disposal of opaque bags, however this can create conflict and sometimes the opaque bags will go undetected until after the material has already been tipped in the landfill. Asking customers to go back and collect the material they discarded in opaque bags may also create conflict. Implementing a mixed load fee would provide customers with an option to either pay the fee (for staff to manage the material appropriately) or manage the materials appropriately (in clear bags and/or sorted into the correct waste streams). Overall this will provide enough of a disincentive to most customers that they will properly manage their waste on-site.

It is recommended that the mixed load fee be double the current tipping rate to provide a significant disincentive to mix waste. Additionally, the minimum fee should be increased to coincide with the mixed load rate. Recommended Mixed load fees would be a minimum \$10 or \$200/tonne for each unsorted load. Customers would be advised of a mixed load fee on entry and asked to properly sort their waste. If they are unwilling to do so and staff on-site identify this, then they can be charged a mixed load fee. Eventually the additional fee will encourage regular visiting customers to properly sort materials on-site. This will also be a useful tool following the implementation of the clear bag program. The Township may consider allowing a small quantity of recyclables in the landfill (for example a dump load of material that contains one or two cardboard boxes may not be charged the mixed load fee). The City of Kawartha Lakes has implemented a 10% rule when applying the mixed load fee (if 10% of materials are incorrectly sorted or in opaque bags then the mixed fee applies).

- Leaf and Yard Fees:

To encourage the use of the Bensfort landfill site for disposal of leaf and yard waste (especially those in larger quantities), the Township should consider increasing the fees



to \$100/tonne greater than 100kg. This is \$5/tonne greater than the 2021 tipping fees proposed at the Bensfort WDS for leaf and yard waste.

- Regional Increase in Tipping Fees:

Prior to learning that the Bensfort WDS fees would be increasing in January 2021, it was going to be recommended that a regional increase in tipping fees be applied in the County and City of Peterborough. This would have been initiated and coordinated with other municipalities since the rates in the Region are significantly lower than elsewhere for weight-based fees including the City of Kawartha Lakes to the west (\$120/tonne), County of Northumberland (\$130/tonne), and Durham Region (\$125/tonne). However, since Cambium is now aware that the Bensfort WDS is moving forward with a fee increase to come more in line with tipping fees in other areas, it is recommended that the Township consider the same.

A \$25/tonne tipping fee increase is significant. The Township may choose to increase fees gradually for example \$10/year for the next three years to a rate of \$130/tonne in 2023. At the same time the Township should monitor the impact of the fee changes at the Bensfort WDS on the Sites operation. This increased tipping fee will better align with overall site operation costs, result in a similar rate as the surrounding areas and help to offset costs associated with some operational change recommendations such as internet and credit card service at the Site.

6.1.10 Hours of Operation

The hours of operation for the Site were reviewed and considered to be optimal for customer service and efficiency. This is based on an assessment of vehicle use per hour and comparison to adjacent municipalities. No changes to the hours of operation are recommended at this time.



6.1.11 Diversion Programs

- Bulky Plastics:

The results of the waste audit confirmed that there is a significant quantity of bulky plastics (kid's toys, furniture, buckets, etc.) that are brought to the Site for disposal. The County has been offering annual bulky plastics recycling programs however in 2020 it was a challenge to find a processor to take this material for recycling even prior to disruptions related to Covid-19. Based on the limited market it is not recommended to divert the material at this time. However, if market conditions improve and processors are willing to accept bulky plastics this is a good diversion opportunity for the Township.

The diversion tonnage of bulky plastics has varied over the years however, a full program the Township could expect to divert upwards of 10 tonnes of material annually. Typically, materials are collected in roll off bins, similar to scrap metal program, and hauled off-site for processing. Alternatively, bulky plastics can be set aside in a designated area until sufficient quantity for diversion is accumulated and then loaded into bins for shipment to a processing facility. The market should be confirmed prior to implementing a program. This can be completed through a competitive process requesting the bulky plastics service.

A financial assessment cannot be completed at this time without a processing and end market cost, however the County of Peterborough may be able to support a program if a processor and market can be established. The Township should aim to keep all cost associated with diversion of the material below \$175/tonne to make the program worthwhile.

- Textiles:

The Township could verify the quantity of textiles that are ending up in landfill through additional waste composition audits to determine if it's worth investing in program to increase diversion of this material. Waste audits that were completed identified some textile materials such as blankets. Typically, municipalities will refer residents to existing textile reuse locations in the area or work with non-profit agencies to collect textiles. The Township has provided a service to residents on-site for textile collection by means of a bin, which has been recently suspended due to COVID.

6.1.12 Waste Composition Audits

Waste audits provide important information to help assess the types of material being received for disposal at the Site. Waste audits can be completed by weight or volume estimate and assist in identifying areas where the Township can potentially increase diversion. Without knowing what is going into the landfill it is difficult to make assessment on how to reduce that quantity. Annual or biennial audits for one or two weeks at a time is recommended. Ideally a waste auditing procedure will be developed that can be followed for each audit to provide consistent results. The audits can be conducted by staff internally if the capacity is available to do so. It is recommended that methodology be confirmed in advance of the audits and staff be trained on proper auditing procedures. Alternatively, services can be acquired to conduct onsite waste audits.

6.1.13 Clear Bag Program

As identified during the Landfill Material Audit conducted by the Township, few customers have begun using clear bags for waste. Based on experience of other municipalities it is important to ensure extensive communication is provided well in advance of the mandatory clear bag date to provide residents with the opportunity to use up their black bags. The Township has already adopted several best practices for implementation such as a FAQ and sorting guide as well as a soft launch period to give residents time to adjust to the change in requirements. Several recommendations follow to support a smooth transition to clear bag program.

- **Communication:**

If not already completed, if willing to support the program, place signage at local grocery stores located in the area advising residents of the switch to clear bags (locate the signage where residents would purchase bags)

Landfill site page on the Township website should be updated to include a link or information on clear bag requirements

It is a difficult time to communicate with the public due to limited social interactions. Consider increasing social media posts early next year reminding residents of the



transition. Monitor clear bag use at the curb with assistance from your contractor and share the results on social media as a reminder

Consider including radio advertisements and road signs in your communication plan

- **Enforcement Plan:**

Develop an internal enforcement strategy for the clear bag program – both curbside and landfill. For example, perhaps only one black bag be left behind to notify residents the first week of mandatory compliance. The second week of mandatory compliance the black bag from the week prior will be collected if new waste is placed in clear bags. This will allow residents to have their waste collected if they didn't receive the message about clear bags or forgot about the change the first week. Alternatively, residents who did not comply can be asked to transfer materials to a clear bag for collection the following week.

Determine how clear bag enforcement will be handled at the landfill. Will you turn residents away and ask them to return with their waste in clear bags? Will the user be allowed to sort materials into clear bags on-site that you provide or will you implement a fee as a deterrent for non-compliant loads?

6.1.14 Transition to Extended Producer Responsibility

The Township should consider its role in providing designated waste diversion programs such as hazardous waste, electronics and blue box programs. The County is in a good position to negotiate arrangements with producers for a larger collective group, the Townships within the County. However, during the transition of these programs to producers, it is unknown how the County will continue to be involved in the programs post transition and responsibility may be transferred completely to the producers to provide this service. It is important for the Township to maintain awareness of the developments with the County and ensure that they maintain information regarding the services that are being provided and negotiations that are occurring.

Regardless the Township should be prepared for changes in service delivery for these programs in the coming years. In preparation the County or Township should consider



obtaining additional information on users of the blue box and electronics depot, specifically the proportion of commercial versus residential participation in the programs at the depot.

Tires is an example of a material that the Township has chosen to continue collecting on behalf of residents.

6.1.15 Long-Term Use of the Site

The Township should more accurately assess the use of the Site by commercial and residential customers to determine the implication of limiting use of the Site to residents only. This is not a concern at this time, however as the Site reaches capacity, the Township may choose to conserve landfill space for residents only. At this time an assessment cannot be completed on the implications of this decision as insufficient information is available on user type. An updated or new software program should be designed to include options to manage these two types of users separately.



7.0 Conclusion

In conclusion the Township offers a well-rounded waste management program and the Site operates effective and efficient operations. Several recommendations have been made with the intent to improve operations, reduce costs and increase efficiency. The Township should consider these options and implement those which they consider to be the most in line with their priorities and needs.

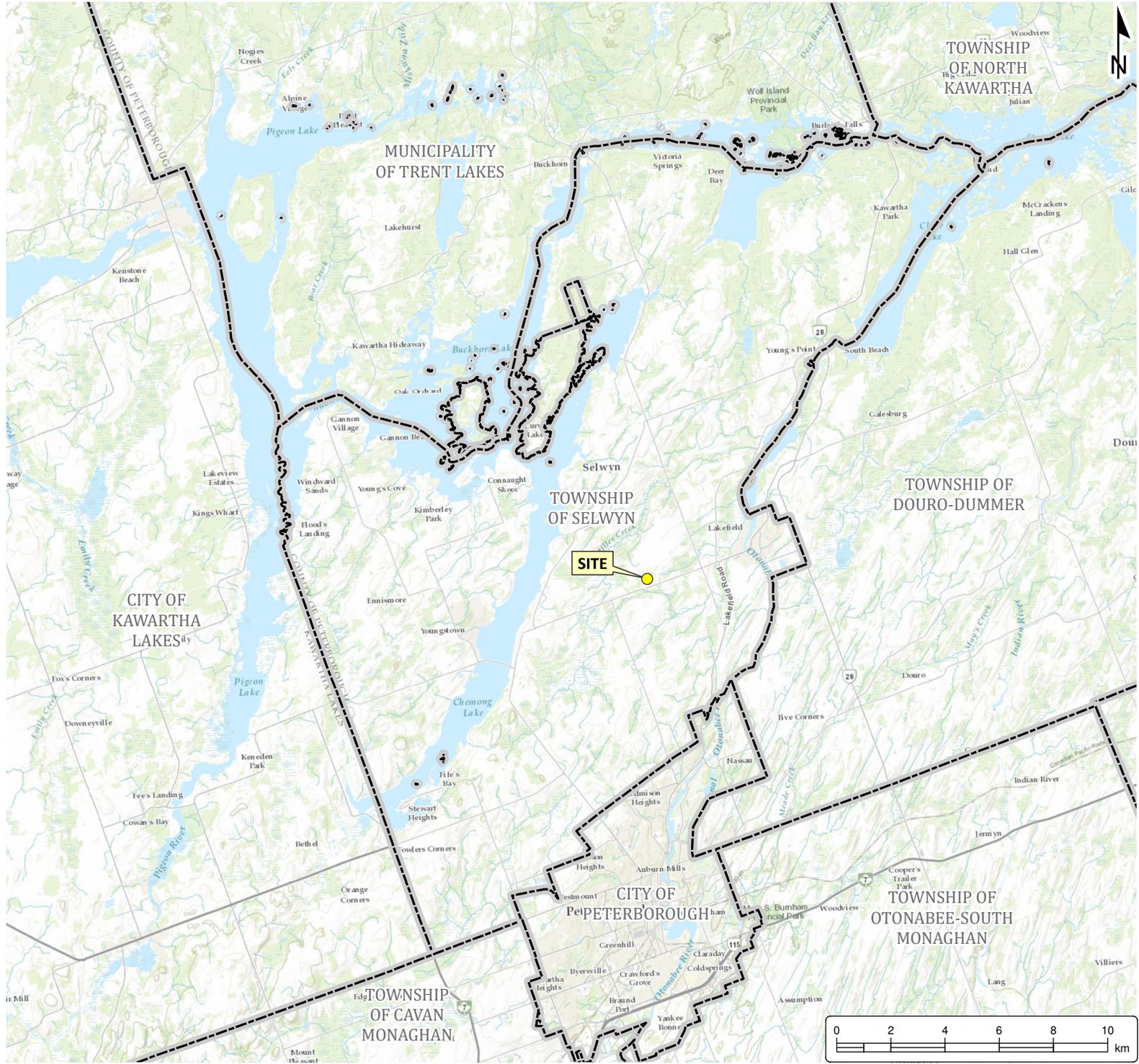


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Appended Figures



**SMITH
WASTE DISPOSAL SITE**
Township of Selwyn
County of Peterborough

LEGEND

 Municipal Boundary

Notes:
 - Base mapping features are © Queen's Printer of Ontario, 2017 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
 - Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
 - Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to error or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.



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REGIONAL LOCATION PLAN

Project No.: 10528-004	Date: September 2020
Scale: 1:200,000	Projection: NAD 1983 UTM Zone 17N
Created by: TLC	Checked by: SNR
Figure: 1	

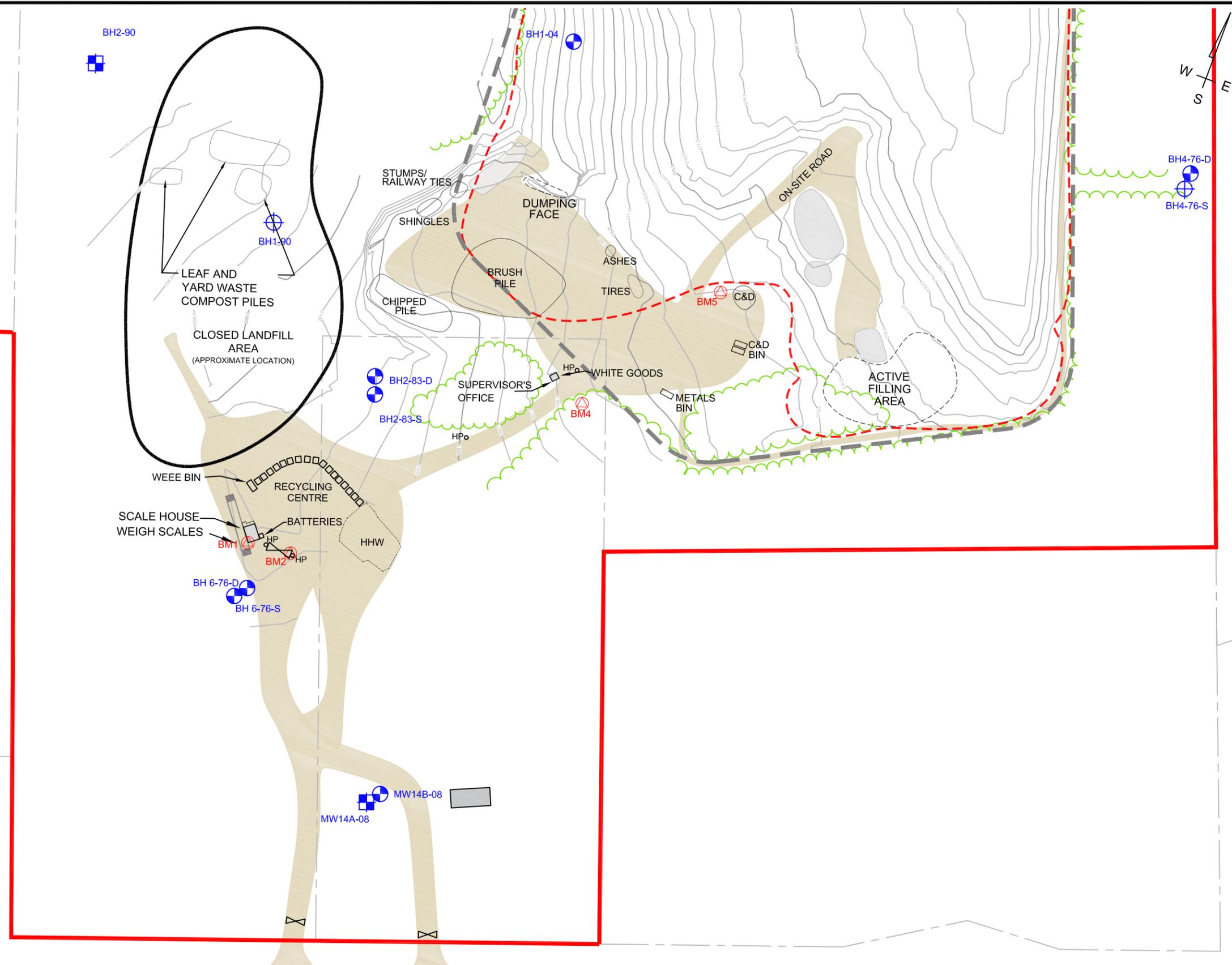


SMITH WASTE DISPOSAL SITE

Township of Selwyn
County of Peterborough

LEGEND

	Shallow Overburden Monitoring Well
	Deep Overburden Monitoring Well
	Bedrock Monitoring Well
	Survey Benchmark
	Gate
	Primary Topographic Contour Line
	Secondary Topographic Contour Line
	Existing Limit of Waste (9.1 ha.)
	Approved Waste Disposal Area (10.1 ha.)
	Property Line (52.3 ha.)
	Closed Landfill Area
	Lot Line
	On-site Road
	Approximate Tree Line
	Clean Cover Stockpile/Berm



Notes:

- Survey completed by Cambium Inc. September 24, 2019.
- Property boundaries obtained from Plan 45R-8143, Bishop and Wilson Ltd. O.L.S. Part of S1/2 Lot 19, Concession 8, Township of Smith, Plan 45R-8060, T.S. Fluke O.L.S. Part of the South Half Lot 19, Concession 8, Township of Smith, and Plan 45R-8143, T.S. Fluke O.L.S. Part of Lot 20, Concession 8, Township of Smith. Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.

Benchmarks:

- Nail and washers wood deck at scales and tipping booth, South end of deck.
Northing 4920883.7710, Easting 712561.8590
Elevation 252.40 m.
- Nail and washers in north face of hydro pole, in the middle of the recycling centre.
Northing 4920886.8570, Easting 712563.1830
Elevation 252.150 m.
- Nail and washers in east face of hydro pole, located on Centre Line, Pole No. ULF7
Northing 4921096.7334 m, Easting 711711.0141 m
Elevation 253.37 m.
- Nail and washer in northeast face of maple tree, northeast corner of woodlot, immediately behind propane tank storage.
Northing 4921005.8714 m, Easting 712690.8595 m
Elevation 268.91 m.
- Top of T-Bar pounded into the ground on the southwest corner of the concrete wall near the C & D dump pile is located.
Northing 4921081.4220 m, Easting 712734.2290 m
Elevation 273.525 m.

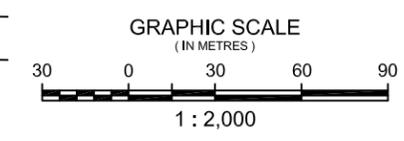


P.O. Box 325, 52 Hunter Street East
Peterborough, Ontario, K9H 1G5
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EXISTING SITE CONDITIONS

Project No.: 10528-004	Date: September 2020
Horizontal Scale: 1:2,000	Rev.: Projection: UTM Zone 17N
Drawn By: TLC	Checked By: SNR Figure: 2

COUNTY ROAD #18





Appended Tables



Table 1: Waste Generation and Diversion

Selwyn Waste Generation	2017 tonnes	2018 tonnes	2019 tonnes
Residential Garbage (min fee)	2.43	2.34	24.33
Commercial Garbage (over 50kg)	3,079.22	2,993.05	2,897.01
Curbside Garbage (to Bensfort)	3,246.83	3,105.69	3,114.62
Brush	376.85	412.63	360.94
Leaf and Yard - Depot (material brought from the depot to Harper Road)	165.72	165.47	197.75
Lake Weeds			96.53
Container Recycling	17.41	19.15	19.54
Fibre Recycling	107.66	97.19	84.47
Waste Electronics	27.30	28.04	36.18
Construction Demolition Material		806.50	930.52
Scrap Metal	45.48	49.28	60.49
Tires *	14.61	26.91	19.57
Curbside Recycling	1,442.16	1,397.05	1,329.35
Fibre Recycling (campgrounds bins)	34.81	26.85	2.24
Container Recycling (campgrounds bins)	23.99	24.96	1.52
Private Road Recycling Collection	70.77	52.61	41.97
Organics Curbside Pilot - Bridgenorth	47.23	44.30	32.87
Leaf and Yard - Curbside (material brought to Harper Road)	175.38	260.37	274.88
Campground Recycling	14.88	14.33	15.84
Paper Shredding - Event	2.20	0.82	1.08
Media & Car Seats - Event	0.80	0.32	0.86
Hard Cover Books - Event	0.54	0.27	0.31
Hazardous Waste	35.80	35.82	34.38
Carpet Recycling - n/a	n/a	n/a	n/a
Durable Plastics - Event	8.52	1.18	5.00
Polystyrene - Event	0.01	0.02	0.01
Resident Self Haul to Peterborough City/County Sites	N/A	N/A	N/A
Total Landfilled	6,328.48	6,101.08	6,035.96
Total Diverted	2,612.13	3,464.07	3,546.30
Total Waste Generated	8,940.61	9,565.15	9,582.25
Diversion Rate	29%	36%	37%
Diversion Rate (excluding reported commercial garbage tonnage)	45%	53%	53%
Waste Generation Rate (kg/person/year)	524.07	560.68	561.68

*using RPRA conversion factor for used passenger and light truck tires

**using population 17,060 as reported by Statistics Canada



Table 2 - Waste Audit Summary

Material Type	Number of Customers	Percent of Customers
Black Bags	26	22%
Commercial Waste	10	8%
Wood	40	34%
Bulky Plastic	11	9%
Shingles	6	5%
Dirt	3	3%
Vinyl Siding	5	4%
Furniture	6	5%
Drywall	8	7%
Broken Toys	6	5%
Carpet	4	3%
Pool	6	5%
Chair	6	5%
Metal	11	9%
Hose	9	8%
Feed Bags	2	2%
Blankets	2	2%
Tarps	6	5%
Brush	5	4%
Clear Bags	1	1%
Total Number of Customers	118	
Total Bags	200	
Total Weight of bags (tonnes)*	3	
Total Weight of Audited Material (tonnes)	28.205	
Bag Waste	10.64%	

* One bag is assumed to be 15kg



Table 3 - Waste Disposal Site Tipping Fees – Municipal Comparison

Municipality	Tipping Fee Minimum	Residential Waste	Construction Waste	Commercial Waste	Asbestos Waste	Freon Appliances	Leaf and Yard Waste	Mattresses	Soil	Organic Material	Other
Township of Selwyn	\$3.50 less than 50kg	\$100/tonne			\$250/tonne	\$12.50/unit plus per tonne rate	<100kg no charge, >100kg \$45	N/A			
Township of Douro-Dummer	\$3.00 less than <13kg	Materials <13kg: \$3.00 Materials >13kg: \$95.00/tonne			N/A	\$15.00/unit plus per tonne rate		Matresses:\$25 Boxsprings: \$22			
Township of Havelock-Belmont-Methuen	N/A	\$2.00/bag With bag tag no charge \$30/yd ³ \$10/bulky item (furniture)	\$50/yd ³	N/A	N/A	\$10.00/unit plus additional \$10 if freon removal required	Paper/Compostable bags - free Clean brush \$10.00/half tonne load	\$10/unit			\$30/yd ³ scrap metal
Township of North Kawartha	N/A	Trucks - level load \$45-\$85, heaped load +\$10-\$15 Trailer (4'x8') \$75 level load, +\$15 for heaped	\$8.00/garbage bag equivalent to 35 gallons or .259 cubic yards, \$30/cubic yard	Trucks - level load \$45-\$85, heaped load +\$10-\$15 Trailer (4'x8') \$75 level load, +\$15 for heaped		\$20.00 per item	Leaf and yard waste - Trucks - level load \$30-\$60, heaped +\$10-\$15 Trailer (4'x8') level load \$50, heaped +\$15				
Ottawa Valley Waste Recovery Centre	\$20/load landfill waste, \$50/load unsorted waste	Landfill Waste: Minimum \$20 <210kg, \$95/tonne Unsorted loads: Minimum <200kg \$50, \$250/tonne			Asbestos and lead paint coated material \$150/load plus tipping fee, minimum <200kg \$40, \$200/tonne		No charge		Contaminated Soils (including Hydrocarbon) (Pre-approval required): \$95/tonne	Organic Material: Minimum <210kgs \$20, \$95/tonne	
Town of Blue Mountain	\$8/load	Residential Waste not divertable: \$160/tonne Divertable Residential Waste: \$90/tonnes Unsorted Residential Waste: \$320/tonne	Commercial, Construction, Demolition Waste \$320/tonne Unsorted Commercial, Construction, Demolition: \$640/tonne Sorted Commercial, Construction and Demolition Clean Drywall: \$140/tonne Divertible and Sorted Commercial, Construction and Demolition Waste: \$90		Not Accepted	\$15 each	No charge	\$20 per unit	Contaminated Soil: \$200/tonne		
Township of South Frontenac	Loughborough - \$20 minimum vehicle fee Portland - 0-200kg \$20	Loughborough Trucks \$30-\$200 per load Trailers \$30-\$100 per load Other loose material \$30/cubicm - 1/2 tonne truck load Portland Garbage: 0-200kg \$20 201-300kg \$33 301-400kg \$44 401-500kg \$55 More than 500kg - Prorated at \$110 per 1000kg/tonne				Not Accepted	No charge				Loughborough Large Furniture \$20/item Small furniture \$20/item minimum vehicle fee Sinks, toilets, tubs \$20 minimum vehicle fee Fibreglass boats \$100-\$200



Table 3 - Waste Disposal Site Tipping Fees – Municipal Comparison

Municipality	Tipping Fee Minimum	Residential Waste	Construction Waste	Commercial Waste	Asbestos Waste	Freon Appliances	Leaf and Yard Waste	Mattresses	Soil	Organic Material	Other
County of Brant	\$10/load	Waste: \$97/tonne Unsorted load-user does not sort divertible materials: \$291/tonne	Rubble pre-sorted and segregated (concrete (no rebar or reinforcing steel), brick, concrete block, tile, masonry pipe, asphalt, uncontaminated soils, etc.): \$15.35/tonne Concrete with rebar \$30.70 C&D Materials, wood construction materials(exl. preasure treated), doors, windows, tile, metal items: \$97/tonne Asphlat Shingles: \$97/tonne	Waste: \$97/tonne Unsorted load-user does not sort divertible materials: \$291/tonne	\$153.20/tonne	\$25.50/unit Steel White goods not containing Freon: no charge	\$65.40/tonne				Asphalt Shingles: \$97/tonne Clean White Expanded Polystyrene (Styrofoam) \$97/tonne
City of Kawartha Lakes	\$5/load waste in clear bag \$7/mixed load or non clear bag	Garbage Bag (Clear) - \$5 minimum, \$120/tonne Garbage Bag (opaque) - \$7 minimum, \$220/tonne Loose Waste (standard) - \$5 minimum, \$120/tonne Mixed load - \$7 minimum, \$220/tonne			\$250/tonne	\$20/item	up to 250kg free, over is \$120/tonne	\$15/unit	Contaminated Soil (suitable for daily cover) - \$50/tonne Contaminated Soil (not suitable for daily cover) - \$5 minimum, \$120 per tonne		Boat and bale wrap \$5 minimum, \$120/tonne RV sanitary disposal \$5 Single large items \$5 minimum, \$120/tonne
City of Peterborough	Mixed garbage - 100kg or less \$10	\$10 minimum, \$95/tonne			\$200/tonne	\$20 each	100kg or less - free, >100kg \$45/tonne	Mattress/Boxpring - <10 - \$12 each, >10 - \$20 each	Contaminated Soil - Call for pricing		Recyclables - 100kg or less - free, >100kg \$45/tonne



Appendix A
Environmental Compliance Approval

AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER A341601

Notice No. 1

Issue Date: October 11, 2013

The Corporation of the Township of Selwyn
PO Box 270
Township of Selwyn , Ontario
K0L 1H0

Site Location: 1480 County Road 18
Lot 20, Concession 8
Township of Selwyn , County of Peterborough
K0L 1H0

You are hereby notified that I have amended Approval No. A341601 issued on December 15, 2011 for a waste disposal site (landfill) , as follows:

This Notice approves the expansion of the Municipal Hazardous and Special Waste (MHSW) program, the acceptance of Waste Electronic and Electrical Equipment (WEEE) and specific non-blue box materials at the Smith Waste Disposal Site.

I. The following Definitions are Amended to read as follows:

"**MHSW**" means municipal hazardous and special waste limited to waste classes 112, 121, 122, 146, 147, 148, 212, 213, 221, 242, 251, 252, 253, 254, 261, 263, 312, 331 and 145 as defined in Ontario Regulation 347, generated by households located within the Service Area as defined in this Approval.

"**Operator**" means any person, other than the *Owner's* employees, authorized by the *Owner* as having the charge, management or control of any aspect of the Site. The Operator of the organics collection system and the MHSW Depot is the Corporation of the County of Peterborough;

"**Site**" means the entire waste disposal site, including the buffer and the contaminant attenuation zone lands, located at part lots 19 and 20, concession 8, Township of Selwyn, County of Peterborough, at municipal address 1480 County Road 18 and includes the Landfill, MHSW Depot, Transfer Station, Compost Facility, WEEE storage area and all other storage areas identified under Appendix D in item 23 of Schedule A;

II. The following Definitions are Added:

"**biomedical waste**" means waste as defined in Guideline C-4 and includes pathological waste and sharps waste.

"**Guideline C-4**" means the Ministry document entitled "Guideline C-4: The Management of Biomedical Waste in Ontario" dated November 2009, as amended from time to time.

"**hazardous components**" means components manually removed from *waste electrical and electronic equipment* which have hazardous properties including, but not limited to, batteries, cathode ray tubes screens, circuit/wiring boards, fluorescent lamps, condensers/capacitors and switches;

"**MHSW Depot**" or "**Depot**" means Municipal Hazardous and Special Waste area located within the the *Site* .

"**Non-Blue Box Recyclable Materials**" means materials that are not currently picked up under the current blue box program, as defined in item 23 of Schedule "A" of this Approval, such as mattresses, carpet, polystyrene, boat wrap and agricultural wrap and other materials as markets develop; collection becomes economically viable and/or approved by Ontario Minister of the Environment.

"**WEEE**" means Waste Electronic and Electrical Equipment and "**e-waste**" which means devices listed in Schedules 1 through 7 of *Ontario Regulation 393/04*.

III. The following Conditions are Revoked and Replaced:

11.0 Service Area

11.1 The *Site* shall only accept waste to be landfilled on-site, that is generated within the geographic boundaries of the Township of Selwyn and may accept all other approved waste materials from within the geographic boundaries of the County of Peterborough.

15.0 Approved Waste Types

15.3 White goods, tires, scrap metal, recyclable materials as defined in Schedules 1 and 3 of Ontario Regulation 101/94, non-blue box recyclable materials, MHSW as defined in this Approval, leaf and yard waste, clean wood, automobile batteries, compressed gas cylinders, C&D waste and e-waste may be accepted at the *Site* , and managed in accordance with the Design and Operations Plan Update, item 21 and 23 of Schedule "A" and the County of Peterborough MHSW Operations Plan.

28.0 MHSW Depot

- 28.3 The *Owner* shall ensure that:
- (a) the wastes are stored in a safe and secure manner, within a diked area, and/or within an enclosed building;
- 28.5 Waste Quantity
- (a) the maximum amount of liquid industrial waste which may be present on site at any one time and shall not exceed 3,000 litres.
- 28.10 All storage facilities, including tanks, shall be maintained under lock and key and access to these facilities shall be limited to *competent Site Operator*.
- 28.13 The *Owner* shall ensure that *competent Operator* are on duty at all times during the operation of the *MHSW Depot*.

IV. The following Conditions are Added:

Waste Diversion

27.9 Non-Blue Box Recyclable Materials

This Site is approved to collect and store *non-blue box recyclable materials* for recycling such as:

- a. Boat wrap and agricultural bale wrap;
 - b. Mattresses and carpet;
 - c. Hard plastics and polystyrene (Styrofoam);
 - d. Other materials as markets develop, collection becomes economically viable and/or approved by Ontario Minister of the Environment; and
 - e. Prior to adding other materials, the Director and the District Manager shall be notified in writing.
- 27.10 The maximum amount of *non-blue box recyclable materials* destined for recycling, which may be present on *Site* at any one time shall not exceed 100 tonnes.

MHSW Depot

28.15 The MHSW Depot is approved for the following waste management activities:

- (a) the receipt, temporary storage and transfer of approved *MHSW materials* ;
- (b) the receipt, temporary storage and transfer of *biomedical waste*, specific to sharps waste;
- (c) the receipt, temporary storage and transfer of pharmaceutical waste; and
- (d) the receipt, temporary storage and transfer of e-waste.

28.16 All incoming waste shall be inspected by *competent Operator*, prior to being

accepted at the *Depot*, to ensure that the *Depot* is approved to accept the material;

28.17 if any incoming waste load is known to, or is discovered to, contain unacceptable waste, that load shall not be accepted at the *Depot*; and

28.18 if any unacceptable waste is discovered at the *Depot*, that waste shall be immediately be disposed of in accordance with the *Act* and *Ontario Regulation 347*.

28.19 **Handling and Storage of Sharps**

All sharps waste shall be handled and stored in accordance with Section 4.2 of the ministry's *Guideline C-4*, and in accordance with the following:

- (a) All sharps waste received at the site shall be stored in a container made of rigid materials that are puncture resistant and leak resistant. The container shall have a lid that is securely attached to the container that can be closed and locked when the container is full.
- (b) In addition to the storage requirements of Tables 4A and 4B of *Guideline C-4*, sharps waste stored at the *Depot* shall be in an area that is:
 - (i) secured and not accessible to the general public. The storage room shall be kept locked at all time except when authorized personnel are on hand;
- (c) The facility shall be clearly marked as being a biomedical waste storage area with a sign that is no smaller than twenty (20) centimetres by twenty (20) centimetres, which states "biomedical waste storage area" and which clearly displays the universal biohazard symbol from Appendix 1 of *Guideline C-4*;
- (d) All sharps containers being transported off the *Site* shall be:
 - (i) labelled and colour-coded as specified in Section 4.0 - Tables 4A and 4B of *Guideline C-4*; and
 - (ii) sealed in either a leakproof disposable container which will be fed into an incinerator or autoclave, or a leakproof reusable container which will be disinfected prior to being reused;
- (e) All shipments of sharps waste are subject to Sections 18 and 19 of *Reg. 347* requiring generator registration and manifesting as specified in Sections 4.2 and 4.3 of *Guideline C-4*;
- (f) Sharps waste shall only be transported to a facility for which an Approval has been issued authorizing the acceptance of sharps waste; and
- (g) Sharps waste shall be removed as soon as practical. Sharps shall not be stored for greater

than six (6) months from the date of receipt at the MHSW Site.

28.20 Sharps containers which are improperly labelled, packaged, identified, or contain any waste other than Sharps waste shall be either returned to the generator; or disposed of at an approved facility using an approved hauler, within 24 hours of receipt.

28.21 Household Hazardous Waste Days

- (a) The *Owner* may hold up to a maximum of twelve (12) Household Hazardous Waste Day events each calendar year, in addition to regular operating hours;
- (b) The MHSW Site is approved to operate:
 - (i) 2 days per week between June to October initially and may increase operation to that of the landfill Site, as outlined under Condition 12.1;
 - (ii) Event days may occur on any day of the week, from January to December.
- (c) The *Owner* shall ensure that only Household Hazardous Waste generated by residents living in the County of Peterborough, is received;
- (d) The *Owner* shall ensure that trained Operator, spill containment equipment and fire fighting equipment are available at the *Site* at all times during the operation of the Household Hazardous Waste Day events; and
- (e) The *Owner* shall post "No Smoking" signs in the vicinity of the drop off area.

28.22 Handling and Storage of Pharmaceutical Waste

- (a) All pharmaceutical waste received at the *Depot* shall be stored in tamper proof containers and shall be placed in a storage room that is locked at all time except when used by an authorized personnel;
- (b) A record shall be kept at the *Depot* of the date, type of pharmaceuticals collected and total quantity and shall be available for inspection by a Provincial Officer upon request at all times;
- (c) Pharmaceuticals shall only be transported to a facility for which an Approval has been issued authorizing the acceptance and disposal of the waste;
- (d) Pharmaceutical waste shall not be stored at the *Depot* for more than 180 days from the date of receipt; and
- (e) No cytotoxic pharmaceuticals shall be received at the *Depot* .

28.23 All incoming and outgoing wastes from the Depot shall be inspected by competent Operator in accordance with the County of Peterborough MHSW Operations Plan for the *Depot*, as detailed in Item 23 of Schedule "A" of this *Approval*, prior to being received, processed, transferred and shipped to ensure wastes are being managed and disposed of in accordance with the Act and Reg 347.

28.24 Notwithstanding the requirements of Condition 28.23 of this *Approval*, the *Owner* shall take all reasonable actions in the way of laboratory, compatibility and bench testing of waste and materials to ensure that the bulking, blending, mixing, transfer and processing of wastes at the Site will not result in uncontrollable reactions that could result in a fire or release of contaminants to the natural environment.

28.25 **Handling and Storage of WEEE**

The WEEE program shall be operated in accordance with this Approval and the County of Peterborough MHSW Facility Operations Manual, item 23 of Schedule "A", as outlined:

- (a) An area for the acceptance, storage and preparation for transport of waste electrical and electronic equipment (WEEE), and subsequent transfer of such wastes by an approved carrier for disposal elsewhere shall be operated in accordance with the following:
 - (i) the materials shall be stored in a covered roll-off bin, a trailer or other suitable shelter; in an orderly fashion, to avoid breakage (broken materials shall be placed in containers), such that WEEE is sheltered from rain and snow, and as provided per the WEEE Program Plan and in accordance with the Conditions of this Approval;
 - (ii) maximum storage volume is 80 cubic yards;
 - (iii) There shall be no processing of WEEE at this *Site* ;
 - (iv) *Hazardous components* such as batteries shall not be removed from *e-waste* and stored on *Site*;
 - (v) In the event that the *hazardous components* become separated from the original WEEE materials, the *Owner* shall review and log the incident and take appropriate steps to prevent future occurrences;
 - (vi) All spillages at the *Depot* shall be dealt with in accordance to Condition 39.2;
 - (vii) *e-waste* collected shall not be kept at the *Site* for more than 180 days after receipt and shall be removed by an approved waste management system to an approved Ontario processor; and
 - (viii) a log shall be kept of the firm used for the transportation and the destination where the waste will be consolidated for recycling, re-use, refurbishment or disposed as per the WEEE Program Plan and in accordance with the Conditions of this Approval.

28.26 **Recording Keeping at the Depot**

- (1) The *Owner* shall maintain separate daily records at the MHSW Depot, in a log book or

electronic format which includes:

- (a) the date of the record;
- (b) the type and quantity of all MHSW received and shipped from the MHSW Depot;
- (c) quantities of waste returned to the public as noted in Condition 28.28;
- (d) any spills or upsets experienced at the MHSW Depot;
- (e) details on how these upsets were addressed and when.

(2) The *Owner* shall keep a daily record of drum inventory for all waste stored in drums at the *Depot*. The drum inventory record shall be kept current at all times and shall include as a minimum:

- (i) drum inventory number;
- (ii) location of drum/s;
- (iii) type of waste (waste class and characteristic, if applicable);
- (iv) for labpacks containing wastes which do not fall into the same Ontario Waste Class, an inventory of wastes and their corresponding waste classes shall be kept;
- (v) date of receipt;
- (vi) sum total of all drums stored on-site; and
- (vii) if records are maintained on a computerized database, the date the record was created.

28.27 Storage/Labelling

- (a) The *Owner* shall comply with the requirements of the MOE "**Guidelines for Environmental Protection Measures at Chemical Storage and Waste Storage Facilities, May 2007**". Drums shall be clearly labelled as to its contents, sealed and made resistant to corrosive attack from its contents.
- (b) Groups of drums shall be arranged such that contents are compatible and do not increase the potential for violent chemical reactions or explosive hazards.
- (c) The *Owner* shall ensure that all labels on containers and drums are kept current at all times; and
- (d) The *Owner* shall ensure that all drums used to store waste are in good condition to prevent leakage or a suitable over-pack is provided to contain possible spills.
- (e) Areas where corrosive, toxic, flammable, oxidizing, reactive and combustible materials are stored shall have warning signs placed indicating that sources of excessive heat and/or open flames are prohibited;
- (f) The *Owner* shall develop, maintain and implement a protocol to ensure that chemically incompatible materials are not stored in close proximity to each other. This protocol shall be considered to be part of the operations manual

for the *Depot* and all employees are required to be trained in this protocol. The protocol shall be reviewed annually and records of amendment and review of the protocol shall be maintained and be made available to a Provincial Officer upon request.

28.28 Reuse of Household Hazardous Waste

- (1) The *Owner* shall not offer household hazardous waste for reuse unless:
 - (a) the waste is in its original packaging, and the label on the package is legible;
 - (b) the waste has been inspected by trained personnel to ensure the waste meets the requirements for reuse for that specific waste type; and
 - (c) the waste is one of the following:
 - (i) household cleaners, wheel and tire cleaners, other than bleach or ammonia;
 - (ii) varsol, turpentine, thinners, linseed oil;
 - (iii) polishes and waxes;
 - (iv) adhesives (tile and wood), glue (contact cement);
 - (v) caulking, grout, mortar (cement), drywall compound;
 - (vi) citronella (liquid or wax), lamp oil;
 - (vii) aerosols (hairspray, air fresheners, cleaners);
 - (viii) motor oil (auto marine, lawnmower), provided the original container has never been opened;
 - (ix) antifreeze, provided the original container has never been opened;
 - (x) barbeque starting fluid, windshield washer fluid and CLR
 - (xi) other items as determined by the Operator provided they comply with the conditions of this Certificate.
 - (xii) waste paint, subject to the requirements of Condition 28.28 (2) and (3) below;
- (2) The *Owner* shall only offer waste paint for reuse provided that the following conditions are met:
 - (a) the waste paint is contained in the original manufacturer's container;
 - (b) the original manufacturer's label containing product information use and product hazards is clearly legible;
 - (c) the original manufacturer's container is in an undamaged state such that the material may be transported without risk of leaks or spills; and
 - (d) the Operator does not suspect the paint to have been manufactured prior to 1972.
- (3) Oil based paints which have been manufactured prior to 1972, or whose manufacturing date cannot be determined shall be analyzed for PCB content. If the PCB content is equal to or greater than 50 ppm., then the waste shall be classified as PCB Waste and shall be managed

in accordance with Ontario Regulation 362, R.R.O. 1990.

28.29 Management of All Waste Classes

- (1) The *Owner* shall develop, maintain and implement a management plan for the handling of all waste classes approved under this Certificate of Approval.
- (2) The *Owner* shall review annually, the management plan for the handling of all waste classes approved under this Approval. In the event of an emergency resulting from the operation of the *Site*, the *Owner* shall immediately review the management plan for the handling of all approved waste classes and provide a copy of the findings of the review to the District Office. If the review reveals changes are required to the management plan, the *Owner* shall immediately implement the changes and provide the necessary training to personnel, if applicable.

37.0 Record Keeping

37.3 The *Owner* shall keep records of all waste materials, including hazardous, non-hazardous and liquid industrial waste collected at the *Site*. The written records shall be in the form of a Log Sheet and shall be kept for a minimum of two years and include the following information:

- a) name of the generator and address;
- b) date that the waste was accepted;
- c) quantity and type of waste (waste class and characteristic); and
- d) cumulative total quantity of small amounts of hazardous and liquid industrial waste received from the generator/s.

SCHEDULE "A"

This Schedule "A" forms part of Environmental Compliance Approval No. A341601:

23. Environmental Compliance Approval Application, signed by Janice Lavalley, C.A.O., and dated November 16, 2012 and includes the Design and Operations Report for the Smith Waste Disposal Site (prepared by Cambium Environmental Inc.), County of Peterborough MHSW Operations Manual, Appendices A to H and all other supporting documentation.
24. Email from Catrina Switzer, Environmental Services Division, County of Peterborough detailing the tonnages and breakdown by material type for each waste material, dated February 20, 2013.
25. Email from Catrina Switzer, Environmental Services Division, County of Peterborough confirming there will be no processing of WEEE on Site, dated February 25, 2013.
26. Email, dated August 15, 2013, from Chris Johnston, Provincial Officer, Peterborough District

Office to Laurie Westaway, Manager of Environmental Services, County of Peterborough, requesting Action Plan to bring all the County's HHW Depots in compliance with **Guideline C-4: The Management of Biomedical Waste in Ontario.**

27. Email, dated August 16, 2013 from Laurie Westaway, Manager of Environmental Services, County of Peterborough, to Chris Johnston, outlining Action Plan to bring all the County's HHW depots into compliance with Guideline C-4.
28. Email from Catrina Switzer, Environmental Services Division, County of Peterborough commenting on draft ECA, dated August 20, 2013.
29. Email from Catrina Switzer, Environmental Services Division, County of Peterborough confirming amendments to draft ECA, dated September 23, 2013.
30. Email confirming acceptance of final draft ECA, dated October 2, 2013, from Catrina Switzer, Environmental Services Division, County of Peterborough.

The reasons for this amendment to the Approval are as follows:

1. *The reason for amending the definitions is to expand the meaning of terms to meet the Conditions in this Approval.*
2. *The reason for adding the definitions is to incorporate the specific meaning of terms used in the amendment of this Approval.*
3. *The reason for amending Condition 11.1 is to clarify the service area boundaries for the Site.*
4. *The reason for amending Condition 15.3 is to update the approved waste types for the Site.*
5. *The reason for amending Condition 28.3 is to enable the expansion of the MHSW Depot collection and storage area.*
6. *The reason for amending Conditions 28.5 is to increase the liquid wastes quantities that may be stored at the Depot at any one time.*
7. *The reasons for adding Conditions 27.9 and 27.10 are to specify other approved recyclable materials and the maximum approved tonnages for the Site.*
8. *The reasons for adding Conditions 28.15, 28.16, 28.17, 28.18, 28.19, 28.20, 28.22, 28.23 and 28.24 are to specify the waste management activities approved to take place at the Site; how incoming waste should be handled; and the types of waste that may be accepted and stored at the MHSW Depot, based on the Owner's application and supporting documentation.*
9. *The reason for adding Condition 28.21 is to specify the requirements for operating the*

household hazardous event days.

10. *The reason for adding Condition 28.25 is to specify how e-waste or WEEE should be handled and stored at the Site.*
11. *The reason for adding Condition 28.26 is to specify how records should be made, maintained and stored at the MHSW Depot.*
12. *The reasons for adding Condition 28.27 is to ensure waste materials on Site are properly stored and labelled.*
13. *The reason for adding Condition 28.28 is to allow the Owner to distribute certain wastes for reuse subject to restrictions.*
14. *The reason for adding Condition 28.29 is to ensure all wastes at the Site are properly managed.*
15. *The reason for adding Conditions 37.3 is to ensure records of all waste materials and drums stored at the Site are recorded.*

This Notice shall constitute part of the approval issued under Approval No. A341601 dated December 15, 2011.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. *The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;*
2. *The grounds on which you intend to rely at the hearing in relation to each portion appealed*

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. *The name of the appellant;*
4. *The address of the appellant;*
5. *The environmental compliance approval number;*
6. *The date of the environmental compliance approval;*
7. *The name of the Director, and;*
8. *The municipality or municipalities within which the project is to be engaged in*

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of
Part II.1 of the Environmental Protection Act
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 11th day of October, 2013



Tesfaye Gebrezghi, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

CJ/

c: District Manager, MOE Peterborough
Stephen Crough, The Corporation of the Township of Smith-Ennismore-Lakefield


AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER A341601

Issue Date: December 15, 2011

The Corporation of the Township of Smith-Ennismore-Lakefield
 R.R. # 4
 Post Office Box, No. 270
 Bridgenorth, Ontario
 K0L 1H0

Site Location: 1480 County Road 18
 Lot 20, Concession 8, Smith
 Smith-Ennismore-Lakefield Township, County of Peterborough
 K0L 1H0

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

the use and operation of a 10.1 hectare landfilling site, composting area, municipal hazardous and special waste depot, and waste transfer station within a total site area of 52.2 hectares, including the contaminant attenuation zone lands.

For the purpose of this environmental compliance approval, the following definitions apply:

“**Act**” means the *Environmental Protection Act*, R.S.O. 1990, C.E-19, as amended;

“**Approval**” means this Environmental Compliance Approval and any Schedules to it, including the application and supporting documentation listed in Schedule "A";

“**CAZ**” means contaminant attenuation zone, included within the Site as defined below, and as shown on Figure 2 of the Design and Operations Plan Update, item 21 of Schedule A.

“**competent**” means an employee who has received training in accordance with Condition 35.1 and is knowledgeable and able to carry out any necessary duties;

“**compost waste**” means *leaf and yard waste* that:

- (i) has gone through the whole composting process, as required in O.Reg. 101/94, including curing, but did not meet the criteria of O.Reg. 101/94, or
- (ii) has not completed the curing process and therefore does not meet the stability and maturity requirements of finished compost;

“**C&D waste**” means construction and demolition waste limited to asphalt and concrete, shingles, gypsum wallboard (drywall), and wood;

“**Director**” means any Ministry employee appointed in writing by the Minister pursuant to section 5 of the *Act* as a Director for the purposes of Part V of the *Act*;

“**District Manager**” means the District Manager of the local district office of the Ministry in which the Site is geographically located;

“**Green Waste**” means a mixture of chipped brush and clean lumber and leaf and yard waste, chipped brush and clean

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lumber mixed with sand, and leaf and yard waste mixed with sand.

“**leaf and yard waste**” means waste consisting of natural Christmas trees and other plant materials but not tree limbs or other woody materials in excess of 7 centimetres in diameter;

“**MHSW**” means municipal hazardous and special waste limited to waste classes 251, 252, 253, and 254 as defined in Ontario Regulation 347, generated by households located within the Service Area as defined in this Approval;

“**Ministry**” and “**MOE**” means the Ontario Ministry of the Environment;

“**OWRA**” means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended;

“**Ontario Regulation 101/94 or O.Reg. 101/94**” means Ontario Regulation 101/94, Recycling and composting of Municipal Waste, as amended;

“**Ontario Regulation 189**” means Ontario Regulation 189/94, Refrigerants, or as amended, made under the *Act*;

“**Ontario Regulation 347**” means Ontario Regulation 347, R.R.O. 1990, General - Waste Management, made under the *Act*, as amended from time to time;

“**Ontario Regulation 903**” means Ontario Regulation 903 – R.R.O. 1990, Wells, as amended ;

“**Operator**” means any person, other than the *Owner's* employees, authorized by the *Owner* as having the charge, management or control of any aspect of the Site. The Operator of the organics collection system is the Corporation of the County of Peterborough;

“**Owner**” means any person that is responsible for the establishment or operation of the Site referred to in this *Approval*, and includes the Corporation of the Township of Smith-Ennismore-Lakefield, its successors and assigns;

“**PA**” means the *Pesticides Act*, R.S.O. 1990, c. P-11, as amended from time to time;

“**PCB**” means monochlorinated and polychlorinated biphenyls or any mixture of them or any mixture that contains one or more of them;

“**Provincial Officer**” means any person designated in writing by the Minister as a provincial officer pursuant to section 5 of the *OWRA* or section 5 of the *Act* or section 17 of *PA*.

“**PWQO**” means the Provincial Water Quality Objectives included in the July 1994 publication entitled *Water Management Policies, Guidelines, Provincial Water Quality Objectives*, as amended from time to time;

“**RUP**” means the Reasonable Use Policy (Guideline B-7) of the Ministry of the Environment;

“**Schedules**” means the following schedules attached to this Approval and forming part of this Approval, namely:

Schedule A - Supporting Documentation

Schedule B - Groundwater Monitoring Program

Schedule C - Surfacewater Monitoring Program

“**Site**” means the entire waste disposal site, including the buffer and the contaminant attenuation zone lands, located at part lots 19 and 20, concession 8, Township of Smith, County of Peterborough, at municipal address 1480 County Road 18 and includes the Landfill, MHSW Depot, Transfer Station and Compost Facility.

“**white goods which contain refrigerants**” means white goods which contain, or may contain refrigerants, and which include, but is not restricted to, refrigerators, freezers and air-conditioning systems.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1.0 Revoke and Replace

1.1 This *Approval* revokes Certificate of Approval No. A341601 dated January 21, 1986, as amended. The approval given herein, including the terms and conditions set out, replaces all previously issued approvals and related terms and conditions under Part V of the *Act* for this *Site*.

2.0 Compliance

2.1 The *Owner* shall ensure compliance with all the conditions of this *Approval* and shall ensure that any person authorized to carry out work on or operate any aspect of the *Site* is notified of this *Approval* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

2.2 Any person authorized to carry out work on or operate any aspect of the *Site* shall comply with the conditions of this *Approval*.

3.0 In Accordance

3.1 Except as otherwise provided for in this *Approval*, the *Site* shall be designed, developed, built, operated and maintained in accordance with the applications for this *Approval*, the Design and Operations Plan Update (item 21 of Schedule "A"), and the supporting documentation listed in Schedule "A".

3.2 (a) Use of the *Site* for any other type of waste, or other waste management activity, is not authorized under this *Approval*, and requires obtaining a separate amendment to this *Approval*; and

(b) Applications to amend this *Approval* shall include submission of a revised Design and Operations Report.

4.0 Interpretation

4.1 Where there is a conflict between a provision of any document, including the application, referred to in this *Approval* and the conditions of this *Approval*, the conditions in this *Approval* shall take precedence.

4.2 Where there is a conflict between the application and a provision in any documents listed in Schedule "A", the application shall take precedence, unless it is clear that the purpose of the document was to amend the application and that the *Ministry* approved the amendment.

4.3 Where there is a conflict between any two documents listed in Schedule "A", other than the application, the document bearing the most recent date shall take precedence.

4.4 The conditions of this *Approval* are severable. If any condition of this *Approval*, or the application of any condition of this *Approval* to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this *Approval* shall not be affected thereby.

5.0 Other Legal Obligations

5.1 The issuance of, and compliance with, this *Approval* does not:

- (a) relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement; or
- (b) limit in any way the authority of the *Ministry* to require certain steps be taken or to require the *Owner* to furnish any further information related to compliance with this *Approval*.

5.2 The *Owner* shall ensure that:

- (a) all wastes at the *Site* are managed and disposed in accordance with the *Act* and *Ontario Regulation 347*; and
- (b) all wastes are transported to and from the *Site* by an approved waste transportation system, as defined under *Ontario Regulation 347*.

5.3 The *Owner* shall ensure that:

- (a) all equipment discharging to air operating at the *Site* are approved under Section 20.2 of the *Act*; and
- (b) all effluent is discharged in accordance with the *OWRA*.

6.0 Adverse Effect

6.1 The *Owner* shall take steps to minimize and ameliorate any adverse effect on the natural environment or impairment of water quality resulting from the *Site*, including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.

6.2 Despite an *Owner*, *Operator* or any other person fulfilling any obligations imposed by this *Approval*, the person remains responsible for any contravention of any other condition of this *Approval* or any applicable statute, regulation, or other legal requirement resulting from any act or omission that caused the adverse effect to the natural environment or impairment of water quality.

7.0 Change of Owner

7.1 The *Owner* shall notify the *Director*, in writing, and forward a copy of the notification to the *District Manager*, within 30 days of the occurrence of any changes in the following information:

- (a) the ownership of the *Site*;
- (b) appointment of, or a change in, the *Operator* of the *Site*;
- (c) the name or address of the *Owner*;
- (d) the partners, where the *Owner* is or at any time becomes a partnership and a copy of the most recent declaration filed under the *Business Names Act*, R. S. O. 1990, c. B.17, shall be included in the notification.

7.2 No portion of this *Site* shall be transferred or encumbered prior to or after closing of the *Site* unless the *Director* is notified in advance and sufficient financial assurance is deposited with the *Ministry* to ensure that these conditions will be carried out.

7.3 In the event of any change in ownership of the works, other than change to a successor municipality, the *Owner* shall notify the successor of and provide the successor with a copy of this *Approval*, and the *Owner* shall provide a copy of the notification to the *District Manager* and the *Director*.

8.0 Certificate of Requirement/Registration on Title - Site

8.1 The *Owner* shall:

- (a) If not already provided, then within two (2) years of the date of the issuance of this *Approval*, submit to the *Director* for review, two copies of a completed Certificate of Requirement with a registerable description of the *Site*; and
- (b) Within 10 calendar days of receiving the Certificate of Requirement authorized by the *Director*, register the Certificate of Requirement in the appropriate Land Registry Office on title to the *Site* and submit to the *Director* the duplicate registered copy immediately following registration.

8.2 Pursuant to Section 197 of the Environmental Protection Act, neither the *Owner* nor any person having an interest in

the *Site* shall deal with the *Site* in any way without first giving a copy of this *Approval* to each person acquiring an interest in the *Site* as a result of the dealing.

9.0 Inspections

9.1 No person shall hinder or obstruct a *Provincial Officer* from carrying out any and all inspections authorized by the *OWRA*, the *Act*, or the *PA*, of any place to which this *Approval* relates, and without limiting the foregoing:

- (a) to enter upon the premises where the approved works are located, or the location where the records required by the conditions of this *Approval* are kept;
- (b) to have access to, inspect, and copy any records required to be kept by the conditions of this *Approval*;
- (c) to inspect the *Site*, related equipment and appurtenances;
- (d) to inspect the practices, procedures, or operations required by the conditions of this *Approval*; and
- (e) to sample and monitor for the purposes of assessing compliance with the terms and conditions of this *Approval* or the *Act*, the *OWRA* or the *PA*.

10.0 Information and Record Retention

10.1 Any information requested, by the *Ministry*, concerning the *Site* and its operation under this *Approval*, including but not limited to any records required to be kept by this *Approval* shall be provided to the *Ministry*, upon request, in a timely manner.

10.2 The receipt of any information by the *Ministry* or the failure of the *Ministry* to prosecute any person or to require any person to take any action, under this *Approval* or under any statute, regulation or other legal requirement, in relation to the information, shall not be construed as:

- (a) an approval, waiver, or justification by the *Ministry* of any act or omission of any person that contravenes any term or condition of this *Approval* or any statute, regulation or other legal requirement; or
- (b) acceptance by the *Ministry* of the information's completeness or accuracy.

10.3 Any information relating to this *Approval* and contained in *Ministry* files may be made available to the public in accordance with the provisions of the *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, C. F-31.

10.4 All records and monitoring data pertaining to the operation of the Landfill required by the conditions of this *Approval* must be retained for the contaminating life span of the Landfill except for as otherwise authorized in writing by the *Director*. All other records required by this *Approval* shall be kept on the Owner's premises for a minimum period of three (3) years from the date of their creation.

11.0 Service Area

11.1 The *Sites* shall only accept waste generated within the geographic boundaries of the Township of Smith-Ennismore-Lakefield.

12.0 Hours of Operation

12.1 This *Site* is approved to operate:

- (a) Tuesday to Saturday from 9:00 am to 5:00 pm; and
- (b) December 24 and 31: 9:00 am to 1:00 pm.

12.2 Hours of operation may be changed by the *Owner* at any time, with prior notification to the District Manager, and provided that the hours are correctly posted at the *Site* gate.

13.0 Signage and Security

13.1 The *Site* shall be maintained in a secure manner, such that unauthorized vehicles cannot enter the *Site*.

13.2 The *Owner* shall limit access to and from the *Site* to the approved hours of operation and when the *Site* is supervised by a *competent* person.

13.3 The *Owner* shall restrict the public from accessing the Composting area and MHSW Depot storage areas.

13.4 The *Owner* shall install and maintain a sign at the main entrance/exit to the *Site* on which is legibly displayed the following information:

- (a) the name of the *Site* and *Owner*;
- (b) the number of the *Approval*;
- (c) the name of the *Operator*;
- (d) the normal hours of operation;
- (e) the allowable and prohibited waste types;
- (f) the telephone number to which complaints may be directed;
- (g) a warning against unauthorized access;
- (h) a twenty-four (24) hour emergency telephone number (if different from above); and
- (i) a warning against dumping outside the *Site*.

14.0 Landfill Operations

14.1 All loads of waste must be properly inspected by *competent* Site personnel prior to acceptance at the site and waste vehicles must be diverted to appropriate areas for waste disposal.

14.2 The *Owner* shall deposit waste in a manner that minimizes exposure area at the landfill working face and all waste shall be compacted before cover is applied.

14.3 The *Owner* shall fill areas in accordance with the Design and Operations Plan Update, and the proposed phasing plan, Figure 13, item 22 of Schedule "A".

15.0 Approved Waste Types

15.1 Only non-hazardous solid domestic, commercial and industrial waste, including non-hazardous contaminated soil shall be accepted at the landfill:

15.2 No hazardous waste or liquid industrial waste as defined under O.Reg. 347 as amended shall be accepted at the landfill.

15.3 White goods, tires, scrap metal, recyclable materials as defined in Schedules 1 and 3 of O.Reg. 101/94, MHSW as defined in this Approval, leaf and yard waste, clean wood, automobile batteries, compressed gas cylinders, C&D waste may be accepted at the *Site*, and managed in accordance with the Design and Operations Plan Update, item 21 of Schedule "A".

16.0 Capacity

16.1 The *Owner* shall only accept and deposit waste at the *Site* as long as there is available capacity as defined by the final contours for the *Site* approved by this *Approval* as shown in Figure 6, Proposed Final Contours, (letter response dated may 6, 2011), item 22 in Schedule "A".

16.2 The amount of waste deposited at the *Site* shall not exceed 536,000 cubic metres including daily cover material and excluding final cover material.

17.0 Cover

17.1 The following materials, in the corresponding thickness, may be used as an alternative to soil as a daily and intermediate cover:

- asphalt shingles;
- contaminated soil;
- Compost Waste;
- Green Waste;
- temporary or moveable, low permeability, flexible membranes.

17.2 The use of any other alternative materials as daily or intermediate cover material is subject to approval by the *Director*.

17.3 Cover material shall be applied as follows:

- Daily Cover - At the end of each working day, during summer (May through October), and twice weekly during winter (November through April), the entire working face shall be covered with a minimum thickness of 150 mm of soil cover or an approved thickness of alternative cover material;
- Intermediate Cover - In areas where landfilling has been temporarily discontinued for six (6) months or more, a minimum thickness of 300 mm of soil cover or an approved thickness of alternative cover material shall be placed; and
- Final Cover - In areas where landfilling has been completed to final contours, a minimum 0.6 metre thick layer of final cover soil shall be placed followed by 0.15 m of topsoil.

18.0 Waste Limits

18.1 No waste, including daily cover, intermediate cover or final cover layer, shall be landfilled outside the limits of the final contours shown in Figure 6, in item 22 of Schedule "A" attached to this *Approval*.

18.2 Landfilling operations shall be conducted in accordance with the Design and Operations Plan Update in Schedule "A" attached to this *Approval*.

19.0 Litter Control

19.1 The *Owner* shall take all practical steps to prevent escape of litter from the *Site*. The *Owner* shall inspect and collect litter from the *Site* weekly or as required during the spring, summer and fall months. During winter months, litter collection shall be completed when accumulated snow depths permit. All loose, windblown litter shall be collected and disposed of at the landfill working face.

20.0 Vermin, etc.

20.1 The *Site* shall be operated and maintained such that the vermin, vectors, dust, litter, odour, noise and traffic do not create a nuisance.

21.0 Scavenging

21.1 No scavenging is to occur at the *Site*.

22.0 Dust

22.1 The *Owner* shall control fugitive dust emissions from on site sources including but not limited to on-site roads, stockpiled cover material and, closed landfill area prior to seeding especially during times of dry weather conditions. If necessary, major sources of dust shall be treated with water and/or dust suppression materials to minimize the overall dust emissions from the *Site*.

23.0 Noise

23.1 The *Owner* shall comply with noise criteria in MOE Guideline entitled "Noise Guidelines for Landfill Sites".

24.0 Landfill Gas

24.1 The *Owner* shall ensure that all buildings at the Site are free of any possible landfill gas accumulation. If necessary, the *Owner* shall provide adequate ventilation systems to relieve landfill gas accumulation in the buildings at the *Site*. All on Site buildings shall have a landfill gas alarm installed in the building.

25.0 Burning Waste Prohibited

25.1 The *Owner* shall ensure that:

- (a) No burning of waste at the *Site*;
- (b) Burning of wood products approved to take place at the *Site*, is done in accordance with the Ministry Guideline "Burning at landfill Sites", and in a supervised and controlled manner.

26.0 Surface water management

26.1. Temporary berms and ditches shall be constructed around the active waste disposal area, as necessary, to prevent extraneous surface water from contacting the active working face.

26.2. The *Owner* shall not discharge surface water to receiving water bodies without an approval under Section 20.2 of the EPA.

27.0 Waste Diversion

27.1 All waste destined for diversion shall be segregated either into bins or in designated areas, as shown on Figure 3, of the Design and Operations Plan Update, item 21 of Schedule "A". All bins and designated waste storage areas shall be clearly labelled.

27.2 The *Owner* shall ensure that:

- (a) all bins and waste storage areas are clearly labelled;
- (b) all lids or doors on bins shall be kept closed during non-operating hours and during the high wind events;
- (c) if necessary to prevent litter, waste storage areas shall be covered during the high winds events; and
- (d) Batteries shall be stored in an area with containment that is adequate to contain any spills or leaks or run-off and in a manner which prevents contact with stormwater.

27.3 The *Owner* shall ensure that:

- (a) all *white goods which contain refrigerants* accepted at the *Site*, which have not been tagged by a licensed technician to verify that the equipment no longer contains refrigerants, are stored in an upright position and in such a manner to allow for the safe handling and removal from the *Site* of refrigerants as required by *Ontario Regulation 189*;
- (b) *white goods which contain refrigerants* received on-site shall either have the refrigerant removed prior to removal from the *Site* or shall be shipped off-site only to facilities where the refrigerants can be removed by a licensed technician in accordance with *Ontario Regulation 189*; and
- (c) a detailed log of all *white goods which contain refrigerants* received is maintained which includes the following information:
 - (i) date of the record;
 - (ii) types, quantities and source of *white goods which contain refrigerants* received;
 - (iii) destination of the white goods; or

(iv) the details on removal of refrigerants, if conducted on *Site*, and the quantities and destination of the refrigerants transferred from the *Site*.

27.4 Compressed gas cylinders shall be stored in a segregated area in a manner which prevents cylinders from being knocked over or cylinder valves from breaking.

27.5 Tires shall be placed in a segregated area cleared of vegetation and other waste, in a pile no greater than 300 m² in area or 5,000 tires.

27.7 The *Owner* shall transfer waste and recyclable materials from the *Site* as follows:

- (a) recyclable materials shall be transferred off-Site once their storage bins are full;
- (b) scrap metal shall be transferred off-Site at least twice a year;
- (c) tires shall be transferred off-Site as soon as a load for the contractor hired by the *Owner* has accumulated or as soon as the accumulated volume exceeds the storage capacity of its bunker;
- (d) immediately, in the event that waste is creating an odour or vector problem.

27.8 The *Owner* shall notify the appropriate contractors that waste and recyclable wastes that are to be transferred off the *Site* are ready for removal. Appropriate notice time, as determined by the contract shall be accommodated in the notification procedure.

28.0 MHSW Depot

28.1 The *Municipal Hazardous and Special Waste (MHSW)* Depot shall be operated in accordance with the Application for a Certificate of Approval for a Waste Disposal site (Transfer) dated January 25, 1990, and the supporting documentation in Schedule "A".

28.2 Only municipal hazardous and special waste (*MHSW*) as defined in this Approval may be accepted at the *MHSW* Depot.

28.3 The *Owner* shall ensure that:

- (a) the wastes are stored in a safe and secure manner, within a diked area on a concrete pad, or within an enclosed building;
- (b) the operation of this facility does not interfere with any other activities associated with this *Site*; and
- (c) the wastes are properly handled, packaged or contained so as not to pose any threat to the general public, site personnel and the environment.

28.4 All storage of liquid wastes shall be in accordance with the *Ministry's* publication "Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities", May 2007 as amended.

28.5 The storage limit for liquid wastes at the *MHSW* Depot is 1,200 litres.

28.6 Wastes that are collected and stored shall be in amounts which can be safely handled at the *MHSW* Depot. Once the containers are 75% full, the *Owner* shall have the wastes transferred off-Site by an approved hauler.

28.7 No storage facilities other than those approved under this *Approval* shall be used, and fixed storage facilities shall not be moved, replaced or altered without amendment to this *Approval*.

28.8 All storage facilities and tanks shall be clearly marked indicating the type and nature of the waste stored.

28.9 Smoking restrictions shall be adhered to and non-smoking signs posted as required by regulation.

28.10 All storage facilities, including tanks, shall be maintained under lock and key and access to these facilities shall be

limited to *competent Site* personnel.

28.11 No *PCBs* shall be accepted at this *MHSW* Depot.

28.12 Oils which have been manufactured prior to 1972; or whose manufacturing date cannot be determined, may contain *PCBs* and shall be handled in the manner prescribed:

- (a) the oil shall not be mixed (bulked) with other paints prior to testing.
- (b) the oil shall be tested for *PCB* content. The oil is considered to be a *PCB* waste, if measured levels are equal to or greater than 50 parts per million.
- (c) the oil shall not be distributed for reuse if they have any measurable *PCB* content.
- (d) if oil is found to have *PCB's* at or above 50 ppm, it shall be forthwith reported to the *District Manager* and shall be managed in accordance with *Ontario Regulation 362/92, Waste Management - PCB's* made under the *Act*, or removed from the *Site* to an approved *PCB* storage site in accordance with written instructions from the *District Manager*.

28.13 The *Owner* shall ensure that *competent* personnel are on duty at all times during the operation of the *MHSW* Depot.

28.14 All waste collected shall be transported from the *MHSW* Depot by an approved waste management system and disposed to an approved site approved to accept these types of wastes.

29.0 Composting Operations

29.1 Leaf and yard waste, as defined in O.Reg. 101/94, and clean wood, either chipped to be less than 7 centimetres in diameter are approved for compost processing at the *Site*.

29.2 The storage volume of leaf and yard wastes stored and processed at the *Site* at any one time shall be limited to 3,500 cubic metres.

29.3 *Leaf and yard waste* destined for composting shall be removed to the Composting Area on a weekly basis or whenever the capacity of the designated storage area is reached, whichever occurs first. In the event that the *leaf and yard waste* becomes odorous, the waste will be immediately diverted to the landfill.

29.4 Compost shall be turned every 15 days or as warranted for sufficient aeration.

29.5 The *Owner* shall ensure that, if operations do not conform to requirements of O.Reg. 101/94, then any Compost Waste that is produced is used solely for alternate daily or intermediate cover at the *Site*.

30.0 Organics Collection Operations

30.1 The Corporation of the County of Peterborough or the *Owners* shall notify the *District Manager* one (1) week prior to the start of the organics collection operation.

30.2 The Corporation of the County of Peterborough or the *Owners* shall ensure that all bins used for emptying the underground containers, as described in Item 19 of Schedule "A", properly contain all organic material placed inside.

30.3 The Corporation of the County of Peterborough or the *Owners* shall retain a record of the following information at the *Site*, and the County Office or at a location approved by the *District Manager*:

- i) Date the containers are emptied;
- ii) Approximate volume transferred to the collection truck per load; and
- iii) A record of any spills that occur during emptying and a description outlining any remediation measures that were implemented.

30.4 The Corporation of the County of Peterborough or the *Owner*, shall ensure that the organics collection program is operated and maintained in such a manner that does not pose a danger or health risk to the environment or public.

31.0 Site Monitoring

31.1 Groundwater and surface water monitoring shall be undertaken in accordance with the programs listed in Schedules "B" and "C" attached to this *Approval*. No changes to the groundwater and surface water monitoring programs shall be implemented prior to receiving a written concurrence from the *District Manager* or an approval from the *Director*.

32.0 Groundwater

32.1 The *Owner* shall ensure that all groundwater monitoring wells which form part of the monitoring program are properly capped, locked and protected from damage.

32.2 Where landfilling is to proceed around monitoring wells, suitable extensions shall be added to the wells, and the wells shall be properly re-secured.

32.3 Any groundwater monitoring wells included in the on-going monitoring program that are damaged shall be assessed, repaired, replaced or decommissioned by the *Owner*, as required.

32.4 The *Owner* shall repair or replace any monitoring well which is destroyed or in any way made to be inoperable for sampling such that no more than one regular sampling event is missed.

32.5 All monitoring wells which are no longer required as part of the groundwater monitoring program, and have been approved by the *Director* for abandonment, shall be decommissioned by the *Owner*, as required, in accordance with Ontario Regulation 903, that will prevent contamination through the abandoned well. A report on the decommissioning of the well shall be included in the annual monitoring report for the period during which the well was decommissioned.

33.0 Trigger Mechanism & Contingency Plans

33.1 The *Owner* shall comply with the following Site-specific trigger mechanism program for the implementation of the surface water contingency measures:

33.2 The surface water trigger mechanism shall be as follows: If the concentrations for one half of the selected quality indicators at SW2, exceed that observed at SW1 and exceed three-quarters of the *PWQO* on three consecutive sets of samples, then the contingency plan shall be implemented.

33.3 The surface water trigger parameters are established as follows:

- unionized ammonia, cadmium, chloride, chromium, copper, lead, total phosphorus, sulphate, benzene, toluene, ethyl benzene, m-xylene.

33.4 If a trigger occurs, the *Owner* shall implement the following contingency actions:

1. Initiate verification sampling within 30 days.
2. Within fifteen (15) days of receipt of the analytical results of the second occurrence, notify the *District Manager*;
3. After the second occurrence, confirm the water quality analytical results through the collection and analysis of a minimum of one additional sample from the background sample station and the downstream sample station within 15 days of receipt of the analytical results.
4. Conduct a *Site* visit to assess other potential sources of impact and/or confirm landfill derived impact.
5. Assess the need to sample at additional surface water stations and/or the need for analyses of additional parameters to better assess surface water compliance.
6. Report the results of steps 2 to 4 to the *Owner*. If the verification sampling does not indicate a persistent exceedance, the surface water monitoring program should continue as scheduled.
7. If the above actions confirm non-compliance, the municipality will develop potential remedial measures and submit these to the *Director* for approval within 30 days of receipt of the confirmatory verification analytical results

33.5 The *Owner* shall provide an evaluation of whether groundwater triggers should be established for the *Site* in the next Annual Report.

34.0 Inspections

34.1 The *Owner* shall ensure that weekly *Site* inspections, are undertaken by *competent Site* personnel and the areas to be inspected shall include, but not be limited to the following:

- a. condition of the active disposal areas, recyclables (blue bins) area, the tire, white goods, scrap metal storage areas;
- b. condition of the *MHSW* depot;
- c. the condition of the Compost Area, including temporary storage area;
- d. presence of any ponded water at the *Site*;
- e. condition of the on-site roads for evidence of excessive erosion and fugitive dust emissions;
- f. presence of litter at the *Site*'s perimeter and litter fences;
- g. condition of the intermediate cover and of the final cover;
- h. presence of vector, vermin and animals;
- i. condition of the on-site facilities, the gate and its lock and the signs required by this *Approval*;
- j. amount of the cover material to ensure that sufficient daily cover is available at all times that the *Site* is in operation; and
- k. presence of leachate springs

34.2 The *Owner* shall conduct inspections twice per year to confirm the condition of the *Site*'s monitoring well network.

35.0 Training

35.1 All *Operators* and staff of the *Site* shall be trained in the following areas:

- a. terms, conditions and operating requirements of this *Approval*;
- b. operation and management of the landfill, the Compost Area, *MHSW* Depot, organics collection area and the other waste storage areas as described in the documents in Schedule "A" attached to this *Approval* unless otherwise required by the conditions of this *Approval*;
- c. outline of the responsibilities of the operators of the *Site*;
- d. any environmental concerns pertaining to wastes being handled at the *Site*;
- e. proper inspection, receiving and recording procedures and the activities to be undertaken during and after a load rejection;
- f. occupational health and safety concerns pertaining to the wastes to be handled at the *Site*;
- g. relevant environmental legislation and regulations, including but not limited to the *Act* and O. Reg. 347;
- h. specific written procedures for the control of nuisance conditions; and
- i. operation of equipment and procedures to be followed in the event of an emergency situation as described in the Emergency Response Manual required by this *Approval*.

36.0 Complaints

36.1 The *Owner* shall record the name and address of complaint, and the date, time and nature of complaint and the actions taken to address the cause of the complaint, in a log book or a computer file.

36.2 If at any time, the *Owner* receives complaints regarding the operation of the *Site*, the *Owner* shall respond to these complaints according to the following procedure:

- The *Owner* shall record and number each complaint, either electronically or in a log book, and shall include the following information: the nature of the complaint, the name, address and the telephone number of the complainant if the complainant will provide this information and the time and date of the

complaint;

- The *Owner*, upon notification of the complaint, shall initiate appropriate steps to determine all possible causes of the complaint, proceed to take the necessary actions to eliminate the cause of the complaint and forward a formal reply to the complainant; and
- The *Owner* shall complete and retain on-site a report written within one (1) week of the complaint date, listing the actions taken to resolve the complaint and any recommendations for remedial measures, and managerial or operational changes to reasonably avoid the recurrence of similar incidents.

36.3 The *Owner* shall designate a person to receive any complaints and to respond with a written notice of action as soon as possible. The *Owner* shall post the *Site* complaints procedure at the *Site* entrance. All complaints and the *Owner*'s actions taken to remedy the complaints must be summarized in the Annual Report.

37.0 Record Keeping

37.1 The *Owner* shall establish and maintain a written record of the *Site* inspections as required by this *Approval*. This record shall be in the form of a log or a dedicated electronic file and it shall include, as a minimum, the following information:

- a. date and time of inspection;
- b. name, title and signature of trained personnel conducting the inspection;
- c. a listing of all the areas inspected and any deficiencies observed; and
- d. recommendations for remedial action and the completion date of such action.

37.2 The *Owner* shall:

- a. retain all documentation listed in Schedule "A" for as long as this *Approval* is valid;
- b. retain at the *Site*, all records required by this *Approval*, for a minimum of two (2) years from the date of their creation;
- c. retain the employee training records for as long as the employee is working at the *Site*; and,
- d. make all of the above documents and records available for inspection upon request by the staff of the *Ministry*.

38.0 Annual Report

38.1 The *Owner* shall prepare and submit an Annual Report to the *District Manager* by March 31st of the year following the calendar year covered by the report which shall include at a minimum, the following:

- a. calculations of the volume of waste landfilled, the daily and intermediate cover, the final cover and the overall volume of the *Site* capacity used during the reporting period;
- b. a comparison of the actual capacity used to the estimates of the capacity estimated;
- c. an estimate of the remaining *Site* life;
- d. types and amount of recyclable wastes diverted;
- e. amount of leaf and yard wastes accepted to the *Site*;
- f. amount of organics accepted for the organics collection system, if operating;
- g. any changes in operations, equipment, or procedures used at the *Site*, any operating problems encountered and corrective actions taken;
- h. details on the monitoring program undertaken, outlining monitor locations, analytical parameters sampled, frequency of sampling;
- i. an analysis and interpretation of the surface water and groundwater monitoring data, analytical results evaluated against regulatory limits and *Site* trigger levels, a review of the adequacy of the monitoring program, conclusions of the monitoring data, and recommendations for any changes that may be necessary;
- j. summary of inspections undertaken at the *Site*;
- k. summary of any public complaints received and the responses made;
- l. a discussion of cover stockpile activities including use, timing, locations and erosion protection;

- m. status update on the final cover placement, and seeding activities undertaken in the closed sections of the landfill;
- n. a statement as to compliance with all conditions of this *Approval* and the other relevant *Ministry's* groundwater and surface water requirements;
- o. recommendations respecting any proposed changes in the operation of the *Site*;
- p. a report on the status of all monitoring wells and a statement as to compliance with Ontario Regulation 903; and,
- q. any other information that the *District Manager* may require.

39.0 Emergency situations

39.1 Any spills, fires or other emergency situations shall be forthwith reported directly to the *Ministry* of Environment and Energy Spills Action Centre (1-800-268-6060) and the *District Manager* and shall be cleaned up immediately.

39.2 In addition, the *Owner* shall submit, to the *District Manager* a written report within three (3) days of any spill or incident, outlining the nature of the incident, remedial measures taken and the measures taken to prevent future occurrences at the *Site*.

39.3 The *Owner* shall ensure that adequate fire fighting and contingency spill clean-up equipment is available and that the emergency response personnel are familiar with the use of such equipment and its location(s).

39.4 The *Owner* shall prepare an Emergency Response Manual for the *Site* within ninety (90) days of issuance of this *Approval*, in consultation with local emergency response agencies. The Emergency Response Manual should indicate the responsibility of each of the stakeholders with respect to handling possible emergency situations.

39.5 The Emergency Response Manual shall be updated on a regular basis and be provided to the *District Manager* within one month of the revision date.

40.0 Site Closure

40.1 At least two (2) years prior to the anticipated date of closure of the landfill at this *Site* or the date when 90 per cent of the total waste disposal volume is reached, whichever occurs first, the *Owner* shall submit to the *Director* for approval, with a copy to the *District Manager*, a detailed *Site* Closure Plan pertaining to the termination of the landfilling operations at the *Site*, post-closure inspection, maintenance and monitoring and the end use. The plan shall include, but not be limited to the following:

- a. a plan showing *Site* appearance after closure;
- b. a description of the proposed end use for the *Site*;
 - a. descriptions of the procedures for closure of the *Site*, including but not be limited to, the following:
 - i. advance notification of the public of the *Site* closure;
 - ii. posting a sign at the *Site* entrance indicating the landfill is closed and identifying any alternative waste disposal arrangements;
 - iii. completion, inspection and maintenance of the final cover and landscaping;
 - iv. *Site* security after closure;
 - v. removal of unnecessary landfill-related structures, buildings and facilities; and
 - vi. final construction of any necessary control, treatment, disposal and monitoring facilities for ground and surface water and for landfill gas.
- d. description of the procedures for post-closure care of the *Site*, including:
 - i. operation, inspection and maintenance of the control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas, if applicable;
 - ii. record keeping and reporting; and
 - iii. complaint contact and response procedures.
- e. an assessment of the adequacy of and need to implement the contingency plans; and

f. an estimate of the contaminating life span of the *Site*, based on the results of the monitoring programs to-date.

Schedule "A"

Supporting Documentation

1. Application and Supporting Information, [for the Certificate of Approval dated August 12, 1980]
2. Report entitled "Revised Development Plan for Waste Disposal Site, Township of Smith, prepared by Property Committee of Township of Smith Council, dated May, 1977
3. Report (above) includes two "Smith Township Martin Landfill" plans (Site Plan and Development Plan) prepared by Totten Sims Hubicki Associates Ltd.
4. Application for a Certificate of Approval for a Waste Disposal Site (Landfill) dated March 25, 1985 which was clarified by the letter of July 25, 1985 from Totten Sims Hubicki Associates to the Ministry of Environment and the letter of July 23, 1985 from Trow Ltd., Hydrology Consultant to Totten Sims Hubicki Associates.
5. Report on the Expansion of the Existing Landfill Site by Totten Sims Hubicki (TSH) dated June 24, 1983.
6. Hydrogeologic Evaluation for the Proposed Expansion of the Existing Sanitary Landfill Site, Lot 20, Concession 8, Township of Smith by Hydrology Consultants dated April 14, 1983.
7. Correspondence from the Township of Smith
 - a) By-Law No. 1979-79
 - b) By-Law No. 1980-7
 - c) Deed of Property
8. Addendum Report Hydrogeologic Evaluation for the Proposed Expansion of the Existing Sanitary Landfill Site: Lot 20 concession 8. township of Smith by Hydrology Consultants dated November 15, 1984
9. Certified List of Owners of Property adjacent to the site
10. Site Development and Operations Report by Totten Sims Hubicki Associates titled "Revised Development Plan for Waste Disposal Site" Township of Smith, dated March 1985
11. Letter dated August 24, 1998, from Michael Lord, Lakefield Research Limited, to Eugene Raymo, Ministry of the Environment (MOE), and the attached Application form dated September 9, 1998
12. Document titled "Smith Landfill Site, Operations and Maintenance Plan, Amendment for Leaf and yard Composting", dated August 24, 1998, and an attached Site Plan (figure No. 1) by Lakefield Research Limited dated August 1998
13. Letter dated September 18, 1998 from Michael Lord, Lakefield Research, to Eugene Raymo, MOE, and an application form dated September 19, 1998
14. Letter requesting more information and clarification, dated January 29, 1999, from Tesfaye Gebrezghi, MOE, to Michael Lord
15. Letter dated July 8, 1999, from Bruce G. Harman, Lakefield Research Limited, to Tesfaye Gebrezghi, MOE, and an attached response document to item 14 above
16. Application for a Provisional Certificate of Approval for a Waste Disposal Site submission dated July 3, 2001 from the Township of Smith-Ennismore-Lakefield and supporting documentation from Lakefield Research Limited, Environmental Services dated June 26, 2001 and July 3, 2001
17. Application for a Provisional Certificate of Approval for a Waste Disposal Site submission dated July 20, 2005, and signed by Janice Lavelley, Clerk, Deputy Treasurer, including letter dated July 20, 2005 prepared by Tyler H. Peters,

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P.Eng., SGS Lakefield Research Limited, and all supporting documentation.

18. Letter dated May 2, 2007 requesting an amendment to an existing Certificate of Approval from the Corporation of the Township of Smith-Ennismore-Lakefield, signed by Norman Kyle, CAO, Smith-Ennismore-Lakefield, including all supporting information.

19. Letter dated November 27, 2007, signed by Catrina Switzer, Environmental Services, County of Peterborough, to Alan Tan, MOE. re: design of organics collection system, with enclosed information on Molok deep well collection units.

20. Application for a Provisional Certificate of Approval for a Waste Disposal Site submission signed by Stephen Crough, Manager of Public Works, Corporation of the Township of Smith-Ennismore-Lakefield, dated January 22, 2010,

21. Design and Operations Plan Update, Smith Disposal Site, dated January 20, 2010, prepared by Cambium Environmental Inc.,

22. Letter dated May 6, 2011, from David Bucholtz, Cambium Environmental, to Lynda Mulcahy, MOE, with responses to request for additional information

Schedule "B"
Groundwater Monitoring Program

Location	Task	Frequency	Analytical Parameters
BH1-76, BH2-76-D, BH4-76-S, BH4-76-D, BH6-76-S, BH6-76-D, BH8-76, BH9-76-S, BH9-76-D, BH11-76-S, BH11-76-D, BH1-90, BH2-90, BH3-90, BH4-90, BH04-1, MW12A-08, MW12B-08, MW13A-08, MW13B-08, MW14A-08, MW14B-08 2 QA/QC Duplicates	measure groundwater levels, groundwater sampling, field measurements (pH, conductivity, temperature)	twice per year (spring, autumn)	alkalinity, ammonia, barium, boron, cadmium, calcium, chloride, chromium, cobalt, copper, COD, conductivity, DOC, hardness, iron, lead, magnesium, manganese, nitrate, pH, potassium, sodium, sulphate, total dissolved solids, total phosphorus, TKN, zinc
RW1, RW2, and RW3	groundwater sampling, field measurements (pH, conductivity, temperature)	twice per year (spring, autumn)	
BH1-90, BH3-90, BH1-04	groundwater sampling	twice per year (spring, autumn)	BOD, suspended solids
BH11-76S	groundwater sampling	twice per year (spring, autumn)	benzene, toluene, ethylbenzene, xylene, (BTEX)
BH9-76S, BH8-76	groundwater sampling	once per year (autumn)	BTEX
BH1-90, BH3-90	groundwater sampling	once per year (autumn)	EPA 624 VOCs including vinyl chloride, dichloromethane
BH2-76-S, BH2-83-S, BH2-83-D, BH2-84-S, BH2-84-D	measure groundwater levels	twice per year (spring, autumn)	none

Schedule "C"
Surfacewater Monitoring Program

Location	Task	Frequency	Analytical Parameters
SW1, SW2, SW4, SW5, SW6 1 QA/QC duplicate	surface water sampling, flow estimates, field measurements (pH, conductivity, temperature, dissolved oxygen)	three times per year (spring, summer, autumn)	alkalinity, ammonia, barium, boron, BOD, cadmium, calcium, chloride, chromium, cobalt, COD, conductivity, copper, DOC, hardness, iron, lead, magnesium, manganese, mercury, nitrate, pH, phenols, potassium, total phosphorus, silver, sodium, strontium, sulphate, total dissolved solids, vanadium, zinc

The reasons for the imposition of these terms and conditions are as follows:

- 1. The reason for the definitions is to define the specific meaning of terms and simplify the wording of conditions in this Approval.*
- 2. The reason for Condition 1.1 is to clarify that this Approval revokes and replaces the previous one, including amendments.*
- 3. The reason for Conditions 2.1, 2.2, 3.1, 3.2, 5.1, 5.2, 5.3, 6.1 and 6.2 is to clarify the legal rights and responsibilities of the Owner under this Approval.*
- 4. The reasons for Condition 7.1 is to ensure that the Site is operated under the corporate name which appears on the application form submitted for this approval and to ensure that the Director is informed of any changes.*
- 5. The reasons for Condition 7.2 and 7.3 are to restrict potential transfer or encumbrance of the Site without the approval of the Director and to ensure that any transfer of encumbrance can be made only on the basis that it will not endanger compliance with this Approval.*
- 6. Conditions 8.1 and 8.2 are included, pursuant to subsection 197(1) of the EPA, to provide that any persons having an interest in the Site are aware that the land has been approved and used for the purposes of waste disposal.*
- 7. The reason for Condition 9.1 is to ensure that appropriate Ministry staff have ready access to the Site for inspection of facilities, equipment, practices and operations required by the conditions in this Approval. This condition is supplementary to the powers of entry afforded a Provincial Officer pursuant to the EPA and OWRA.*
- 8. Conditions 10.1 to 10.4 are included to ensure that the appropriate Ministry staff have ready access to information and the operations of the Site, which are approved under this Approval.*
- 9. The reason for Condition 11.1 is to specify the approved area from which waste may be accepted at the Site*
- 10. The reason for Conditions 12.1 and 12.2 is to specify the hours of operation of the Site and a mechanism for amendment of the hours of operation.*
- 11. The reason for Conditions 13.1 to 13.4 is to ensure that access to the Site is controlled, and that users of the Site are fully aware of important information and restrictions related to Site operations under this Approval.*

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12. *The reason for Conditions 14.1 to 14.3 is to ensure that only wastes that are approved for receipt at the Site are received, and that landfilling operations are done in a manner to minimize impacts to neighbours and the environment.*
13. *The reason for Conditions 15.1 to 15.3 is to specify the approved waste types for the Site.*
14. *The reason for Conditions 16.1, 16.2, 18.1 and 18.2 is to specify the restrictions on the extent of landfilling at this Site based on the Owner's application and supporting documentation. These limits define the approved volumetric capacity of the Site. Approval to landfill beyond these limits would require an application with supporting documentation submitted to the Director.*
15. *The reason for Conditions 17.1 to 17.3 is to ensure that landfilling operations are conducted in an environmentally acceptable manner. Daily and intermediate cover is used to control potential nuisance effects, to facilitate vehicle access on the site, and to ensure an acceptable site appearance is maintained. The proper closure of a landfill site requires the application of a final cover which is aesthetically pleasing, controls infiltration, and is suitable for the end use planned for the site*
16. *The reason for Conditions 19.1 to 23.1 is to ensure that landfilling operations do not cause nuisance or hazards to the environment or people. Scavenging is the uncontrolled removal of material from waste at the Site.*
17. *The reason for Condition 24.1 is to address the risk of landfill gas in buildings at the Site, to ensure the safety of persons working at the Site.*
18. *The reason for Condition 25.1a is that open burning of municipal waste is unacceptable because of concerns with air emissions, smoke and other nuisance affects, and the potential fire hazard.*
19. *The reason for Condition 25.1b is to define what type of waste may be burned at the Site, to define the procedures to be undertaken before and after the burning event, to ensure that burning at the Site is completed in accordance with Ministry of Environment's guidelines and to guarantee that burning does not result in a hazard or nuisance to the environment and the health and safety of people.*
20. *The reason for Conditions 26.1 and 26.2 is to prevent impacts to surface waters at or near the Site from landfilling operations.*
21. *The reason for Conditions 27.1 to 28.14 is to ensure that wastes that are diverted from the landfill, including municipal hazardous and special wastes, are stored, managed and disposed of in a manner that protects the environment and the public.*
22. *The reason for Conditions 29.1 to 29.5 is to ensure that wastes intended for partial or complete composting are managed and processed in a manner which protects the environment and the public, and to ensure that compost that does not meet quality criteria is not re-used by the public.*
23. *The reason for Conditions 30.1 to 30.4 are to ensure that the Ministry is aware of when organic collection program starts, and to ensure that the program is run in a manner that does not pose a risk to the environment or the public.*
24. *The reason for Condition 31.1 is to demonstrate that the landfill site is performing as designed and the impacts on the natural environment are acceptable. Regular monitoring allows for the analysis of trends over time and ensures that there is an early warning of potential problems so that any necessary remedial/contingency action can be taken.*
25. *The reasons for Conditions 32.1 to 32.5 and 34.2 are to ensure protection of the natural environment and the integrity of the groundwater monitoring network.*
26. *The reason for Condition 33.1 to 33.5 is to ensure regular monitoring for groundwater and surfacewater at and near the Site. A remedial action / contingency plan is necessary to ensure protection of the natural environment.*
27. *Condition 34.1 is paramount in ensuring the site is inspected on a regular basis for certain items such that an adverse effect on the environment does not occur.*
28. *The reason for Condition 35.1 is to ensure that the Site is supervised and operated by properly trained staff in a manner which does not result in a hazard or nuisance to the natural environment or any person.*

29. *The reason for Conditions 36.1 to 36.3 is to ensure that the Owner follows a plan with an organized set of procedures for identifying and responding to unexpected but possible problems at the Site.*

30. *The reasons for Conditions 37.1 and 37.2 are to provide for the proper assessment of effectiveness and efficiency of site design and operation, their effect or relationship to any nuisance or environmental impacts, and the occurrence of any public complaints or concerns. Record keeping is necessary to determine compliance with this Approval, the Act and its regulations.*

31. *The reasons for Condition 38.1 are to ensure that regular review of site development, operations and monitoring data is documented and any possible improvements to site design, operations or monitoring programs are identified. An annual report is an important tool used in reviewing site activities and for determining the effectiveness of site design.*

32. *The reasons for Condition 39.1 is to ensure that the Ministry is informed of any spills or fires at the Site and to provide public health and safety and environmental protection.*

33. *Conditions 39.2 to 39.5 inclusive are contained in the Approval to guarantee that appropriate measures are taken by the Owner to prevent future occurrences of spills or fires at the site and to protect public health and safety and the environment.*

34. *The reasons for Condition 40.1 are to ensure that final closure of the Site is completed in an aesthetically pleasing manner and to ensure the long-term protection of the natural environment.*

35.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). A341601 issued on January 21, 1986

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

CONTENT COPY OF ORIGINAL

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of
the Environmental Protection Act
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at:
Tel: (416) 212-6349, Fax: (416) 314-4506 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 15th day of December, 2011

Tesfaye Gebrezghi, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

LM/
c: District Manager, MOE Peterborough
Dave Bucholtz, Cambium Environmental Inc.

The applicant(s) hereby applies to the Land Registrar.

Properties

PIN 28400 - 0005 LT Affects Part of Prop

Description PT S 1/2 LT 19 CON 8 SMITH PT 1 45R8143, PT 1 45R6060; PT LT 20 CON 8 SMITH AS IN R356975 & R392998; SAVE AND EXCEPT THEREOUT AND THEREFROM PART 1 ON PLAN 45R15882; TOWNSHIP OF SELWYN; BEING PART OF PIN 28400-0005(LT).

Address LAKEFIELD

Party From(s)

Name HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO AS REPRESENTED BY THE MINISTER OF THE ENVIRONMENT

Address for Service Director, Part II.1, Environmental Protection Act
2 St. Clair Avenue West, Floor 12A
Toronto, ON M4V 1L5

I, Tesfaye Gebrezghi, have the authority to bind the corporation.

This document is not authorized under Power of Attorney by this party.

Statements

This document relates to registration no.(s)R392998, R480747 and R528971

Schedule: See Schedules

Signed By

Robert Edward Pakenham	332 Aylmer St. P.O. Box1146 Peterborough K9J 7H4	acting for Party From(s)	Signed	2014 09 12
Tel 705-742-1674				
Fax 705-742-4677				

I have the authority to sign and register the document on behalf of the Party From(s).

Submitted By

LLF LAWYERS LLP	332 Aylmer St. P.O. Box1146 Peterborough K9J 7H4	2014 09 12
Tel 705-742-1674		
Fax 705-742-4677		

Fees/Taxes/Payment

<i>Statutory Registration Fee</i>	\$60.00
<i>Total Paid</i>	\$60.00

File Number

Party From Client File Number : 20140531

SCHEDULE "A"

CERTIFICATE OF REQUIREMENT

s. 197(2) of the *Environmental Protection Act*

This is to certify that pursuant to an Environmental Compliance Approval No. A341601 issued by Tesfaye Gebrezghi, P.Eng. Director appointed for the purposes of Part II.1 of the Environmental Protection Act dated December 15, 2011 with respect to the use and operation of a 10.1 hectare land filling site, composting area, municipal hazardous and special waste depot and waste transfer station at Part Lot 19 and Part Lot 20, Concession 8, Geographic Township of Smith, now in the Township of Selwyn, County of Peterborough, Province of Ontario and being all of PIN 28400-0005(LT) save and except thereout and therefrom Part 1 on Plan 45R15882; the following person(s):

THE CORPORATION OF THE TOWNSHIP OF SELWYN

and any other persons having an interest in Part Lot 19 and Part Lot 20, Concession 8, Geographic Township of Smith, now in the Township of Selwyn, County of Peterborough, Province of Ontario and being all of PIN 28400-0005(LT) save and except thereout and therefrom Part 1 on Plan 45R15882 are required, before dealing with the land in any way, to give a copy of the Environmental Compliance Approval, including any amendments that may be made thereto, to every person who will acquire an interest in the land as a result of the dealing. Under subsection 197(3) of the *Environmental Protection Act*, this requirement applies to each person who, subsequent to the registration of this certificate, acquires an interest in the land.



Appendix B
Landfill Cost Model



Landfill Capacity Costing Model
 Continuous Improvement Fund

Municipality: Selwyn Township

Site Name: Smith Landfill

Date Complete: Septmeber 3, 2020

Completed By Heather Dzurko, Cambium

Total Estimated Landfill Life from Opening to Closure: 30 years
 Interest rate: 5% annual rate
 Estimated Life from September 2019

A) STARTUP COSTS (excl HST)

	<u>Total Lump</u>	<u>Site Life</u>	<u>Annualized Cost</u>	<u>Data Source/Explanatory Notes</u>
	<u>Sum</u>			
1) Land	\$ 50,000	30 yr.	\$ 3,098	
2) Public Consultation	\$ -	30 yr.	\$ -	
3) Approvals and Fees	\$ -	30 yr.	\$ -	
4) Consulting/Engineering	\$ -	30 yr.	\$ -	
5) Site Preparation/Construction		30 yr.	\$ -	
6) Other	\$ -	30 yr.	\$ -	
7) Other	\$ -	30 yr.	\$ -	
Subtotal A) Annualized Start			\$ 3,098	per year

B) ANNUAL OPERATING COSTS (excl HST)

	<u>Typical Annual Costs</u>	<u>Data Source/Explanatory Notes</u>
1) Staffing	\$ 280,000	onsite staff only - includes benefits, plus 40,000 for management and administration costs
2) Environmental Services (Monitoring & Analysis)	\$ 35,000	includes MOECC
3) Annual Reporting to MOECC	\$ 1,000	for ECA amendments etc.
4) Equipment (rental or annualized cost)	\$ 80,000	includes fuel
5) Equipment Fuel	\$ -	
6) Building, Grounds, and Equipment Maintenance (Repair)	\$ 2,500	
7) Utilities (electricity/propane/water)	\$ 4,000	hydro and phone



8) Sanitary Facilities	\$ -	
9) Safety Related Expenses	\$ -	
10) Printing and General Supplies	\$ 1,600	
11) Purchase/Placement of Soil Cover	\$ -	included in equipment costs
12) Gravel/Road Building	\$ 10,000	added based on assumption that new roads and areas will have to be created as site develops
13) Waste Bins/Movements	\$ -	
14) Signage/Fencing	\$ -	
15) Animal/Bird Control	\$ -	
16) Leases/Property Taxes	\$ 20,000	
17) Royalties Paid	\$ -	
18) Small Tools/Equipment	\$ -	
19) Other	\$ 3,000	misc debit/credit card expenses
20) Other	\$ 1,500	other misc expenses

Subtotal B) Annual Operating Costs \$ 438,600 per year

C) CAPITAL COSTS (excl HST)

	Total Lump Sum	Site Life	Annualized Cost	Data Source/Explanatory Notes
1) Construction Projects Not Covered Under B) (Total Site Lifetime Estimate)	\$ -	30	\$ -	
2) Other (Total Site Lifetime Estimate)	\$ 35,000	30	\$ 3,211	compactor, loader, scales and scalehouse
3) Cell Capping and Closure	\$ 500,000	30	\$ 45,877	

Subtotal C) Annualized Cap \$ 49,089 per year

D) POST CLOSURE COSTS (excl HST) O. Reg. 232/98, s. 18

(Note: Assumes post closure period equals Site Life)

	Annual Costs	Closure period	Annualized Cost	Data Source/Explanatory Notes
1) Monitoring and Reporting	\$ 30,000	25	\$ 11,595	



2)	Final Capping and Closure	\$ 2,000	25	\$ 508	
2)	Maintenance	\$ 1,500	25	\$ 740	
3)	Other (contingency costs)	\$ 2,000	25	\$ 987	

Subtotal D) Annualized Post \$ 13,830 per year

E) ADMINISTRATIVE SUPPORT 5% of total of A+B+C+D \$ 25,231
TOTAL ESTIMATED ANNUALIZED COST (A+B+C+D+E+F) \$ 529,847

Prior 5 year **Average** Total Waste Tonnage Received 3,000 tonnes

Prior 5 year **Average** Blue Box Tonnage Received 120 tonnes
 calculated % Blue Box of Total 4.0%

Prior 5 year **Average** Volume Consumed - Total Waste 6,000 cubic metres

Prior 5 year **Average** Volume Consumed - Blue Box 724 cubic metres
 calculated % Blue Box of Total 12.1%

ESTIMATED ANNUAL COST PER CUBIC METRE	\$ 88	per cubic metre
BLUE BOX - ESTIMATED ANNUAL ALLOCATION	\$ 63,921	total cost
BLUE BOX - ESTIMATED ANNUAL COST PER TONNE	\$ 533	per tonne
Garbage - ESTIMATED ANNUAL ALLOCATION	\$ 529,847	total cost
Garbage - ESTIMATED ANNUAL ALLOCATION	\$ 177	per tonne



Appendix C

Photographs



Photograph 1: Garbage Disposal Signage, August 2020



Photograph 2: Garbage Disposal Area, August 2020



Photograph 3: Construction Demolition Area, April 2020



Photograph 4: Leaf and Yard Storage, August 2020



Photograph 5: Brush Drop Off Area, August 2020



Photograph 6: Brush Pile, April 2020



Photograph 7: Scrap Metal Bin, April 2020



Photograph 8: Tires Collection Area, August 2020



Photograph 9: Electronics Drop Off, April 2020



Photograph 10: Blue Box Recycling Bins, April 2020



Photograph 11: Fibre Recycling Bins, April 2020



Photograph 12: Container Recycling Bins, April 2020



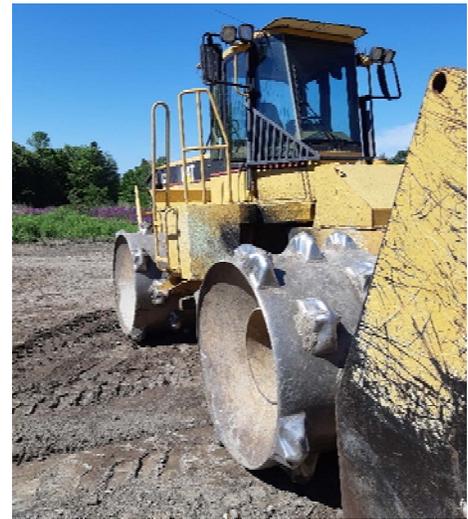
Photograph 13: Hazardous Waste Depot, April 2020



Photograph 14: Battery Drop Off Bin, April 2020



Photograph 15: Scalehouse, August 2020



Photograph 16: Landfill Compactor, August 2020



Photograph 17: Entrance Signage, April 2020



Photograph 18: Entrance Signage, August 2020