Environmental Services
Waste Management

An Overview of Waste Management in South Dundas
Understanding the Users of A System Assists in Designing A System That Works

By understanding the average resident in South Dundas, Administration can design a waste management system that provides an essential weekly service, while also ensuring future needs are met with an economical and environmentally sustainable solution.
What is going on in Waste Management?

**Limited Disposal Capacity**
By 2030 the Province of Ontario will have no remaining waste disposal facilities.

**Revenues and Expenses**
Increases of Expenses for services are anticipated in 2020 and into 2021, revenues are anticipated to decrease.

**Expiring Contracts**
Curbside Collection Contracts and monitoring contracts are up for renewal in 2021.

**Multi-Level Government Policy Changes**
Blue Box Program, Food and organic waste framework, single use plastic ban.

**Environmental Pressures**
Leachate and Surface Water Contamination controls to protect the Environment.
What Staff are Working on in 2020

**Partnerships**
Develop partnerships to increase opportunities for collaboration, cost savings, and innovation

**Proactive Planning**
Develop a proactive long- and short-term plan for all aspects of waste management

**Community Education**
Development of Educational Tools for residents, schools, and businesses to use
Limited Disposal Capacity
Limited Disposal Capacity

**Williamsburg Landfill**
Williamsburg Landfill closed in 2019 due to being over filled. Its allowable fill volume was 147,000 m$^3$ an equivalent to 700,000 bags of garbage.

**Matilda Landfill**
Matilda Landfill has an estimated 2 years remaining. Its allowable fill volume is 236,680 m$^3$. This location is the current best option for expansion.

**Alternative Options**
Outside of Municipally owned landfills South Dundas could potentially take waste to private waste disposal facilities.
Williamsburg Landfill

Status: Closed

Important Information/Activities

• Closed in July 2019, as it was filled beyond its approved capacity

• Closure plan created by WSP, approved by the Ministry in December 2019.

• Currently developing a capping plan with Consultant.
  • Capping at Williamsburg is estimated to be $700,000.00

• Monitoring Program Plan will continue for the next 81 years based on the closure plan.
  • 81 years is based on the Rowe method
  • Monitoring costs are currently $39,000.00

Options moving forward

• Not chosen as an ideal site for expansion
  • Currently designated as a Provincially Significant Wetland

• Discussions with Ministry of Environment have determined that this site will not likely be approved for a landfill expansion.
Matilda Landfill

Status: Open

Important Information/Activities
• Has an estimated 2 years left to closure
• Spring 2020 Groundwater Delineation Project
  • To determine the movement of leachate in groundwater
• Summer 2020 Preliminary Consultation with the Ministry of Environment
  • To review options and eligibility for expansion based on preliminary review of ground and surface water data

Options moving forward
• Best option for expansion
• Application for an Environmental Compliance Approval will be required for expansion
  • This will open the ECA for other adjustments to be made, and may result in changes to current operations (cover, open air burning, etc.)
  • Environmental Screening will be required (public and outside agency consultation)
**Alternatives**

**Status:** In progress

**Alternative Options Include:**

- Private waste disposal
  - $60.00 per tonne plus trucking
  - 4,700 tonnes collected curbside ($282,000 for disposal only)
- Transfer station costs ($100-200,000 annually depending on usage)
- Trucking $150.00 an hour
- Regional Disposal Options
  - RFP released by SDG Counties for the initial review of options for efficiencies regionally
  - Phase 2- Looking at options/locations for waste disposal- 2021
Timeline - Disposal
The short-term plan for waste disposal

- **Begin Application for Matilda Expansion**: May, 2020
- **Pre-Consultation meeting with Ministry regarding expansion**: June 2020
- **Williamsburg Capping**: July 2020
- **Screening Process to Begin for Expansion**: September 2020
- **Screening Process to be Completed**: November 2020
- **Ministry Decision Anticipated Regarding Expansion**: March 2021
- **If Ministry Rejects Expansion- Begin Negotiations for Disposal**: September 2021
- **County Waste Management Review to be Completed**: March 2021
- **New Cell to Be Constructed at Matilda**: June 2020
- **Groundwater Delineation Project and Compactor Delivery**: April 2020
- **Discussion with Ministry Regarding Expansion**: March 2020
- **Review of Alternatives to Disposal at Matilda**: August 2020
- **If Ministry Rejects Expansion- Begin Closure Report for Matilda**: May 2021
- **Williamsburg Capping**: July 2020
- **Screening Process to Begin for Expansion**: September 2020
- **Screening Process to be Completed**: November 2020
- **Ministry Decision Anticipated Regarding Expansion**: March 2021
Revenues and Expenses
Expenses related to Waste Management have seen dramatic increases (minimum 20%)

**Disposal**
Disposal costs are increasing due to tighter environmental regulations, insurance, and heavy equipment costs.

**Diversion**
Diversion costs are increasing due to an increase in supply of materials, equipment maintenance, and labor costs.

**Contracts**
Contracts such as collection and consulting have also increased due to labour costs and insurance requirements.
### Average 3-Year Waste Management Expenses in South Dundas

#### Operational 3-year average costs
- **Total**: $790,025.00

#### Capital 3-year average costs
- **Total**: $364,513.00

<table>
<thead>
<tr>
<th>Expense Description</th>
<th>Average Percentage of Total Cost</th>
<th>Average Expense (3 year average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contracts and Consulting Fees</td>
<td>80.94%</td>
<td>$639,438.00</td>
</tr>
<tr>
<td>Wages and Benefits</td>
<td>15.26%</td>
<td>$120,565.00</td>
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<tr>
<td>Materials and Supplies</td>
<td>0.37%</td>
<td>$2,953.00</td>
</tr>
<tr>
<td>Utilities</td>
<td>0.24%</td>
<td>$1,871.00</td>
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<tr>
<td>Repairs and Maintenance</td>
<td>1.27%</td>
<td>$10,003.00</td>
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<tr>
<td>Hazardous Waste</td>
<td>0.47%</td>
<td>$3,748.00</td>
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<tr>
<td>Property Taxes</td>
<td>1.39%</td>
<td>$10,946.00</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>0.06%</td>
<td>$501.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>$790,025.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Capital Expenditure</th>
<th>Average Percentage of Total Cost</th>
<th>Average Expense (3 year average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill Site</td>
<td>6.18%</td>
<td>$22,513.00</td>
</tr>
<tr>
<td>Landfill Grants</td>
<td>66.39%</td>
<td>$242,000.00</td>
</tr>
<tr>
<td>Landfill Reserve</td>
<td>27.43%</td>
<td>$100,000.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>$364,513.00</td>
</tr>
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</table>
Revenues and Expenses
Revenues have seen a decline over the past three years.

- **Disposal**: Tipping fees are decreasing as larger private facilities open with more competitive pricing.

- **Recycling**: The recycling market is in rapid decline, supply of recyclable material to market is at an all time high, dropping the demand and purchase price.

- **Grants**: Federal and Provincial Governments continue to provide funding for innovative best practices, however Municipalities often have to fund most projects up front.
## Revenue Sources

### An Overview of Past Revenues

<table>
<thead>
<tr>
<th></th>
<th>Landfill Tipping Fees</th>
<th>Bag Sales</th>
<th>Grants</th>
<th>Total Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>$129,881</td>
<td>$2635</td>
<td>$78,750</td>
<td>$211,266</td>
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<tr>
<td>2017</td>
<td>$138,990</td>
<td>$5118</td>
<td>$82,625</td>
<td>$226,733</td>
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<tr>
<td>2018</td>
<td>$120,058</td>
<td>$5943</td>
<td>$85,598</td>
<td>$211,599</td>
</tr>
<tr>
<td>2019</td>
<td>$98,055</td>
<td>$6766</td>
<td>$89,304</td>
<td>$194,158</td>
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<tr>
<td>Projected 2020</td>
<td>$130,000</td>
<td>$5500</td>
<td>$89,304</td>
<td>$224,804</td>
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</tbody>
</table>
Full Cost Recovery vs. User Pay

**Full Cost Recovery** is the practice of recovering all core costs that relate to a project or service—practiced through applying all costs across the tax base.

**User Pay** is an approach where the users of the system pay the full cost of the goods they use—similar to water and waste water rates.

- **Disposal**
  - Full Cost: $455,843.00
  - User Pay:
    - Number of Users: 3400
    - Cost per use: $48.00

- **Assumptions**
  - Curbside waste is paid through the curbside program
  - Scrap metal revenue continues
  - 3,400 users at the landfill per year

- **Curbside**
  - Full Cost: $1,013,000
  - User Pay:
    - Number of Users: 4830
    - Cost per year: $209.73

- **Assumptions:**
  - Cost per household per year
  - Only for 2 bags, additional bags would need to be purchased
  - Bi-weekly recycling collection

- **Compost**
  - Full Cost: $22,600
  - User Pay:
    - Number of Users: 1500
    - Cost per use: $15.00

- **Assumptions:**
  - Only for leaf, yard waste and branches, all other material must be disposed of
  - No program improvements
## Competition Tipping Fees

<table>
<thead>
<tr>
<th>Item</th>
<th>Average Price Other Facilities</th>
<th>Matilda Landfill Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Load</td>
<td>$10.00</td>
<td>$5.00</td>
</tr>
<tr>
<td>Furniture</td>
<td>$10.00</td>
<td>$15.00</td>
</tr>
<tr>
<td>Construction Waste</td>
<td>$50.00</td>
<td>$15.00</td>
</tr>
<tr>
<td>Tandem Truck</td>
<td>$400.00</td>
<td>$500.00</td>
</tr>
<tr>
<td>Tractor Trailer</td>
<td>$450.00</td>
<td>$600.00</td>
</tr>
<tr>
<td>Fires</td>
<td>$400.00</td>
<td>$250.00</td>
</tr>
<tr>
<td>Appliances</td>
<td>$30.00</td>
<td>$20.00</td>
</tr>
<tr>
<td>Wood</td>
<td>$30.00</td>
<td>$5.00</td>
</tr>
</tbody>
</table>

Comparison Municipalities: South Glengarry, North Augusta, Nappanee
## Tipping Fee Suggestions

<table>
<thead>
<tr>
<th>ITEM DESCRIPTION</th>
<th>PROPOSED FEE FOR FULL COST RECOVERY</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINIMUM CHARGE FOR SITE USE- PAID ON ENTRY (CARS)</td>
<td>$25.00</td>
</tr>
<tr>
<td>TRUCKS AND CARGO VANS</td>
<td>$65.00</td>
</tr>
<tr>
<td>TRUCKS WITH TRAILERS</td>
<td></td>
</tr>
<tr>
<td>6 FOOT</td>
<td>$75.00</td>
</tr>
<tr>
<td>8 FOOT</td>
<td>$85.00</td>
</tr>
<tr>
<td>10 FOOT</td>
<td>$95.00</td>
</tr>
<tr>
<td>12 FOOT</td>
<td>$105.00</td>
</tr>
<tr>
<td>16 FOOT</td>
<td>$110.00</td>
</tr>
<tr>
<td>ROLL OFF BOX</td>
<td></td>
</tr>
<tr>
<td>UNDER 10 YARD</td>
<td>$250.00</td>
</tr>
<tr>
<td>10-30 YARD</td>
<td>$400.00</td>
</tr>
<tr>
<td>OVER 30 YARD</td>
<td>$500.00</td>
</tr>
<tr>
<td>TRACTOR TRAILER</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>APPLIANCES WITH REFRIGERANT</td>
<td>$40.00</td>
</tr>
<tr>
<td>MATTRESS, BOX SPRING</td>
<td>$20.00</td>
</tr>
<tr>
<td>COUCH, CHESTERFIELD</td>
<td>$20.00</td>
</tr>
<tr>
<td>CHAIRS, RECLINERS</td>
<td>$20.00</td>
</tr>
<tr>
<td>CARPETING</td>
<td>$20.00</td>
</tr>
<tr>
<td>PACKER</td>
<td>$500.00</td>
</tr>
<tr>
<td>TIRES</td>
<td>NO CHARGE</td>
</tr>
<tr>
<td>WOOD</td>
<td>$25.00</td>
</tr>
</tbody>
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Curbside Contracts

Current Contracts

In-House vs. Private
Administration recommends that the Municipality will submit a bid as a part of the tender process.

Private Collection will require the development of a new 7-year contract with exit clauses for diversion services to ensure compatibility with Provincial and Federal regulations.

Curbside By-Law Review
Prior to developing an RFP for curbside collection, it is recommended that Council review the existing waste management by-law.
Timeline-Curbside Contracts

The short-term plan for Curbside Contract Development

- **Tender for Collection of Blue, Green Box, and Garbage**: May, 2020
- **Staff develop costs for and submit a bid for In-house Collection**: May, 2020
- **Tender for Collection of Blue, Green Box, and Garbage to Close and be Awarded**: June, 2020
- **Waste By-law Review**: April 2020
- **If Selected Staff to procure co-collection trucks**: June 2020
- **Staff to interview garbage and recycling collectors**: January 2021
- **New Contract Begins**: May 1st, 2021
- **Staff to Hire and Train new collectors on new trucks**: April 2021

Staff develop costs for and submit a bid for In-house Collection in May 2020. The tender for collection of blue, green box, and garbage closes and is awarded in June 2020. If selected, staff proceeds to procure co-collection trucks in June 2020. Staff interviews garbage and recycling collectors in January 2021, and new contract begins on May 1st, 2021.
Recycling Contracts

Green and Blue Box - Cornwall
Currently $301.00 per tonne
Revenue Sharing

Green and Blue Box - Alternative Processors
Tomlinson Environmental in Ottawa
Cascades in Ottawa

Other Diversion Opportunities
Construction and Demolition Waste - Tomlinson Environmental in Ottawa
$102 per tonne
Furniture and Mattresses - Matt Canada Montreal
$15.00 per mattress
Composting Sites

**Morrisburg**
Not a legal site
Requires a surface water management plan, operations report, and hydrogeological assessment

**Iroquois**
Not a legal site
Requires a surface water management plan, operations report, and hydrogeological assessment

**Alternatives**
Green bin processing (Collection $100-120 a tonne, Processing $60-100 a tonne)
Backyard Composters $60.00 per unit
Government Policies
In Canada we have three levels of government

Multiple Levels of Government Involvement

Federal Government (movement of waste across borders, and policy decisions)
Provincial Government (environmental impacts from waste, and disposal regulations- IC&I waste)
Municipal Government (collection and disposal)
Government Involvement in Waste

Three Large Policy Changes to occur between 2023-2026

Blue Box Program Plan
Provincial Government

- Blue Box collection and processing responsibility is transferring from Municipalities to Producers of recyclable products.

Food and Organics Waste Framework
Provincial Government

- Municipalities with populations over 45,000 are required to have a curbside green box program
- All other Municipalities are required to develop an organics management program to divert organic materials from waste.

Single Use Plastic Ban
Federal Government

- The Federal Government is banning harmful single use plastics in 2021
- These items include straws, takeout containers, grocery bags
Timeline - Government Policies

- **Draft Policy Paper**: May, 2020
- **New Regulation Released for Blue Box**: December 2020
- **AMO Request for Decision on Transition date from Municipalities**: June, 2020
- **Single Use Plastic Ban Begins**: Jan, 2021
- **Producer Development of Collection and Processing Programs for Recycling**: 2021-2023

**Other Dates:**
- Decisions on Collection System method anticipated by 2022
- January 2023-2025 Municipalities may transition to Producer Pay
- January 2025 Organic ban at Landfill
- December 2025 - the last Municipality will Transition
Environmental Impacts
Environmental Impacts

**Groundwater Contamination**
Leachate generated from water mixing with garbage can leach out and cause negative groundwater impacts.

**Methane Gas**
Methane Gas is the greenhouse gas released when organic material breaks down.

**Surface Water Contamination**
Surface water contamination occurs when water contacts garbage and drains into open environments such as rivers and creeks.
What Staff are Working Toward
Partnerships

UNITED Counties of Stormont, Dundas, Glengarry
- All small municipalities have similar issues
- Currently developing a collaborative regional plan

Public-Private Partnership Opportunities
- Diversion Opportunities (mattresses, construction and demo waste)
- Energy from waste facilities

Inter-governmental partnerships
- Funding opportunities for innovation, collaboration, and best practices
Proactive Planning

Disposal
- 10 Year Long Term Plan
- 3 Year Short term Plan

Diversion
- 10 Year Long Term Plan
- 3 Year Short term Plan

Collaboration
- Look to partner with other municipalities
- Seek direction from Upper-Tier Government
Community Education

Schools
Development of educational programming, field trips, and challenges.

Outreach
Develop promotional materials to help residents reduce their waste.

Programming
Develop information to put inside community guides, on social media, and in the newspaper regarding waste reduction.
Questions?

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