City of BRANDON

Eastview Landfill
2025 Annual Operations Report

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VOLVO

Contents

Executive Summary

The City of Brandon (City) owns and operates the Eastview Landfill (Landfill) located at 765 33rd Street East in Brandon, Manitoba. The Landfill operates as a Class 1 Waste Disposal Ground (WDG) under *Manitoba Environment Act* License No. 3149 (License). The License was issued by Manitoba Conservation and Climate, now Manitoba Environment and Climate Change (MECC) on August 25, 2015.

Tetra Tech Canada Inc. (Tetra Tech) was retained by the City to prepare the 2025 Annual Operations Report (Report).

The Report is provided to fulfill the City's License requirement of annually reporting on operations and monitoring at the Landfill. This Report covers the period from January 1, 2025 to December 31, 2025.

Facilities at the Landfill include:

- Historical and active disposal areas.
- Commercial and residential disposal areas within the active disposal areas.
- Administration compound.
- Scale and scale house.
- Snow removal dump site (City use only).
- Clean fill disposal.
- Concrete disposal area.
- Landfill Gas (LFG) collection system.
- Material Recovery Facility.
- Designated stockpiles for metals, propane tanks, tires, yard waste, and branches.
- Large household appliance storage area.
- Eco-Centre for used oil, filters, and containers.
- Clean wood waste piles and wood chip piles.
- Organics composting area.
- Electronic waste (E-waste) depot.
- Household hazardous waste (HHW) depot.

The areas of the Landfill are shown on Figure E-1.

City of BRANDON

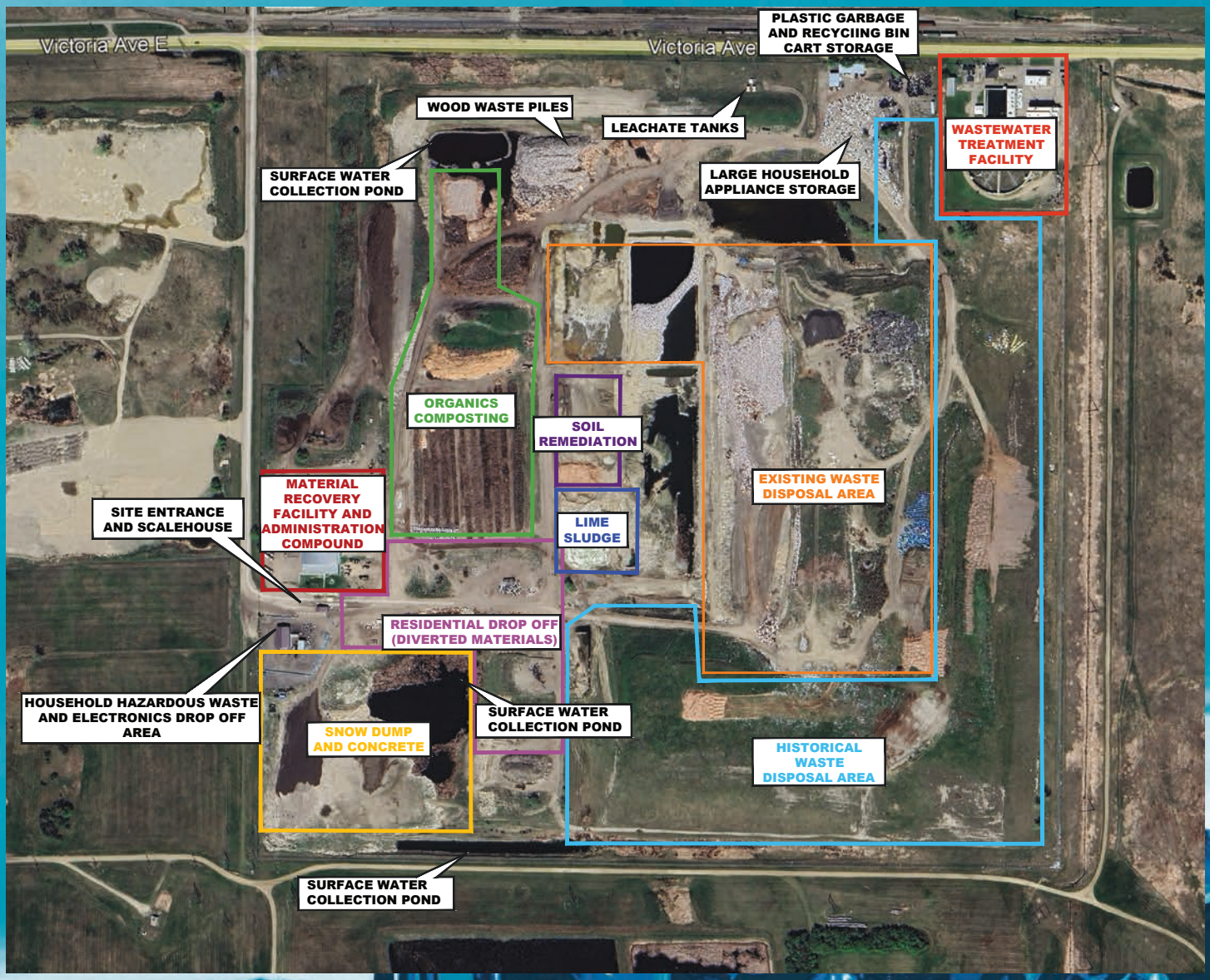


Figure E-1: Landfill Site Plan

Detailed environmental monitoring is provided in the 2025 Annual Environmental Monitoring Report by Tetra Tech (2026) and the 2025 Annual Monitoring Report Eastview Landfill, Landfill Gas Collection and Flaring System by Comcor Environmental Limited (Comcor) (2026).

As the City moves forward with annual operations reporting, a number of key metrics have been identified to assess overall Landfill and solid waste system performance. Table E-1 summarizes the metrics considered most relevant to the Landfill's ongoing operations.

Based on the 2025 operational results, Tetra Tech makes the following recommendations for consideration by the City:

- Update data review and tracking systems to reflect information requested by the License.
- Calculate landfill airspace consumption annually.
- Begin tracking and reporting on key Landfill performance metrics such as apparent waste density.
- Continue to improve the LFG collection system.

The following were recommended in other 2025 reports:

- As per the recommendations by Comcor (2026) for the LFG Collection and Flaring System:
    - Improve runtime through a series of repairs to the heat-tracing components of the LFG Collection and Flaring System.
    - Begin proactive planning for the new LFG emission regulations from Environment and Climate Change Canada that have come into effect December 12, 2025.
    - Repair and expand the gas collection wellfield to improve runtimes and gas collection efficiency. The City is considering a LFG Collection and Flaring System expansion for 2026.
    - Continue to operate and monitor the LFG system full time according to the Operation and Maintenance Manual for the Landfill.

- As per the recommendations by Tetra Tech (2025) for groundwater and surface water sampling:
    - Prepare a conceptual site model to better define the groundwater flow pattern in the shallow and deeper groundwater strata and variations in groundwater quality with the monitoring well network.
    - The existing EMP, approved by MECC on December 2, 2017, should be updated to include the following amendments:
        - Remove monitoring well BH19 from the Secondary Monitoring Network (SMN), as it was reportedly decommissioned during the construction of Cell 19 in 2024.
        - Decommission and remove monitoring well BH12 from the SMN network as it appears to be obstructed. This well was originally installed in buried waste and was used for leachate characterization only, which has been established.
        - Replace total arsenic analysis with dissolved arsenic analysis. Total arsenic and other total metals may be influenced by suspended sediment in groundwater samples, making them unreliable indicators of in situ groundwater conditions.

Table E-1: Summary of Landfill Performance Metrics

Item	2025 Value	Change from 2024
Waste Disposed	34,030 tonnes	+7.4%
Waste Disposal Per Capita*	0.57 tonnes/capita	-2.8%
Total Materials Diverted	12,290 tonnes	-13.1%
Customer Visits	46,869	+3.5%
Apparent Waste Density	Not Assessed	Not Assessed
Groundwater Quality	No Significant Concerns	None
Surface Water Quality	No Significant Concerns	None
Greenhouse Gas Emissions Reduction by LFG Collection and Flaring	5,275 tonnes CO_2e	+27%
Annual LFG Flow Volume	39,607,163 scf	+15%
Lost Time Incidents	Three	+2
Remaining Airspace**	191,921 m^3	-29.1%

Notes:

*** Population estimates for 2025 based on the standard geographical classification 2021 as delineated in the 2021 Census (StatCan 2026).**

**** 2025 Airspace was estimated for December 2025 and included Cell 15, Cell 16, Cell 17, and Cell 19.**

Scf – standard cubic feet.

Introduction

The City of Brandon (City) owns and operates the Eastview Landfill (Landfill) located in Brandon, Manitoba. The Landfill operates as a Class 1 Waste Disposal Ground (WDG) under Manitoba Environment Act License No. 3149 (License). The License was issued on August 25, 2015 by Manitoba Conservation and Climate, now Manitoba Environment and Climate Change (MECC).

The 2025 Annual Operations Report (Report) is provided to fulfill the City's License requirement to annually report on operations and monitoring at the Landfill. This Report covers the operational period from January 1, 2025 to December 31, 2025.

Tetra Tech Canada Inc. (Tetra Tech) was retained by the City to prepare this Report.

Site Ownership

The Landfill is owned and operated by the City, and serves the City, the Rural Municipality (RM) of Cornwallis, and surrounding areas.

Registration and Reporting Requirements

Landfill design and operation in Manitoba is regulated by the *Manitoba Environment Act*, the Standards for Landfills in Manitoba, and the *Landfill Gas Management Regulation*. Health Canada's Guidelines for Canadian Drinking Water Quality are also used in assessment of groundwater quality. The License details general operational terms and conditions for the Landfill.

The Landfill is classified as Class 1 WDG, which is defined as a landfill that:

- Receives more than 5,000 tonnes of solid waste in a year or 400 tonnes of solid waste in a 30-day period;
- Receives solid waste from outside the province; or
- Is operated by anyone other than a municipality or regional waste management authority, and:
    - Disposes of solid waste generated by the operator; or
    - Receives solid waste generated by others for commercial purposes.

The License details performance criteria for surface and groundwater quality, leachate management, LFG, and public health and safety. Clause 104 of the License identifies that an annual operations and monitoring report should be submitted to MECC. Table 1 summarizes the required information and location within the Report.

Table 1: Table of Concordance

License Requirement	Page
A summary of any construction activities which occurred at the Landfill	14
The mass of each type of waste received (solid waste to tipping face, compost feedstock, petroleum contaminated soils, special wastes, etc.)	16
The mass of each type of material that was removed from the Landfill (recyclables, treated soils, compost, etc.)	18
A summary of the monitoring report results from air, groundwater, and surface water as per Clauses 86, 94, and 99 of the License, respectively	30
The volume of leachate which was removed from the Landfill for treatment	34
Summary reports and details of all incidents that required implementation of the contingency plan	36
Summary report of noise or odour complaints received	36
Summary report of any fires within the Landfill requiring notification as per Clause 11 of the License	36
Comparison of results of reports submitted in previous years to show trends and variances	38

The report contents are based on operational information provided to Tetra Tech by the City. Information regarding the Landfill groundwater and surface water monitoring program has been summarized from the *2025 Annual Environmental Monitoring Report* by Tetra Tech (2025). Information regarding the LFG reporting program has been summarized from the *2025 Annual Monitoring Report Eastview Landfill, Landfill Gas Collection and Flaring System* by Comcor Environmental Limited (Comcor) (2026). These reports should be read in conjunction with this Annual Operations Report.

Site Description

The Landfill is located at 765 33 Street East in Brandon and is accessed via 33 Street East from the west side of the site. The Landfill operates six days per week from 8:00 a.m. to 4:45 p.m. and is closed on Sundays and Statutory Holidays.

Facilities at the Landfill include:

- Historical and active disposal areas.
- Commercial and residential disposal areas within the active disposal areas.
- Administration compound.
- Scale and scale house.
- Snow removal dump site (City use only).
- Clean fill disposal.
- Concrete disposal area.
- Landfill Gas (LFG) collection system.
- Material Recovery Facility.
- Designated stockpiles for metals, propane tanks, tires, yard waste, and branches.
- A designated sea-can container for mattress diversion.
- Large household appliance storage area.
- Eco-Centre for used oil, filters, and containers.
- Clean wood waste piles and wood chip piles.
- Organics composting area.
- Electronic waste (E-waste) depot.
- Household hazardous waste (HHW) depot.

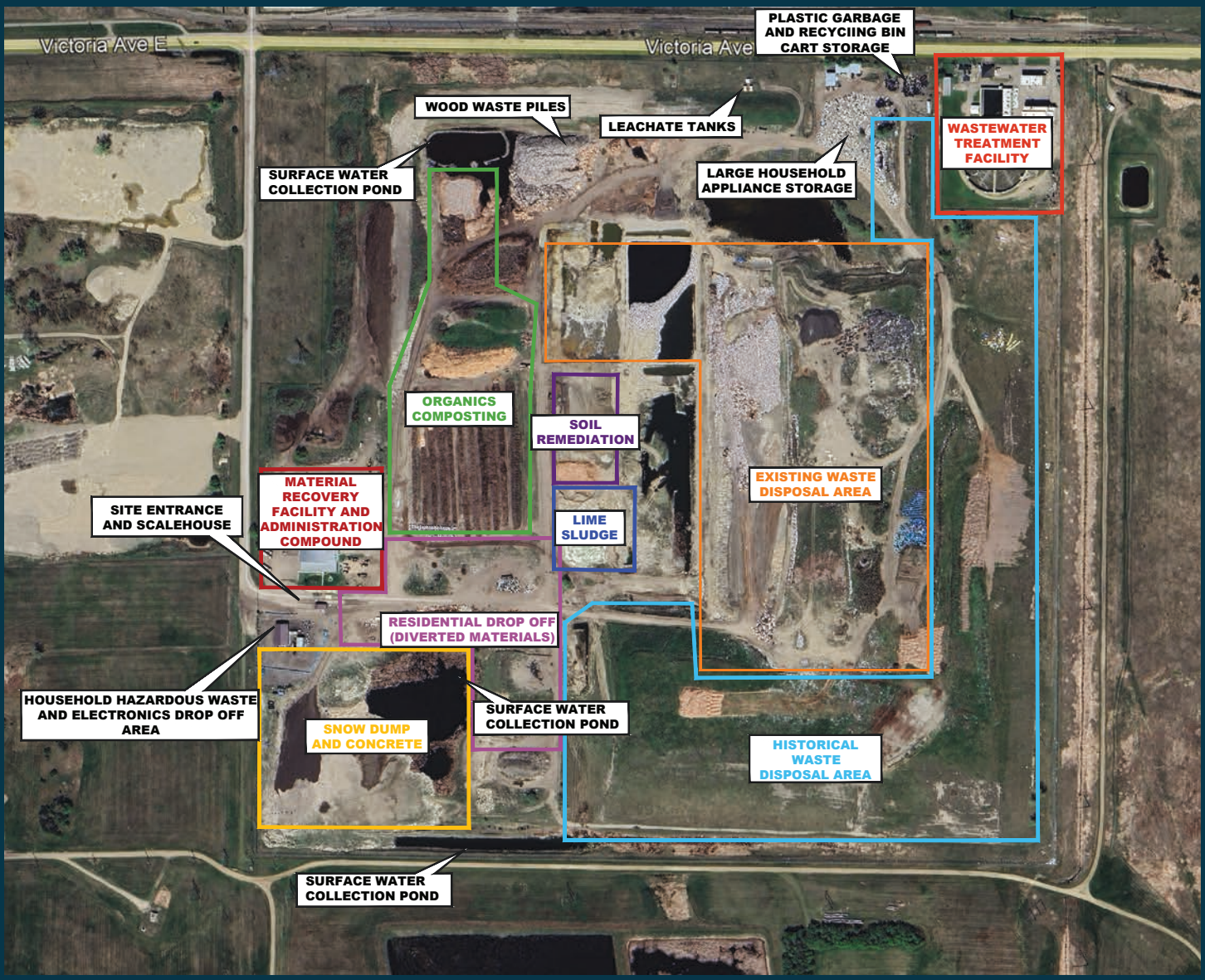


Figure 1: Landfill Site Plan

Site History and Development

The Landfill covers approximately 61.5 hectares in an eastern industrial area of the City. Previous site investigations conducted by Earth Tech identified distinct three stratigraphic units underlying the Landfill: sand and gravel fill (0 metres below ground [mbg] to 4 mbg), brown to grey till (3 mbg to 14 mbg), and silty sand (14 mbg to end of logs) (Earth Tech 1999).[1]

Landfilling is reported to have commenced in the 1970s and waste was historically placed in the southeast and east areas of the Landfill.

The following summarizes the developed and undeveloped areas within the Landfill design footprint based on the KGS Group Landfill Cell Design Master Plan (2017).

- Cell 1 to Cell 6 – Developed along the eastern edge of the Landfill, unlined cells from the 1970s and 1980s that have been closed and capped.
- Cell 7 – Developed in 1994, a geosynthetic clay lined cell which has been closed and capped.
- Cell 8 to Cell 12 – Developed between 1996 and 2003, High-Density Polyethylene (HDPE) lined cells that have been closed and capped.
- Cell 13 and Cell 14 – Developed between 2009 and 2015, HDPE lined cells that reached capacity in 2023.
- Cell 15, Cell 16, Cell 17, and Cell 19 – Developed between 2015 and 2024, HDPE lined cells that are currently in use. Cell 15 has approximately 1 to 1.5 years of capacity remaining, while Cell 16 has approximately 1 year of capacity remaining.

The City has several proposed cells planned for the northwest portion of the Landfill.

There are eleven manholes located around the perimeter of the Landfill cells that have been collecting leachate from waste cells since 1994. Leachate from Cell 7, Cell 11, Cell 12, Cell 13, and Cell 14 drains into a manhole at the north end of Cell 11 via perforated leachate collection pipes and is pumped to the leachate storage tanks located northwest of the existing waste disposal area. Leachate from Cell 15, Cell 16, Cell 17, and Cell 19 drains to manholes at the north edge of each cell and are pumped to the Wastewater Treatment Plant (WWTP) for treatment through a meter so that the City can measure leachate flow. Leachate manholes on the south side of the landfill are connected to historical cells and have not been pumped in the past few years.

Cell 8, Cell 9, and Cell 10 have been closed and capped with approximately 1 m to 1.5 m of clay. The volume of leachate produced in these cells has decreased from their active use. This has reduced the need to have the manholes pumped on a regular basis. The manholes are periodically checked and have not needed to be pumped over the past few years. Figure 2 shows a map and utilization plan for the Landfill based on the KGS Group Landfill Cell Design Master Plan (2017).

[1] Earth Tech. 1999. Brandon Landfill Borehole Logs. Project Number: 62593-00.

2025 Site Operations

Incoming loads are scaled at the Landfill entrance and scale house staff direct traffic to the appropriate drop off areas. There are segregated public drop off areas for grass, trees, wood, metal, tires, and glass along the south side of the main road.

Waste is received from City residential, commercial, and industrial sectors, the RM of Cornwallis, and drop-off loads from surrounding areas. To assist with traffic flow, waste is segregated into the following areas for disposal:

- Cell 15 for residential direct haul loads and contaminated wood.
- Cell 16 for residential direct haul loads and hog hair.
- Cell 17 for commercial direct haul loads and asbestos.
- Cell 19 was constructed in 2024 and the City is placing residential curbside collection loads as a base layer on the liner.

Once the base layer for Cell 19 is complete in 2026, Cell 17 and Cell 19 will accept both city collection loads and commercial loads. Asbestos is placed in Cell 16 where it is covered and surveyed. Customers must purchase a permit per tonne of asbestos that is disposed in the Landfill. A public recycling and yard waste drop off depot is located outside of the entrance gate to the Landfill for after-hours drop offs.

2025 Projects

The following projects and initiatives were completed by the City at the Landfill in 2025:

- The City hosted a Free Waste Day in April 2025, providing residents with free disposal of all residential waste.
- An educational outreach session was delivered at by the City Shoppers Mall in the City to provide waste management awareness.
- The City continued to work with KGS on the next phase of the Hog Hair Management Plan to improve handling practices for incoming hog hair, following the completion of Phase 1 in 2024.
- The City celebrated Compost Awareness Week and hosted a free compost giveaway in May 2025 for the public.
- The City began diverting mattresses in February 2025, with collected mattresses transported off site for recycling at Mother Earth Recycling in Winnipeg, Manitoba.

Future Capital Projects

KGS Group was contracted by the City to complete a Long-Term Capital Plan in 2021, which laid out a timeline and vision for capital improvements at the Landfill. Projects identified include:

- Expansion of the LFG collection system.
- Recommendations for future options on alternative daily cover.
- Technologies for reducing landfilling.
- Vertical and horizontal expansion.
- Alternate composting solutions.
- Wood waste management.

Figure 2: Landfill Cell Design Master Plan (KGS Group 2017)

In 2021, KGS Group developed an updated Closure and Post Closure Plan for the Landfill, which included final design contours based on a Landfill lifespan that predicted closure in 2053. The City applies a levy of $6.00 per tonne to cover Landfill closure and post closure costs.

Waste Received, Recycled, and Discharged

All waste generated within the City is either hauled directly by City collection trucks, commercial haulers, or self hauled by small businesses and residents. In 2025, the total waste disposed in the active cells was 34,030 tonnes. The City tracks the following categories of waste:

- Asbestos.
- Commercial mixed refuse.
- Residential mixed refuse.
- City curbside collection.
- WWTP sludge.

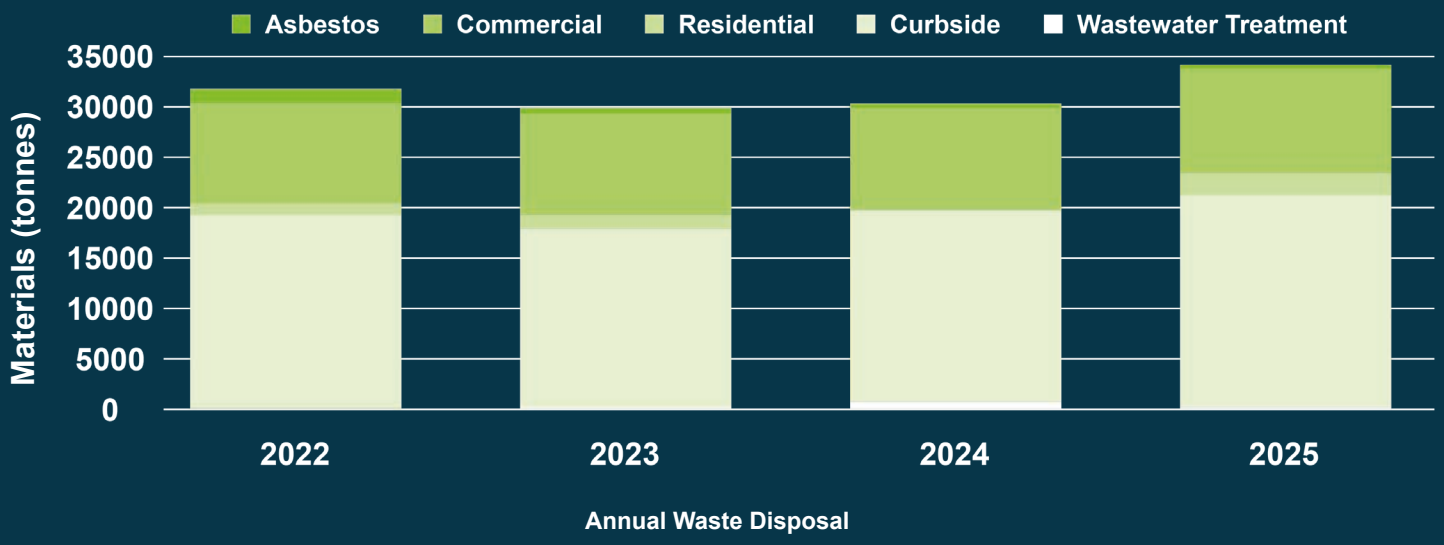
Table 2 shows materials disposed in the Landfill from 2022 to 2025.

The City's License allows for disposal of several special wastes including asbestos, WWTP sludge, and animal hair from a local meat processing plant. In 2025, 151 tonnes of asbestos, 340 tonnes of WWTP sludge, and 3,489 tonnes of animal hair were safely disposed of at the Landfill. Animal hair is included under commercial mixed refuse and a surcharge is added on a per load basis for the special handling required.

Compared to 2024, annual total waste disposal increased by 7.4% in 2025, with an overall decrease of 22.2% since annual total waste disposal of 43,715 tonnes in 2013. Apparent waste density was not assessed in 2025.

Table 2: Waste Disposed in the Eastview Landfill Annually

Materials (Tonnes)	2022	2023	2024	2025
Asbestos	74.12	126.08	675.34	150.98
Commercial Mixed Refuse	19,065.26	17,674.39	18,997.24	20,996.07
Residential Mixed Refuse	1,149.81	1,401.84	1,487.04	2,229.07
City Curbside Collection	10,024.82	10,025.06	10,127.63	10,314.66
Wastewater Treatment Facility Sludge	1,339.43	529.74	393.12	339.65
Total	31,653.47	29,757.11	31,680.37	34,030.38



Visitors

The total number of visitors to the Landfill site in 2025 was 46,869, with 21,358 residential visits and 25,511 being commercial visits as summarized in Table 3-1.

As shown in Table 3, annual customer visits increased by 3.5% in 2025 compared to 2024. There has been an overall decrease in residential visits since 2016.

Table 3: Annual Customer Visits

Visitors	2022	2023	2024	2025
Residential	29,940	26,399	21,715	21,358
Commercial	19,340	19,121	23,548	25,511
Total	49,280	45,250	45,263	46,869

Composting

The City has operated a composting facility since the early 1990s. In the subsequent years, the organics facility was upgraded to include a contact water pond which collects surface water from the composting area and the Landfill began accepting household organic wastes. Organics are composted in windrows and placed in a curing pile following the active composting phase. Following the curing process, the finished compost is mixed with soil to create a soil amendment, screened, and stored at

the Landfill. Compost samples are tested for compost quality standards established by the Canadian Council of Canadian Council of Ministers of the Environment. The soil amendment is used by the City for landscaping projects, is sold as soil amendment to the public, or is given away to the public.

In 2025, 4,345 tonnes of organic material were diverted from disposal. Organic material included green waste (yard waste, tree limbs, brush, clean wood, grass, etc.) and food waste.

Table 4 shows organic quantities at the Landfill from the residential, commercial, and industrial sector over the past four years. As shown in Table 4, the majority of compost feedstocks are from residential and commercial sources. Industrial organic materials include manure and bedding wastes from the agriculture sector. Table 5 presents the breakdown of residential organics delivered to the compost facility. Residential organics in Table 4 include City of Brandon departmental drop-offs, which are excluded from Table 5.

Typical compost collection programs are composed of 80% green waste and 20% household organic waste. Based on this assumption, approximately 3,476 tonnes of incoming organic material was green waste and 869 tonnes of incoming organic material was household organic waste in 2025.

In 2025, approximately 486 tonnes of compost was removed from the Landfill as soil amendment. Approximately 24 tonnes of soil amendment was purchased by City residents and approximately 462 tonnes of soil amendment was used for City projects and given away to residents during Compost Awareness Week in May 2025. The City has a large stockpile of compost remaining at the Landfill and is investigating options for its use.

Organics are collected via City provided bins located throughout the community, through curbside collection, and are accepted at the Landfill.

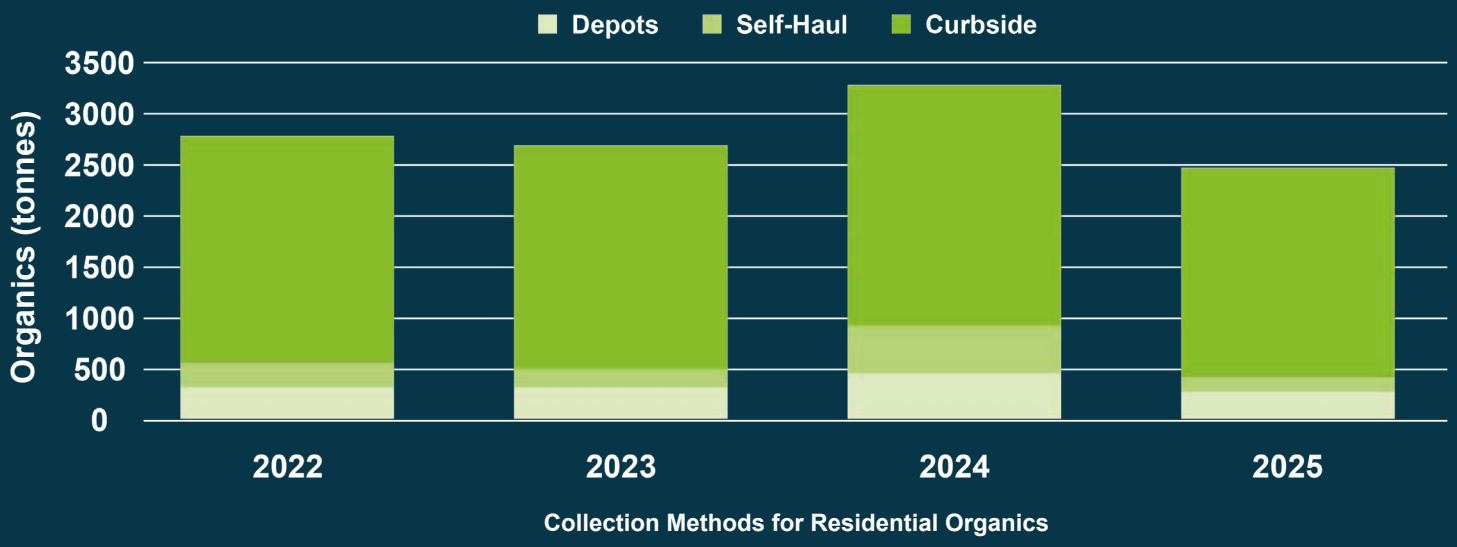
Curbside collection by the City remains the primary source of diverted organic materials, with curbside collection representing approximately 83% of the total incoming organics in 2025.

Table 4: Organic Materials Diverted from Disposal Annually

Material (Tonnes)	2022	2023	2024	2025
Residential	3,850.70	3,113.88	3,461.53	2,508.94
Commercial	1,307.60	1,745.86	2,121.24	1,030.76
Industrial	683.97	1,327.47	140.24	805.23
Total	5,842.27	6,232.21	5,723.02	4,344.93

Table 5: Comparison of Collection Methods for Residential Organics

Material (tonnes)	2022	2023	2024	2025
Depots	313.76	312.49	453.18	269.65
Self-Haul	238.06	177.53	463.01	143.09
Curbside	2,219.42	2,190.16	2,367.39	2,045.91
Total	2,771.24	2,680.18	3,271.82	2,458.65



Household Hazardous Waste

The City has operated a HHW depot at the Landfill since 2012. The HHW depot is serviced by Product Care Manitoba in conjunction with Miller Environmental with Landfill staff receiving training on HHW handling and storage. The HHW depot at the Landfill accepts items from residential sources including:

- Fluorescent lights.
- Flammables.
- Acids.
- Aerosols.
- Caustics.
- Corrosives.
- Oxidizers.
- Paint.
- Toxins.
- Physically hazardous materials such as non-refillable gas cylinders.

The Landfill received approximately 51 tonnes of HHW in 2025, a 16% increase from the 43.5 tonnes received in 2024. Table 6 shows the HHW received at the Landfill from 2022 to 2025.

Petroleum Contaminated Soils

The Soil Remediation Facility accepts contaminated soils for treatment. Contaminated soils are treated with the use of a rome plow attached to a tracked bulldozer and periodically tested following the guidelines stated in Guideline 96-05, Treatment Disposal of Petroleum Contaminated Soil issued by Manitoba Environment, Climate, and Parks (2010; now MECC). Once the soils meet the aforementioned guidelines, they are stockpiled for use as cover material in the active waste disposal areas. The Landfill received approximately 1,241 tonnes of contaminated soil in 2025, and none of the soil was removed from the Landfill in 2025.

Customers are required to obtain a permit to dispose of contaminated soils at the Landfill. Permits are issued by the City and may require pre-disposal laboratory testing. No contaminated soil loads are accepted without a permit.

E-Waste

The City has operated an E-waste diversion depot at the Landfill since 2010. E-waste accepted for diversion includes most types of household electronics (televisions, monitors, computers, printers, audio systems, etc.). Approximately 56 tonnes of E-waste was collected in 2025. Table 6 summarizes trends in E-waste diverted since 2022.

Tires

Scrap tires are stockpiled at the Landfill and removed from the Landfill via Tire Stewardship Manitoba. In 2025, 218 tonnes of scrap tires were removed from the Landfill. Table 6 shows the annual tonnes of scrap tire removed from the Landfill for recycling.

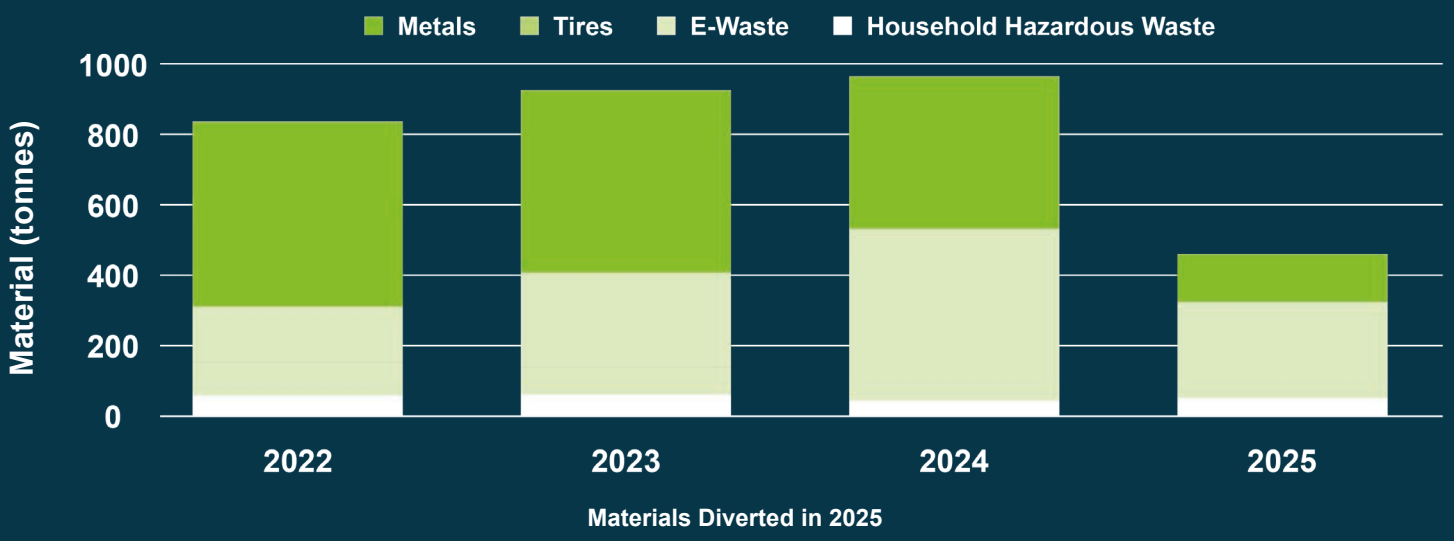
Metals

Scrap metals and household appliances that do not contain refrigerants are stockpiled at the Landfill, and periodically sent to a processor. In 2025, approximately 134 tonnes of scrap metal were removed from the Landfill. Table 6 shows scrap metal accepted at the Landfill for recycling from 2022 to 2025.

Household appliances containing refrigerants are stored separately at the Landfill and recycled every few years. The City shipped 1,873 devices containing refrigerant to Puresphera in Winnipeg in 2025 for proper refrigerant removal and appliance recycling.

Table 6: Annual Tonnage of Materials Diverted from the Landfill

Material (Tonnes)	2022	2023	2024	2025
E-Waste	93.23	77.21	59.31	56.41
Tires	159.91	270.30	428.29	218.19
Scrap Metal	528.18	517.50	433.83	134.30
Household Hazardous Waste	57.90	60.69	43.49	50.54



Materials Diverted in 2025

Recyclables

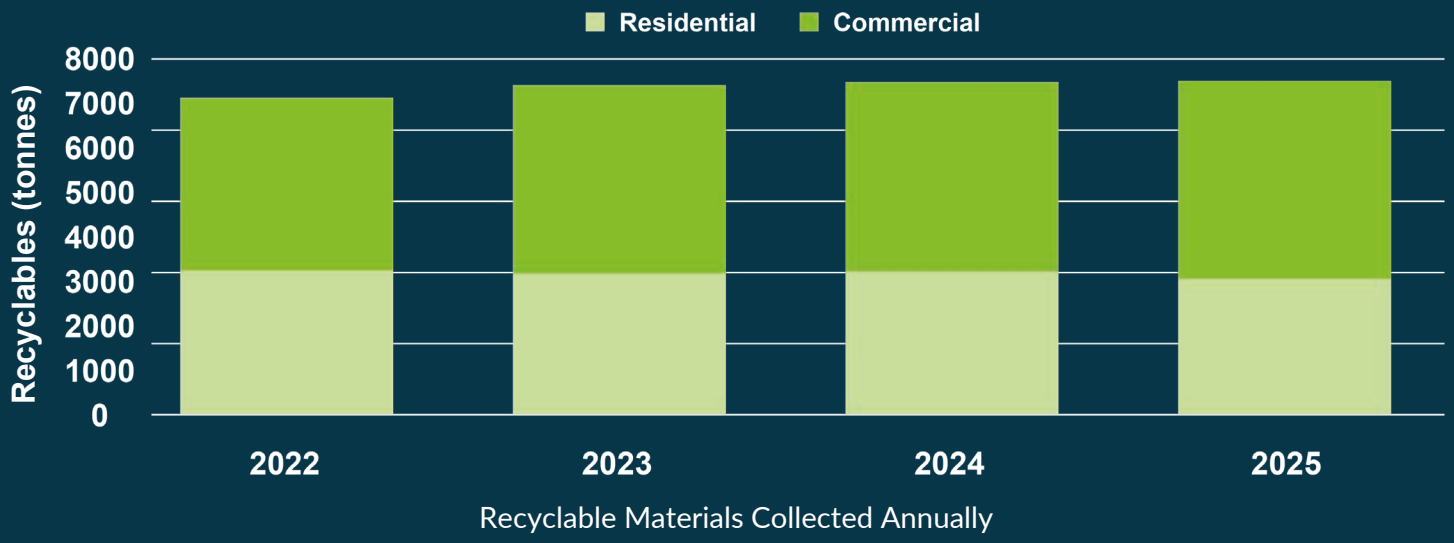
The City owns and operates a Material Recovery Facility (MFR) for the processing of residential and commercial recyclables, with shipping contracted to a third party. The incoming material is segregated into non-recyclables, old corrugated cardboard (OCC), shredded office paper (SOP), and co-mingled recyclable material. Mixed recyclable materials are baled and shipped to processing plants for further sorting, while OCC and SOP are baled sepa-rately and shipped to end markets.

Recyclable materials are collected via curbside residential collection, commercial collections by private haulers, and from four recycling depots in the City. In 2025, a total of 7,477 tonnes of recyclables were collected, with 3,046 tonnes being residential recyclables and 4,431 tonnes being commercial recyclables. Table 7 shows the tonnage of material recycled annually from 2022 to 2025.

Approximately 91% of the recyclable materials collected at the Landfill in 2025 were shipped out of the MRF in 2025. This included approximately 2,119 tonnes of OCC, 4,474 tonnes of mixed recyclables, and 196 tonnes of SOP.

Table 7: Recyclable Materials Collected Annually by Source

Material (Tonnes)	2022	2023	2024	2025
Residential	3,231.55	3,161.87	3,212.50	3,046.24
Commercial	3,863.07	4,215.34	4,236.02	4,431.05
Total	7,094.62	7,377.21	7,448.52	7,477.29



Recyclable Materials Collected Annually

Progress in Waste Diversion

Annual waste diversion rates have been generally consistent, with simi-lar diversion noted between 2013 (28.6%) and 2025 (26.5%). 2020 had the highest rate observed to date of 37.8%. Table 8 provides a summary of waste diversion tracking from 2022 to 2025. Total materials diverted includes recyclables, organics, HHW, E-waste, tires, and scrap metal.

As shown in Table 8 and Figure 3, total materials diverted “decreased by 13.1% from 14,136.46 tonnes in 2024 to 12,281.66 tonnes in 2025.

Table 8: Annual Waste Diversion Rate

Year	2022	2023	2024	2025
Waste Diversion Rate (%)	30.3%	32.8%	30.9%	26.5%
Total Tonnes Diverted	13,773.11	14,535.06	14,136.46	12,281.66

Airspace Assessment

Unmanned aerial vehicle surveys (UAVs) were conducted in November 2025 and February 2026 to collect data, which was used by the City to estimate the remaining volume available for waste placement within the HDPE lined cells as of December 2025.

The total estimated available capacity of all active cells (Cell 15, Cell 16, Cell 17, and Cell 19) was 191,921 m^3 as of December 2025.

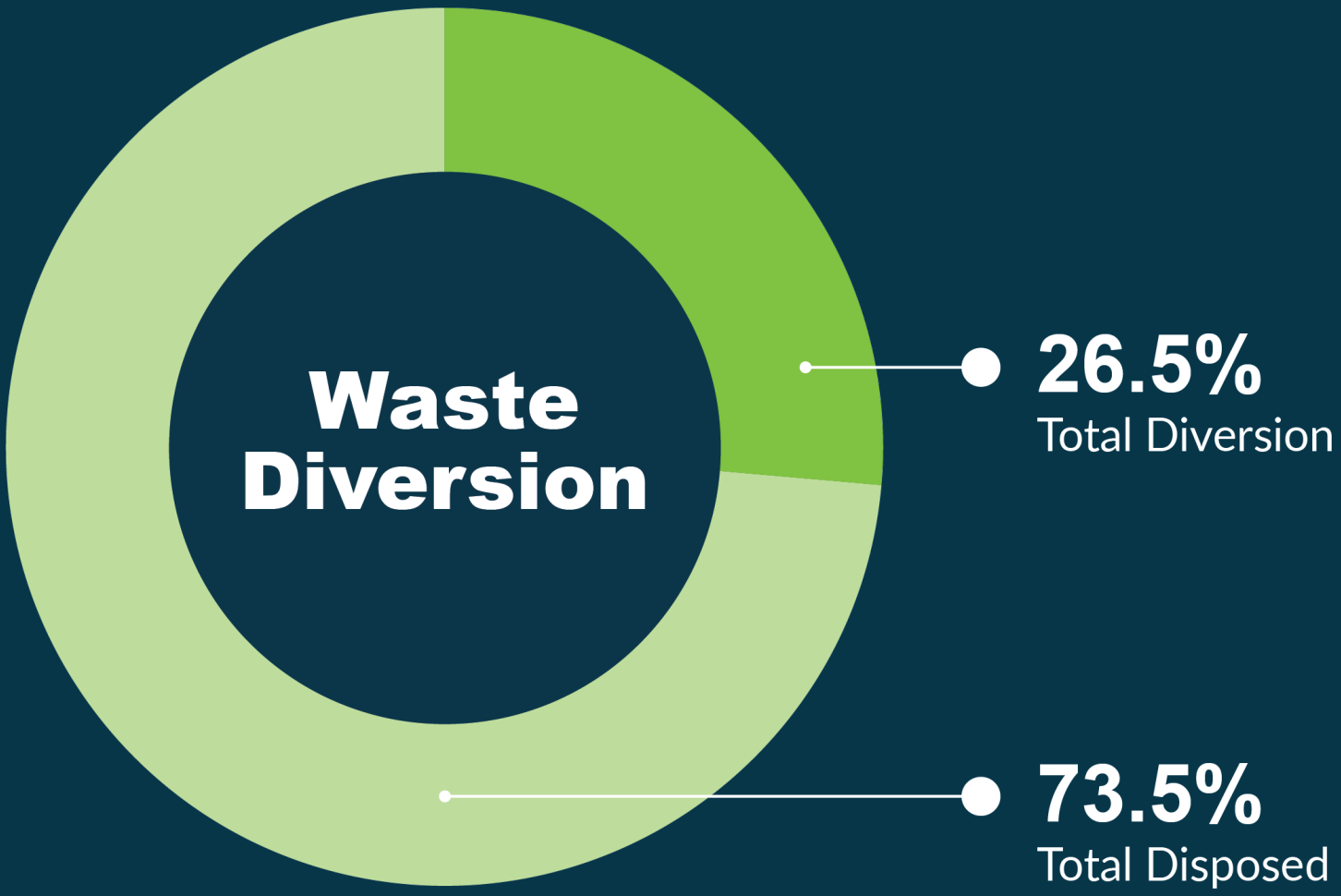


Figure 3: 2025 Waste Diversion Rate

Environmental Monitoring Results

The City monitors and reports on LFG, groundwater, surface water, and leachate.

LFG Collection and Flaring System Monitoring

LFG monitoring was completed by Integrated Gas Recovery Systems (IGRS) and reported by partner company Comcor with the results of the 2025 monitoring program reported in 2026. The 2025 Annual Monitoring Report Eastview Landfill, Landfill Gas Collection and Flaring System (Comcor 2026) provides a summary of monitoring and maintenance work and analysis of LFG emissions and greenhouse gas reductions. There are two main components of the LFG system that require monitoring:

- LFG collection wellfield including vertical and lateral wells; and
- Mechanical system including a blower and a flaring system.

Data from LFG operations was available intermittently from April 2025 to December 2025, with multiple periods of system downtime throughout 2025. The LFG system experienced several instances of downtime, including:

- In January 2025, unsuccessful attempts to thaw the flare's ice buildup led to continued outlet-pressure issues (ongoing since late 2024) and the LFG system remained offline. Following consultation with the City, thawing efforts were halted and the system was left offline until spring for a permanent winterization solution.
- In April 2025, the flare was restarted. Although a significant amount of water and debris was discharged from the base, the drain line remained clear with only partial obstruction. The flare operated with minimal interruption until late September.
- In late September 2025, a programmable logic controller (PLC) computer hardware failure caused an unexpected system shutdown. Further diagnoses of the system indicated issues with the signal conversion card. As a result, the system remained largely non-operational until mid-November.

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- In November 2025, several technical upgrades were completed. Winterization upgrades were carried out at the flare base and involved installing custom insulation and realigning the heat trace and the system functioned until mid-December.
- In December 2025, the system experienced several mechanical and electrical issues. A power outage required resets to multiple electrical components and additional work to free a seized blower, while a failed pump in the pump drain caused significant surging. Replacing the pump temporarily reduced the issue, however, surging returned in mid-December, leading to the shutdown of the LFG system. Comcor continues to investigate the ongoing surging, but no direct source has yet been identified.
- Minor maintenance activities were performed throughout 2025, including annual preventative maintenance of the air compressor and gas analyzer, replacement of fans, upgrades to the PLC and variable frequency drive systems, and alignment and vibration analysis of the blower.

In 2025, the greenhouse gas emissions reduction due to flaring methane was 5,275 tonnes of carbon dioxide equivalent (CO_2e) and the total annual LFG flow was 39,607,163 standard cubic feet (scf). Table 9 provides a summary of total greenhouse gas emissions reduction and total LFG flow volume from 2022 to 2025.

The recorded LFG collection and flaring increased by 15% compared to 2024.

Table 9: Annual LFG Volumes

Year	2022	2023	2024	2025
Annual Greenhouse Gas Emission Reduction (Tonnes CO_2e)	2,464	6,641	4,158	5,275
LFG Flow (scf)	12,004,720	39,555,214	34,369,568	39,607,163

Groundwater Quality and Monitoring Results

Water quality monitoring was completed by Tetra Tech. The 2025 Annual Environmental Monitoring Report (Tetra Tech 2025) provides detailed methodology and analysis of water quality. Based on the streamlined sampling and monitoring program approved by MECC in December 2017, the water quality monitoring program includes:

- Annual measurement of groundwater elevation in overburden (till and sand) materials as measured in 30 on-site groundwater monitoring wells.
- Establishment of a Primary Monitoring Network (PMN) consisting of ten on-site wells, two off-site wells, three surface water locations, and two leachate monitoring locations sampled on an annual basis.
- Establishment of a Secondary Monitoring Network (SMN) consisting of 17 on-site wells and one off-site well sampled once every three years.
- Creation of set groundwater and surface water laboratory analytical packages, tailored to site conditions and current best practices.

Groundwater Elevation and Flow

Groundwater elevations were highest along the southern Landfill boundary and in the southwest corner of the Landfill. Groundwater elevations were lowest towards the north property boundary. The inferred groundwater flow direction in upper groundwater strata is predominantly towards the north-northeast under an estimated hydraulic gradient of 0.07 m/m. This flow direction is consistent with regional groundwater flow towards the Assiniboine River. The groundwater flow direction in deeper groundwater strata was also inferred to be northeasterly. These flow directions appear to mirror the local ground surface topography.

Groundwater Quality

The PMN and 16 wells from the SMN were sampled in the 2025 monitoring program. Results of laboratory analysis were compared to Health Canada – Canadian Drinking Water Quality (HC-CDWQ) Guidelines.

The 2025 Annual Environmental Monitoring Report indicated that groundwater quality was generally stable at PMN and SMN monitoring wells and suggested no apparent groundwater quality impact at the monitoring well locations that could be clearly attributed to Landfill operations. Laboratory results identified nitrate, and dissolved parameters arsenic, manganese, and uranium exceeded applicable health related

Maximum Acceptance Concentrations (MAC) of HC-CDWQ Guidelines at one or more monitoring wells. The parameters exceeding MAC were consistent with historical results. Increased concentrations of dissolved manganese, and uranium were not attributed to Landfill operations and noted to be naturally occurring.

Parameters exceeding non-health related HC-CDWQ Guidelines for Aesthetic Objectives (AO) observed at the on-site monitoring locations included Total Dissolved Solids (TDS), chloride, dissolved iron, sodium, and sulphate. Off-site monitoring wells showed exceedances of TDS.
It was noted that nitrate exceedances may not be due to Landfill operations and may be influenced by offsite activities as the highest nitrate concentrations were measured on the east-central side of the Landfill and generally up-gradient of Landfill activities.

Tetra Tech concluded that groundwater quality is generally stable at PMN and SMN monitoring wells and suggests no apparent groundwater quality impact at the monitoring well locations that can be clearly attributed to Landfill operations.

Surface Water Monitoring Results

Three surface water locations are sampled at the Landfill on an annual basis. During the 2025 monitoring period, the surface water monitoring results identified exceedances of MAC for health-related HC-CDWQ Guidelines for total manganese at all three locations, and total ammonia, total arsenic, nitrite (as N), nitrate and total lead at one location. AO Guideline exceedances included chloride, TDS, total iron and sodium at one or more surface water locations. Surface water monitoring results were mostly consistent with historical data.

Exceedances in surface water are not considered a risk to the surrounding environment, as surface water from the site is contained on site and either evaporates or is transferred to the WWTP rather than being discharged directly into the environment.

Leachate Removal and Treatment

As part of the 2025 water quality monitoring program, leachate samples were collected from two of the central leachate collection systems at the Landfill. Leachate analysis identified elevated levels of most parameters tested, consistent with historical results.

In 2025, approximately 1,273 m^3 of leachate was pumped to the WWTP for treatment.

Incident Reporting

Health and Safety

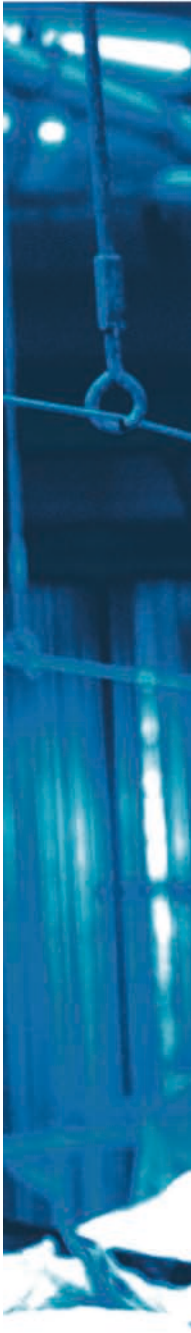
In 2021, the City adopted a new Landfill Contingency/Emergency Response Plan in order to meet the requirements of the License.

Health and Safety Incidents

There were three serious health and safety incidents in 2025, all of which were reported to the Manitoba Workers' Compensation Board (WCB) and documented by the Landfill's Safety Coordinator. None of the incidents required activation of the Contingency Plan. The first incident involved an employee who slipped on ice while walking towards a building, resulting in a broken leg. The second incident occurred at the MRF, when an employee working on the sort line was punctured by a needle concealed inside a black garbage bag. The third incident involved an employee who sustained a hernia while attempting to lift a wet mattress into a truck. Summaries for each incident are maintained as required by the License.

Landfill Fire Reporting

Three landfill fires were reported in 2025 to the Manitoba Office of the Fire Commissioner. The incidents involved wood waste, municipal waste and tree debris, and all occurred after hours within the Landfill property. In each case, the fire department was notified by residents driving past the Landfill, and they responded to two of the three events. Landfill staff completed incident reports for each occurrence, and the Emergency Response Plan was not activated, as the fires were brought under control quickly.



Complaints Received

The City did not receive noise-related complaints about Landfill operations in 2025.

The City received odour and nuisance complaints related to the proximity of hog hair disposal to nearby residential areas. In response, the City relocated residential waste to the east area within Cell 15 and Cell 16, and hog hair disposal was shifted to the south side of Cell 16 to minimize odour and nuisance impacts.

All nuisance complaints are investigated by the Manager of Solid Waste to ensure concerns are addressed quickly and effectively. The continued use of daily cover at the Landfill has also proven successful in minimizing odours.

Key Performance Metrics

Table 10 summarizes key performance indicators used to assess Landfill and solid waste management system performance.

As shown in Table 10, overall waste disposal increased by 7.4% and materials diverted decreased by 13.1% in 2025 compared to 2024.

Table 10: Key Landfill Performance Metrics

Item	2025 Value	Change from 2024
Waste Disposed	34,030 tonnes	+7.4%
Waste Disposal Per Capita*	0.57 tonnes/capita	-2.8%
Total Materials Diverted	12,290 tonnes	-13.1%
Customer Visits	46,869	+3.5%
Apparent Waste Density	Not Assessed	Not Assessed
Groundwater Quality	No Significant Concerns	None
Surface Water Quality	No Significant Concerns	None
Greenhouse Gas Emissions Reduction by LFG Collection and Flaring	5,275 tonnes CO_2e	+27%
Annual LFG Flow Volume	39,607,163 scf	+15%
Lost Time Incidents	Three	+2
Remaining Airspace**	191,921 m^3	-29.1%

Notes:

*** Population estimates for 2025 based on the standard geographical classification 2021 as delineated in the 2021 Census (StatCan 2026).**

**** 2025 Airspace was estimated for December 2025 and included Cell 15, Cell 16, Cell 17, and Cell 19.**

Scf – standard cubic feet.

Summary

The following summarizes the key aspects of Landfill operations in 2025:

- The City did not complete any capital improvement projects at the Landfill in 2025.
- During 2025, 34,030 tonnes of waste material were received at the Landfill for disposal at the active face.
- Organic materials collected decreased by approximately 24% from 2024 to 2025.
- As of December 2025, the estimated capacity of developed landfill cells was 191,921 m^3.
- Approximately 12,282 tonnes of materials were diverted from the waste stream as recycling, compost, scrap metal, scrap tires, E-waste, and HHW. This represents a diversion rate of 26.5%.
- Following MECC approval in 2017, groundwater and surface water monitoring events were conducted once during 2025 for the PMN and SMN. Laboratory results identified the dissolved parameters arsenic, manganese and uranium exceeded applicable health related MAC of HC-CDWQ Guidelines at one or more wells. The parameters exceeding MAC were consistent with historical results. AO Guideline exceedances included TDS, chloride, dissolved iron, sodium, and sulphate in at least one of the samples. Tetra Tech concluded that there was no apparent groundwater quality impact at the monitoring well locations that can be clearly attributed to landfill operations.
- The surface water monitoring program identified exceedances of the MAC for health-related HC-CDWQ Guidelines for total manganese at all three locations and total ammonia, total arsenic, nitrite, nitrate, and total lead at one location. AO Guideline exceedances included chloride, TDS, total iron and sodium in at least one of the samples. The surface water results were mostly consistent with historical data.
- LFG collection and flaring increased by 15% compared to 2024. Significant LFG system downtime and maintenance occurred in 2025 due to various system issues. The greenhouse gas emissions reduction due to flaring methane was 5,275 tonnes of CO_2e, and the total annual LFG flow was 39,607,163 scf.
- In 2025, approximately 1,273 m^3 of leachate was removed from the Landfill for treatment at the WWTP.
- In 2025, there were three serious health and safety incidents, all documented through WCB, with no activation of the Contingency Plan required. The incidents involved a slip-and-fall injury, a puncture injury, and a lifting injury.
- Three after-hours landfill fires were reported in 2025 involving wood waste, municipal waste, and tree debris. Two required fire-department assistance, and none triggered the Emergency Response Plan.
- The City did not receive any noise complaints regarding Landfill operations in 2025.
- Odour and nuisance complaints received in 2025 were related to the disposal location of hog hair and were resolved by relocating the disposal area.

Recommendations

Based on the 2025 operational results, Tetra Tech makes the following recommendations for consideration by the City:

- Continue to calculate landfill airspace.
- Continue reporting key performance indicators such as apparent waste density.
- Continue to improve the LFG collection system.

The following were recommended in other reports:

- As per the recommendations by Comcor (2026) for the LFG Collection and Flaring System:
  - Improve runtime through a series of repairs to the heat-tracing components of the LFG Collection and Flaring System.
  - Begin proactive planning for the new landfill gas emission regulations from Environment and Climate Change Canada that have come into effect December 12, 2025.
  - Repair and expand the gas collection wellfield to improve runtimes and gas collection efficiency. The City is considering a LFG Collection and Flaring System expansion for 2026.
  - Continue to operate and monitor the LFG system full time according to the Operation and Maintenance Manual for the Landfill.
- As per the recommendations by Tetra Tech (2025) for groundwater and surface water sampling::
  - Prepare a conceptual site model to better define the groundwater flow pattern in the shallow and deeper groundwater strata and variations in groundwater quality with the monitoring well network.
  - The existing EMP, approved by MECC on December 2, 2017, should be updated to include the following amendments:
    - Remove monitoring well BH19 from the SMN network, as it was reportedly decommissioned during the construction of Cell 19 in 2024.
    - Decommission and remove monitoring well BH12 from the SMN network as it appears to be obstructed. This well was originally installed in buried waste and was used for leachate characterization only, which has been established. Replace total arsenic analysis with dissolved arsenic analysis. Total arsenic and other total metals may be influenced by suspended sediment in groundwater samples, making them unreliable indicators of in situ groundwater conditions.

City of BRANDON

Closure

We trust this document meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Tetra Tech Canada Inc.

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