

This document can be made available in other accessible formats upon request and as soon as practicable. All Council meetings, with the exception of closed sessions, are open to the public



TOWNSHIP OF
CHATSWORTH

AGENDA

Joint Waste and Diversion Site Committee

Location:
**Grey Highlands Council
Chambers
206 Toronto St. S, Unit 1
Markdale, ON**

Tuesday, July 4, 2023 - 10:00 AM
In-Person Only

	Page
1 CALL TO ORDER	
2 APPROVAL OF AGENDA	
2.1 Recommendation	
That the Joint Waste and Diversion Site Committee approve the agenda as circulated or as amended.	
3 DECLARATION OF PECUNIARY INTEREST	
4 APPROVAL OF MINUTES	
4.1 2023-04-03 Joint Waste and Diversion Site Committee Meeting	3 - 9
That the Joint Waste and Diversion Site Committee approve the minutes for the 2023-04-03 meeting as circulated or as amended.	
Joint Waste and Diversion Site Committee - 10 am - 03 Apr 2023 - Minutes - Html	
4.2 2023-05-31 Joint Waste and Diversion Site Committee Special Meeting	10 - 13
That the Joint Waste and Diversion Site Committee approve the minutes of the 2023-05-31 Special Meeting as circulated or as amended.	
Special Joint Waste and Diversion Site Committee - 31 May 2023 - Minutes - Html	
5 CHATSWORTH UPDATES	
5.1 Chatsworth Verbal Update	14

That the Joint Waste and Diversion Site Committee receive the Chatsworth Verbal Update for information.

[JWDSC July 4, 2023 - Chatsworth Update](#)

6 GREY HIGHLANDS UPDATES

6.1 Grey Highlands Verbal Update

That the Joint Waste and Diversion Site Committee receive the Grey Highlands Verbal Update for information.

7 OTHER ITEMS

7.1 2022 Annual Monitoring Report - Update 15 - 36

**That the Joint Waste and Diversion Site Committee receive staff report JWDSC.23.02 for information; and
That the Joint Waste and Diversion Site Committee receive the revised 2022 Annual Monitoring Report for the Holland-Markdale Waste and Diversion Site for information.**

[JWDSC.23.02-2022 Annual Monitoring Report - Update - Pdf](#)

7.2 Blue Box Transition - Municipality of Grey Highlands 37 - 38

That the Joint Waste and Diversion Site Committee receive staff report JWDSC.23.03 for information.

[JWDSC.23.03-Blue Box Transition - Municipality of Grey Highlands - Pdf](#)

7.3 Site Operations and Level of Service 39 - 42

That the Joint Waste and Diversion Site Committee receive staff report JWDSC.23.04 for information.

[JWDSC.23.04-Site Operations and Level of Service - Pdf](#)

8 NEXT MEETING

8.1 Joint Waste and Diversion Site Committee Meeting

Date: Monday, October 2, 2023

Time: 10:00am

Location: Grey Highlands Council Chambers

9 ADJOURNMENT

9.1 Recommendation:

That the Joint Waste and Diversion Site Committee adjourn at [time] until the next meeting or until the call of the chair.

**Grey Highlands and Chatsworth
Joint Waste and Diversion Site Committee - 10 am Minutes
Monday, April 3, 2023**

Members Present:

Chair Member Nadia Dubyk, Member Paul Allen, Member Paul McQueen, Chatsworth Mayor Scott Mackey, and Chatsworth Councillor Elizabeth Thompson

Members Absent:

Staff:

Director of Environmental Services Shawn Moyer, Deputy Clerk Amanda Fines-VanAlstine, Chatsworth CAO Patty Sinnamon, Operations Manager Jamie Edwards, Coordinator Danielle Thompson, and Waste and Diversion Specialist Tracey Dupuis, Environmental Compliance Specialist Jenn Eagan

1 Call to Order

Deputy Clerk VanAlstine called the meeting to order at 10:00am.

2 Election of Chair

Member Allen was nominated as Chair by Member Mackey and seconded by Member Thompson.

Member Dubyk was nominated as Chair by Member Allen and seconded by Member Mackey.

Member Allen did not let his name stand for nomination. Member Dubyk let her name stand for nomination.
Member Dubyk was acclaimed as Chair.

Member Thompson was nominated as Vice-Chair by Member Allen and seconded by Member Dubyk.

Member Mackey was nominated as Vice-Chair by Member Thompson and seconded by Member Allen.

Member Thompson did not let her name stand for nomination. Member Mackey let his name stand for nomination.
Member Mackey was acclaimed as Vice-Chair.

Member Dubyk assumed the Chair for the remainder of the meeting.

3 Approve the Agenda

3.1 Recommendation

JWDC2023-01

Elizabeth Thompson - Paul Allen

That the Joint Waste and Diversion Site Committee approve the agenda as circulated or as amended.

CARRIED.

4 Declaration of Pecuniary Interest

None.

5 Approval of Minutes

5.1 Recommendation

JWDC2023-02

Scott Mackey - Paul Allen

That the Joint Waste and Diversion Site Committee approve the minutes of 2022-09-06 as circulated.

CARRIED.

[Joint Waste and Diversion Site Committee - 10 am - 06 Sep 2022 - Minutes - Html](#)

6 Updates

6.1 Grey Highlands verbal update

Director Moyer provided an update from Grey Highlands:

- New scale installed late 2022, changes to traffic flow may require additional measures to be implemented in the future.
- Wood grinding completed January 2023.

- New curbside collection contract with Waste Management began in Grey Highlands effective January 1, 2023. All curbside waste is now being diverted away from Markdale-Holland landfill under this new contract.
- New scale software/computer training for staff is planned and scale rollout to occur shortly following training.

JWDC2023-03

Paul Allen - Elizabeth Thompson

That the Joint Waste and Diversion Site Committee receive the Grey Highlands verbal update for information.

CARRIED.

6.2 Chatsworth verbal update

CAO Sinnamon provided a Chatsworth update:

- Statement of expenses and revenues received.

JWDC2023-04

Scott Mackey - Elizabeth Thompson

That the Joint Waste and Diversion Site Committee receive the Chatsworth verbal update for information.

CARRIED.

7 Other Items

7.1 2023 Meeting Schedule

JWDC2023-05

Scott Mackey - Paul Allen

That the Joint Waste and Diversion Site Committee schedule the 2023 meeting dates as follows:

Tuesday July 4, 2023 at 10:00am

Monday October 2, 2023 at 10:00am

CARRIED.

JWDC2023-06

Scott Mackey - Paul Allen

That the JWDC recommend that Grey Highlands Council approve flexibility for in-person or virtual meetings at the request of the Chair.

CARRIED.

- 7.2 2023 Budget request updates
- Discussion on diversion of curbside collection for GH and effects on landfill, including staffing
 - Discussion on purchase of waste shredder- timeline for purchase considering volume of waste now being received

JWDC2023-07

Paul Allen - Elizabeth Thompson

That the JWDC receive the 2023 budget request updates for information.

CARRIED.

[Joint Waste and Diversion Site Committee - 06 Sep 2022 - Resolutions](#)

- 7.3 2022 Annual Monitoring Report - Holland/Markdale Waste and Diversion Site
- Discussion on population numbers included in the monitoring report.
 - Discussion on cover plates.
 - Discussion on diversion numbers for Chatsworth that are not presented in the monitoring report.

JWDC2023-08

Scott Mackey - Paul Allen

That the JWDC receive the 2022 Annual Monitoring Report for information.

CARRIED.

JWDC2023-09

Scott Mackey - Elizabeth Thompson

That the JWDC request that staff prepare a report on the blue box recycling and waste reduction programs in Chatsworth and Grey Highlands for 2022, and the effect to the two municipalities of the change to producer responsibility; and That the report be presented at a future JWDC meeting.

CARRIED.

[2022 Annual Monitoring Report - Markdale-Holland Landfill](#)

7.4 Re-Use Program

Staff Report 2023-78

JWDC2023-10

Elizabeth Thompson - Scott Mackey

Main Motion:

That the Joint Waste and Diversion Site Committee receive staff report JWDC.23.01 regarding a Re-Use Program; and That the Joint Waste and Diversion Site Committee support the implementation of the Re-Use Program at the Holland-Markdale WDS, including the purchase of a 24 foot sea container and amending the PDO.

JWDC2023-11

Paul Allen - Elizabeth Thompson

Amendment:

That the motion be amended to strike out "24 foot" and insert "40 foot" in reference to the size of the sea container and add "to a maximum price of \$6,000.00 excluding taxes and delivery".

CARRIED.

JWDC2023-12

Elizabeth Thompson - Scott Mackey

Main Motion as Amended:

That the Joint Waste and Diversion Site Committee receive staff report JWDC.23.01 regarding a Re-Use Program; and That the Joint Waste and Diversion Site Committee support the implementation of the Re-Use Program at the Holland-Markdale WDS, including the purchase of a 40 foot sea container to a maximum price of \$6,000.00 excluding taxes and delivery, and amending the PDO.

CARRIED.

JWDC2023-13

Paul Allen - Scott Mackey

That the JWDC classify the sea container as a non-fixed asset for the purposes of the Joint Waste Agreement.

CARRIED.

[JWDSC.23.01-Re-Use Program - Pdf](#)

7.5 Circular Materials Agreements

Under the new blue box regulation, Circular Material was going to deduct an automatic 25% for non-eligible sources from depot recycling. Guidance documentation was circulated with different options available for documenting and requesting a lower non-eligible deduction. Staff tracked each customer coming into the sites to determine if they were eligible or non-eligible. We were able to track and be approved for a 7% deduction instead of 25%.

CAO Sinnamon exited the meeting at this time.

7% remains in effect for the transition period until the full producer responsibility comes into effect.

Member Mackey was not present for the vote.

JWDC2023-14

Paul Allen - Scott Mackey

That the JWDSC receive the circular materials agreement update for information.

CARRIED.

[Municipality of Grey Highlands Eligible & Non-Eligible Recycling Tracking \(Submitted February 16, 2023\)](#)

8 Next Meeting

8.1 Joint Waste and Diversion Site Committee Meeting

Date: Tuesday, July 4th, 2023

Time: 10:00am

Location: To be determined.

9 Adjournment

9.1 Recommendation:

JWDC2023-15

Scott Mackey - Paul Allen

**That the Joint Waste and Diversion Site Committee adjourn at 11:51 am until the next meeting or until the call of the chair.
CARRIED.**

The minutes contained herein have been reviewed by the members. Minutes are not deemed as approved until received at the next meeting.

**Grey Highlands and Chatsworth
Special Joint Waste and Diversion Site Committee Minutes
Wednesday, May 31, 2023
In-Person Only**

Members Present:

Chair Member Nadia Dubyk, Member Terry McKay, Member Paul Allen, and Member Elizabeth Thompson

Members Absent:

Staff:

Chief Administrative Officer Karen Govan, Director of Environmental Services Shawn Moyer, Chatsworth CAO Patty Sinnamon, Operations Manager Jamie Edwards, Coordinator Danielle Thompson, Environmental Compliance Specialist Jenn Eagan, Treasurer Anna McCarthy, and Municipal Clerk Raylene Martell

1 Call to Order

Chair Dubyk called the meeting to order at 1:00pm.
Chair Dubyk introduced Chatsworth Council alternate appointee Terry McKay.

2 Declaration of Pecuniary Interest

None

3 Items for Consideration

3.1 2022 Year-End Operating Expenses and Weigh Scales Summaries

JWDC2023-16

Elizabeth Thompson - Paul Allen

That the Joint Waste and Diversion Site Committee receive the 2022 Year-End Operating Expenses and Weigh Scales Summaries for information.

CARRIED.

[JWDSC May 31, 2023 - 2022 Holland-Markdale Landfill Summary](#)
[JWDSC May 31, 2023 - 2022 Weigh Scale Allocation](#)

3.2 2023 Operating Budget

- Discussion on diversion of curbside waste in Grey Highlands and impact of this diversion on site operations (opening hours, staffing).
- Waste transfers from Artemesia and Osprey sites are landfilled at the Holland/Markdale site.

JWDC2023-17

Elizabeth Thompson - Terry McKay

Main Motion:

That the Joint Waste and Diversion Site Committee receive the 2023 Operating Budget for information.

JWDC2023-18

Terry McKay - Paul Allen

Amendment:

To add "and That the Joint Waste and Diversion Site Committee request that Council direct staff to prepare a level of service comparison with Blue Mountains and Southgate to bring back to the Committee along with the site operations and traffic data previously presented to Grey Highlands Council."

CARRIED.

JWDC2023-19

Elizabeth Thompson - Terry McKay

Main Motion as Amended:

That the Joint Waste and Diversion Site Committee receive the 2023 Operating Budget for information; and

That the Joint Waste and Diversion Site Committee request that Council direct staff to prepare a level of service comparison with Blue Mountains and Southgate to bring back to the Committee along with the site operations and traffic data previously presented to Grey Highlands Council.

CARRIED.

[JWDSC May 31, 2023 - 2023 Operating Budget - Holland-Markdale Landfill](#)

3.3 Waste Shredder Purchase Discussion

- Waste shredder can decrease volume of landfilled waste material by 70-75%, thereby extending lifespan of landfill.
- Previous estimated purchase price of shredder was \$900,000.00.
- Grey Highlands and Chatsworth placing funds in reserves annually for future shredder purchase.
- Shredder purchase potentially eligible for future federal environmental grant funding, if funding becomes available.

JWDC2023-20

Paul Allen - Elizabeth Thompson

That the Joint Waste and Diversion Site Committee receive the Waste Shredder Purchase discussion for information.

CARRIED.

3.4 Holland/Markdale Waste and Diversion Site Operations Discussion

- Discussion of this item took place under agenda item 3.1.

JWDC2023-21

Terry McKay - Paul Allen

That the Joint Waste and Diversion Site Committee receive the site operations discussion for information.

CARRIED.

4 Next Meeting

4.1 Joint Waste and Diversion Site Committee Meeting

Date: Tuesday, July 4, 2023

Time: 10:00am

Location: Grey Highlands Council Chambers

5 Adjournment

5.1 Recommendation:

JWDC2023-22

Terry McKay - Elizabeth Thompson

That the Joint Waste and Diversion Site Committee adjourn at 2:05pm until the next meeting or until the call of the chair.

CARRIED.

The minutes contained herein have been reviewed by the members. Minutes are not deemed as approved until received at the next meeting.

June 28, 2023

Attention to Joint Waste and Diversion Site Committee:

Please be advised that at the June 7th meeting of the Township of Chatsworth Council, the following resolution was passed:

Resolution 2023-18-17

Moved by: Terry McKay

Seconded by: Elizabeth Thompson

THAT CAO Clerk's Report 2023-33 regarding the Holland/Markdale Waste and Diversion Site Updates and Approvals be hereby received;

AND FURTHER THAT Council receives the 2022 year end reconciliation for information;

AND FURTHER THAT the 2023 Operating Budget be approved;

AND FURTHER THAT the capital upgrades to the site including retaining wall guards, gravel and stone and portable construction trailer with washrooms, in the amount of \$79,000.00 be approved with the Township Chatsworth paying 50% of the cost;

AND THAT the capital expenditure be allocated to landfill reserves (01-0100-2504).

CARRIED

Jamie Edwards

Operations Manager

Township of Chatsworth

REPORT

TO: JWDSC
FROM: Jenn Eagan
DATE: July 4, 2023
REPORT: JWDSC.23.02
SUBJECT: 2022 Annual Monitoring Report - Update

RECOMMENDATION:

That the JWDSC receive staff report JWDSC.23.02 for information; and
That the JWDSC receive the revised 2022 AMR for the Holland-Markdale WDS.

BACKGROUND AND ANALYSIS:

During the April 3, 2023 JWDSC, the following resolution was carried:

That the JWDSC request that staff prepare a report on the blue box recycling and waste reduction programs in Chatsworth and Grey Highlands for 2022, and the effect to the two municipalities of the change to producer responsibility; and
That the report be presented at a future JWDSC meeting.

The Annual Monitoring Report (AMR) format was prepared following the same format from previous years. The information provided by the previous recycling contractor included the curbside totals and the site totals for Holland-Markdale, Osprey and Artemesia for the breakdown of material type and residue amounts. Staff manually calculated the weigh scale totals, and of the 844.41 tonnes of material reported, 62.71 tonnes was comingle recycling and 61.3 tonnes was cardboard recycling from the Holland-Markdale site only.

Following the May 31, 2023 JWDSC meeting, it was brought to staff's attention that the weight totals from the cost sharing spreadsheet did not match the weight totals from the 2022 Annual Monitoring Report. Staff reviewed both and determined an error had been made in the calculation for the Grey Highlands curbside total for the annual report, which included the total for Osprey transfers as well. This has been corrected and GM BluePlan revised the annual report. As the monitoring outcomes didn't change, the report was not re-submitted to the Ministry of Environment, Conservation and Parks. The engineers noted that the revised total of 3,483.134 tonnes will be reflected in the 2023 Annual Monitoring Report. The revised PDF is attached for information.

OPERATIONAL CONSIDERATIONS:

As there is a new contractor for 2023 recycling, it is anticipated that the blue box material section of the annual report will be reported differently compared to the 2022 AMR. If the JWDSC wishes to see this section reported to only include information for the Holland-Markdale site, or to include other Grey Highlands and Chatsworth diversion efforts, direction will be needed for staff. Our consulting engineers have advised this information can be reported at our discretion for site specific, or including both municipalities.

GREY HIGHLANDS STRATEGIC PLAN:

Respected Environment - Manage Municipal resources in a responsible and sustainable manner considering future needs for adaptation and community resiliency.

FINANCIAL IMPACT:

There will be a minimal fee associated with engineering to revise the 2022 AMR, this will be included in the operating budget.

STAFFING IMPACT:

There will be additional staff time to further expand the reporting requirements for the blue box and diversion programs.

ENVIRONMENTAL IMPACTS:

0 no impact - no environmental impact with the annual monitoring report

CONSULTATION:

Shawn Moyer, Director of Environmental Services

ATTACHMENTS OR REFERENCE:

2022 AMR - Updated Tonnage

Approved By:

Shawn Moyer, Director of
Environmental Services

Status:

Approved - 26 Jun 2023

Prepared By:



Annual Monitoring Report (2022) - Holland/Markdale Waste and Diversion Site

Municipality of Grey Highlands / Township of Chatsworth
Certificate of Approval No. A261901

GMBP File: M-1528

June 2023



GUELPH | OWEN SOUND | LISTOWEL | KITCHENER | LONDON | HAMILTON | GTA
1260-2ND AVE. E., UNIT 1, OWEN SOUND ON N4K 2J3 P: 519-376-1805
WWW.GMBLUEPLAN.CA



TABLE OF CONTENTS

1. INTRODUCTION & BACKGROUND INFORMATION1

2. SITE USAGE2

3. SITE LIFE EXPECTANCY2

4. RECYCLING/WASTE REDUCTION4

 4.1 Blue Box Materials4

 4.2 Tires.....5

 4.3 Waste Diversion6

 4.4 Wood Wastes6

5. GENERAL OPERATIONS7

 5.1 Site Controls7

 5.2 Site Cleanliness.....7

 5.3 Active Landfill Area.....8

 5.4 Site Operations.....8

6. ENVIRONMENTAL MONITORING9

 6.1 Sampling Procedures and Requirements9

 6.2 Summary and Comparison of Background Groundwater Quality10

 6.3 Summary of Hydrogeologic Setting.....10

 6.4 Leachate Production11

 6.5 Annual Monitoring Program.....11

 6.6 2022 Environmental Monitoring Program.....12

 6.7 Water Quality Analyses Results12

7. LANDFILL GAS MEASUREMENTS.....14

8. ENVIRONMENTAL COMPLIANCE APPROVAL15

9. CONCLUSIONS15

10. CLOSED AREAS16

11. RECOMMENDATIONS16

TABLES

- TABLE 1 – LANDFILL VOLUME CAPACITY AND SITE LIFE**
- TABLE 2 – GROUNDWATER MONITORING LOCATIONS AND ANALYTICAL PARAMETERS (PAGE 9 OF REPORT)**
- TABLE 3 – MECP REASONABLE USE CRITERIA (RUC)**
- TABLE 4 – GROUNDWATER QUALITY SUMMARY**
- TABLE 5 – SUMMARY OF MONITORING WELL LOCATIONS AND CONSTRUCTION DETAILS**



FIGURES

- FIGURE 1 – SITE LOCATION MAP**
- FIGURE 2 – EXISTING SITE CONDITIONS**
- FIGURE 3 – BOTTOM CONTOUR PLAN**
- FIGURE 4 – FINAL CONTOUR PLAN**
- FIGURE 5 – MONITORING WELL LOCATION PLAN AND SHALLOW GROUNDWATER CONFIGURATION**
- FIGURE 6 – SHALLOW GROUNDWATER - CHLORIDE CONCENTRATIONS**
- FIGURE 7 – GEOLOGICAL CROSS SECTION**

APPENDICES

- APPENDIX A: CERTIFICATE OF APPROVAL NO. A261901**
- APPENDIX B: CORRESPONDENCE**
- APPENDIX C: DUTIES OF SITE SUPERVISOR & SITE ATTENDANT**
- APPENDIX D: HISTORICAL GROUNDWATER QUALITY**
- APPENDIX E: LABORATORY CERTIFICATES OF ANALYSIS**
- APPENDIX F: HISTORICAL GROUNDWATER ELEVATIONS**



ANNUAL MONITORING REPORT (2022) - HOLLAND/MARKDALE WASTE AND DIVERSION SITE

MUNICIPALITY OF GREY HIGHLANDS / TOWNSHIP OF CHATSWORTH

JUNE 2023

GMBP FILE: M-1528

1. INTRODUCTION & BACKGROUND INFORMATION

The Holland/Markdale Waste and Diversion Site is located approximately 3 kilometres northwest of Markdale on the north side of Highway No. 10 (Toronto St.). The landfill site is located on part of Lot 84, Concession 1, east of the Toronto-Sydenham Road (ETSR), former Township of Holland, Township of Chatsworth, County of Grey, as shown on Figure No. 1.

The site is operated by the Joint Waste and Diversion Site Committee (JWDSC) consisting of Council members from the Township of Chatsworth and the Municipality of Grey Highlands as well as Municipal staff including CAO's, Directors of Public Works, recording secretary and waste and recycling service supervisors. The Municipality opened the landfill site in 1973 and initially utilized a trenching method of operation. In 1982, the Municipality adopted the area-ramp method of landfilling, which continues to date.

Shortly after opening, an Application for a Waste Disposal Site was submitted to the Ministry of the Environment, Conservation and Parks (MECP) for approval. On October 9, 1980, Provisional Certificate of Approval (C of A) No. A-261901 was issued to the Municipality by the MECP, licensing a 6.4-hectare landfilling site within a total site area of 39 hectares.

An additional 40 hectares was purchased in 1992 by the JWDSC. In 1992, the JWDSC acquired the property known as the Bennett farm located on Part of Lots 81 and 82, which created an additional 40 hectares (99 acres) of downgradient buffer lands. The additional lands gave the JWDSC a total of approximately 80 hectares (198 acres) situated within Lot 81, and Part Lots 82, 83, and 84 to incorporate into the landfill buffer zone. The currently approved landfill footprint is contained within the southern portion of Lot 84 as presented on the attached Figure 2 (Existing Conditions).

The C of A (1980) was amended and re-issued in August of 1992 to include the requirement for the submission of an annual monitoring report by March 31st of each year. The C of A was again amended on September 16, 1996, requiring that landfill operations be carried out in accordance with the Township of Holland Landfill Site Development and Operations Report, dated February 1993.

An updated Plan of Development and Operations (PDO) was finalized by Gamsby and Mannerow Limited (now GM BluePlan Engineering Limited) in 2009 to utilize the entire pre-approved capacity at the site. The PDO was submitted in 2010 and was subsequently approved by the MECP in 2011. As a result of the updated PDO and the change in operations, the Environmental Compliance Approval (ECA) was amended and dated February 1, 2012 (as included in Appendix "A"). Based on the approved PDO completed by G&M in 2009, the total approved volumetric capacity at the site was updated and represents an increase from 262,000 m³ to a total of 499,000 m³, of which 463,000 m³ is available for the placement of waste and daily cover.



There was a further amendment to the ECA, dated August 15, 2017 allowing for the Holland/Markdale Waste and Diversion Site to be used as a waste transfer station. This allows waste to be transferred between all of the Landfills that are operated by the Municipality (i.e., Artemesia Landfill and Osprey Landfill). This will allow the Municipality to consolidate operational costs, equipment use and provide a higher level of operational flexibility between the multiple landfills owned and operated by the Municipality.

A copy of the current Environmental Compliance Approval, which references the above noted PDO, is provided in Appendix "A". This annual monitoring report is being submitted to meet the conditions of the ECA.

2. SITE USAGE

In January 2001, The Village of Markdale, and Townships of Euphrasia, Artemesia, and Osprey amalgamated to form the Municipality of Grey Highlands. In January of 2000, Holland Township, Sullivan Township, and the Village of Chatsworth amalgamated to form the Township of Chatsworth. Since the amalgamation, the landfill service area has included full time and seasonal residents of the former Town of Markdale in the Municipality of Grey Highlands and the former Holland Township, which is located within the Township of Chatsworth. From 2000 until September of 2015, the service area of the former Holland Township included the area east of Highway 6 to Euphrasia-Holland Townline, including the entire Village of Williamsford and the Town of Chatsworth. A new contract reportedly commenced in September of 2015. The service area for the landfill now includes the waste originating east of Highway 6 to Euphrasia-Holland Townline, excluding the Town of Chatsworth.

In the past, waste from the former Sullivan Township was directed to a different waste disposal site. The Township of Chatsworth is currently serviced by bi-weekly curbside waste and recycling collection under contract with Waste Management. In 2020, curbside waste generated within the former Township of Sullivan and Village of Chatsworth was directed to the Waste Management facility in Mount Forest, whereas curbside waste generated within the former Holland Township was directed to the Markdale Landfill Site. In an effort to minimize the volume of residual waste being directed to the Holland/Markdale facility, the Township of Chatsworth also provides separate areas for various waste diversion opportunities including collection of blue box materials, e-waste, white goods (including CFC-containing appliances), stockpiling of scrap metal and tires, as appropriate, and goods exchange through their reuse building.

The Municipality of Grey Highlands has consolidated its landfills allowing the Municipality to operate approved transfer stations at each site, and to consolidate operational costs, equipment use and provide a higher level of operational flexibility between the multiple landfills owned and operated by the Municipality (i.e., The Markdale/Holland Waste Disposal Site, the Osprey Waste Disposal site ECA #A262201, and the Artemesia Waste Disposal Site ECA #A261204). As a part of this consolidation, all waste from both the former Township of Holland and Grey Highlands was placed at the Holland/Markdale Waste and Diversion Site in 2022.

3. SITE LIFE EXPECTANCY

The amended ECA provides for a total site area of approximately 80 ha with a currently approved landfill footprint of 6.4 ha and a total volumetric capacity of 499,000 m³ including final cover. Based on the existing PDO, the footprint being used for waste placement occupies an area of 4.78 ha in order to maintain the setback distances specified by the Municipality at the time of the original ECA A application, which were established under a hearing. Therefore, based on the areal extent of the approved footprint, the volume required for final cover material is 47,800 m² (4.78 ha) x 0.75 m = 35,850 m³ (i.e., approximately 36,000 m³ as referenced in the PDO), which leaves a total theoretical capacity of 463,000 m³ for waste and daily cover.

The proposed bottom contours and proposed final contours for the site are presented on the attached Figures 3 and 4, respectively.



As mentioned in Section 1, the Municipality of Grey Highlands has consolidated their waste and diversion efforts. Beginning in 2020, waste from the entire Municipality as well as all waste from the former Township of Holland was placed at the Holland/Markdale Waste and Diversion Site. Based on the most recent census data available (2021), the population of the Municipality of Grey Highlands is 10,424 and the population of Chatsworth is 7,080.

In the past, topographical surveys have been completed on an annual basis to monitor site development and to evaluate the remaining site capacity. The most recent capacity determination surveys at the landfill were completed in January 2022 and November 2022, which included a portion of the active filling area at the Site. By comparing the contours in the surveyed portion of the active landfill area between the surveys, a calculated fill rate of 5,117 m³ for that designated area of the Site was determined for that time period.

The weigh scale measurements for the current operating period provided by the Municipality are presented below, which indicate that a total of 3716.01 tonnes of waste was received at the landfill during the reporting period. The table below presents the scaled totals of waste generated from within Grey Highlands, from the Township of Chatsworth, and also identifies the totals that were transferred to the Site from the Osprey and Artemesia transfer stations, respectively.

The annual tonnage of waste landfilled at the Markdale site based on recorded weigh scale measurements was provided by the Municipality and is presented below:

Waste Received From:	Amount of Waste (Tonnes)
Waste from Grey Highlands internal	330.887
Waste from Chatsworth internal	66.390
Waste from Grey Highlands Residents (scale)	713.467
Waste from Chatsworth Residents (scale)	209.780
Waste from Grey Highlands Curbside	1,425.49
Waste from Chatsworth Curbside	296.750
Waste Transferred from Osprey WDS	232.880
Waste Transferred from Artemesia WDS	207.490
Total	3483.13

As noted above, a scaled total of 3483.13 tonnes of waste was landfilled in the current operating year. In an effort to increase the level of waste compaction achieved at the Municipal Waste and Diversion Site and to further extend the lifespan of the landfill, the Municipality continued the use of a Caterpillar (CAT) 826F steel-wheeled sheepsfoot waste compactor. Based on a typical density of placed waste for this type of equipment, an estimated density of 650 kg/m³ has been conservatively used to calculate the annual fill rate for the Site. Therefore, at this rate of waste compaction and based on the scaled total of 3483.13 tonnes of waste, the annual fill rate is estimated to represent a volume of 5,358.66 m³. Additionally, the annual volumetric capacity used must take into consideration the volume of soil cover applied over the waste (i.e., at a typical volume of 20% soil cover). When including the volume of daily cover applied, this equates to a total annual volume of 6,430.39 m³/year. This calculated estimate is generally consistent with waste placement observed over the past five years, both from reported scale readings and from landfill topographic surveys that are routinely conducted.



As previously reported, the most recently available census data indicates that the Municipality of Grey Highlands has a population of 10,424 people. The Township of Chatsworth has a reported population of 7,080 people of which the former Holland Township represents approximately 46% of the population. Thus, the population contributing to the Site is approximately 17,504 people.

The approximate fill rate represents a waste generation rate of about 0.45 m³ of waste/person/year, which is lower than the typical waste production for a predominantly rural service area (i.e., expected to be approximately 1.0 m³/person/year).

The cumulative landfill volume utilized at the end of the reporting period is calculated to be 265,310 m³, which leaves a remaining capacity of 223,751 m³ for waste and daily cover, and 9,940 m³ for final cover. Landfill capacity calculations are presented in the attached Table 1. At the average fill rate observed over the last five years (i.e., 6,232 m³), the remaining volumetric capacity provides for an approximate site life of 36 years. Based on the maximum observed fill rate over the last five years, which reflects the consolidation of the waste to the Holland/Markdale Site (i.e., 7,848 m³), the site would have capacity for approximately 28 years as indicated in Table 1. At the hypothetical 5-year average fill rate calculated in the PDO for long-term planning purposes (i.e., 11,000 m³, based on the average fill rate at each of the three landfills), the site would have capacity for approximately 20 years. The average fill rate for the Markdale/Holland site since it has been receiving waste from the entire municipality is 6,875 m³/yr. At this fill rate, the site has a life expectancy of 32 years.

4. RECYCLING/WASTE REDUCTION

4.1 Blue Box Materials

The Municipality provides curb-side collection of "blue box" materials. The Municipality of Grey Highlands diverted 789.34 tonnes of recycling materials through the curbside pick-up in 2022. Additional segregation and recycling facilities are provided in the diversion receiving area located at the Site which is situated outside the scale house and is in view of the attendant's booth for ease of supervision. The Site Supervisor is responsible for the proper segregation and diversion of recyclable materials received at the Site. In 2022, 863.45 tonnes of single stream recycling and 98.59 tonnes of cardboard was diverted from the Holland/Markdale, Artemesia and Osprey Waste and Diversion Sites.

Mid Ontario Disposal continued to be contracted to collect the curb-side "blue box" materials and the accumulation of recyclables from the depot located at the Waste and Diversion Site. Mid Ontario Disposal provided an analysis of the blue box recyclables diverted from the Entire Municipality of Grey Highlands for the 2021 calendar year. It is noted that the amount of blue box recyclables diverted from each separate Waste and Diversion (i.e. Holland/Markdale, Artemesia and Osprey Sites) is not available. The total combined amount of blue box recyclables collected in 2022 by Mid Ontario Disposal for the Municipality was 844.41 tonnes, as summarized below:



Item	Metric Tonnes
Total Fibres	356.12
Cardboard from Diversion Site Depots	98.59
Steel Cans	29.91
Aluminum	24.25
Glass (Clear and Coloured)	61.72
P.E.T. Plastic	80.23
H.D.P.E. Plastic	17.52
Mixed Plastics	43.52
Film Plastic	58.44
Residue	74.11
Total	844.41

4.2 Tires

The Municipality currently collects, and stockpiles used tires at all three of its Waste and Diversion Sites. In January 2019, tires were the first material to be transitioned to the individual producer responsibility (IPR) framework under the recent waste diversion legislation, the Waste-Free Ontario Act. As a registered collector, the Municipality accepts used tires free of charge from residents. These tires are recycled by tire producers (or Producer Responsibility Organizations), who are now directly responsible and accountable for meeting mandatory collection and recycling targets for used tires.

The number of tire units diverted annually from the Site, and resulting weight estimates, reflect the tire categories and per unit weights developed by the former Ontario Tire Stewardship (OTS) program, as outlined in the 'OTS Used Tire Program Plan prepared for Waste Diversion Ontario' (February 2009, as amended). Quarterly summaries of the number of tires removed, based on the established tire categories, are available to the 'Collectors' (i.e., the Municipality) through the ReThink tires program developed by the OTS. The data provides the numbers of the tire units and associated category. The total weight is then estimated by assuming a per unit weight of 10 kg per Passenger/Light Truck tire (PLT) and 50 kg per Medium Truck tire, as derived from Table 23 of the OTS Used Tire Program Report (February 2009), and assumes an estimated 70 kg per Agricultural/Logger/Skidder tire (AG/LS).

According to the current records, an estimated total of 5,026 tires (4,736 PLT, 221 MT, 63 AG/L, and 6 IND), weighing an estimated 69.15 tonnes (metric), were received at the Waste and Diversion Site. Comparatively, an estimated total 36.61 tonnes were received at the Site in the previous operating year.

As per the requirements of Reg. 347/90-Section 6 (i.e. The General Waste Management Regulation), made under the Environmental Protection Act (EPA), the number of tires continues to be fewer than 5,000 tire units at any given time. The regular removal of tires and other accumulations of salvageable materials will also help to prevent clutter and to maintain an aesthetically acceptable site.



4.3 Waste Diversion

During the current monitoring year, DMS Metals was contracted to remove accumulations of scrap metal and white goods from the Site. Other recyclable goods are also diverted from the Site, as needed. Inspections by GMBP personnel conducted in conjunction with the annual monitoring programs noted that, in general, the designated areas for recyclable goods continue to be organized and well managed and the wood pile is being well maintained.

Municipal records, received from the recycling and salvage contractors, provide the total recycling tonnage diverted from the Markdale/Holland Waste and Diversion Site. Based on the information provided, the following quantities of recyclables were diverted from the Waste and Diversion Site during the reporting period. The quantities from the previous year are also provided for comparative purposes:

Recyclable Material	Units	Quantity Diverted		2022
		2020	2021	
Onsite & Curbside Recycling Programs	Tonnes	902.86*	1005.36*	844.41
Scrap Metal including non-CFC White Goods (Tonnes)	Tonnes	122.4 (206.5*)	147.5 (253.9*)	124.6
CFC White Goods	Unit	121.7	11	0
Mattresses	Units	1064*	863*	931*
Tires	Tonnes	36.4 (109.1*)	36.61 (72.73*)	20.87 (69.15*)
Waste Electrical and Electronic Equipment (WEEE)	Tonnes	39.2 (68.8*)	42.75 (68.17*)	24.90 (36.1*)
Styrofoam (from entire Municipality)	Tonnes	2.25*	4*	4*
Fluorescent Light Bulbs	Units	7,010*	5,538*	3,527*
Household batteries	Tonnes	0.55	0.68	0.67
Textiles	Tonnes	8.43*	12.67*	11.52*
Drywall	Tonnes	104.7*	83.51*	67.32*
Hazardous waste materials ¹	Tonnes and Liters	-	2.73 Tonnes, 1,302 Liters	-

* Indicates value is for the entire Municipality of Grey Highlands

¹ Hazardous waste materials illegally left at the site by residents and found by Municipal staff. Was appropriately disposed of by Photech Environmental.

The reported recycling and waste diversion totals are generally consistent with historical totals. The Municipality reports that waste is also diverted from the Waste and Diversion Site as a result of backyard composting, which is not accounted for in the recycling analysis.

4.4 Wood Wastes

Based on the existing ECA, burning of segregated clean wood (i.e., untreated lumber) and brush is permitted and is to be conducted in accordance with "MECP Guideline C-7, Burning at Landfill Sites (April 1994)". A copy of this Guideline is provided in Appendix "C". Burning of waste is prohibited. Any brush, trees and clean wood material should be stockpiled separately, in a pile generally no larger than 6 by 6 m in area and 3 m in height. Supervised burning of wood waste is to occur on clear, dry, windless days when the Site is closed to the public and located at a safe distance from any active or inactive landfill cell.



The Site attendant and/or operator is responsible for removing any non-wood wastes from the pile prior to burning and should regularly remove cold ashes from the burn area for disposal in the active area. Although burning is permitted, the Municipality reports that no burning operations were conducted at the Site.

5. GENERAL OPERATIONS

5.1 Site Controls

The site is open Mondays, Tuesdays, Fridays, and Saturdays from 9:00 A.M. to 4:00 P.M. each week. A sign at the access gate notes the hours of operation and specifies the acceptable wastes that are received at the Site. When the Waste and Diversion Site is closed to the public, a locked gate across the entrance road controls access to the site. Signs are clearly posted at all of the various disposal locations, designated areas for waste, recyclable materials, and wood waste.

The site is located in a secluded setting and is set well back from the highway. The Waste and Diversion Site is adequately screened from the public view by hills and heavy tree cover. The ECA indicates that the area to be used for waste disposal is restricted to Lot 84 and that the closest boundary is to be 365.8 m (1,200 ft) from Highway 10. The boundaries for the approved disposal area were voluntarily established by the Municipality to maintain a minimum distance of 305 m (1,000 ft) between the active fill area and the nearest residence, and to provide an adequate buffer area between the Waste and Diversion Site and nearby residential properties.

5.2 Site Cleanliness

The most important aspect of site cleanliness is to ensure that all landfilled wastes are adequately covered and compacted immediately following waste placement so that refuse is not exposed at the surface. The application and compaction of an appropriate soil cover immediately following waste disposal decreases blowing litter and reduces surface water infiltration vertically through the refuse to reduce leachate production at the site.

To reduce/control the amount of litter observed onsite and to reduce the potential for the accumulation of litter along the property lines, the Municipality should continue their annual spring clean-up program. In addition, the use of litter control fencing along the southerly limit of the Waste and Diversion Site footprint may assist in preventing blowing litter from accumulating along the neighbouring property boundary. It is our understanding that the Municipality is planning on utilizing litter control fencing along portions of the south property line where appropriate. Additionally, further effort to collect blown litter around the perimeter of the active landfill face should be conducted to maintain site cleanliness.

As per the ECA, continued effort should be made to ensure wastes are adequately covered and blown litter is collected on a routine basis. The Site Operator is responsible for compaction and covering of refuse and for collecting blown litter. We recommend that waste continue to be compacted and covered and that litter is collected on the same day following waste disposal to maintain an acceptable site appearance. General duties of Site Supervisors and Site Attendants are included in Appendix "C".

Another important aspect of site cleanliness is to ensure that accumulations of recyclable materials are regularly removed from the site and that appropriate wood wastes are burned regularly to maintain a manageable pile. Designated areas for recyclable goods appear to be organized and generally well managed.



5.3 Active Landfill Area

Waste covering operations at the Site are achieved with a rubber tire loader. Starting in 2014, the Municipality completed the waste compaction operations using a steel-wheeled sheepsfoot waste compactor, which remains onsite and is utilized immediately following waste placement. The use of the waste compactor is expected to noticeably increase waste compaction in the working face. Landfill cover plates are in the process of being purchased and will take the place of daily cover, which should both minimize leachate generation and increase volume for waste landfilling. Recent site inspections noted that adequate daily cover and compaction operations were being completed at the active face and that consistent covering efforts should continue to be a focus of operations staff.

Currently, the active landfilling operations are being conducted within the Stage 1 Operations as presented in the updated 2009 PDO. Stage 1 Operations are taking place within the southeast corner of the previously closed portion of the Waste and Diversion Site which is receiving additional lifts of waste on top of the existing refuse pile. The Stage 1 preparations have been completed, including an extension of the new access road, and the removal and stockpiling of the interim cover to accommodate new waste placement. Stages 1 through 3 have been prepared, as seen on Figure 2. Stage 1 has received waste and is expected to hold approximately 8 months more waste. Stages 2 and 3 are expected to accommodate approximately 2 years of waste. Attention should be given to consistent covering and compaction of the refuse within the active fill area following each active day.

The landfilling activities to the southwest have been finalized and interim cover material was applied and graded to promote surface water runoff. In recent years, leachate seepage has periodically been observed during site inspections along the southerly slope of the Waste and Diversion Site in close proximity to the previously active face and flows were observed in the swale to the south and west of the Waste and Diversion Site footprint. No evidence of leachate seepage was observed at the Waste and Diversion Site during the annual site visit. The area in close proximity to the previously active area should continue to be monitored for leachate breakouts and remedial action taken as required. A more detailed discussion of the observed leachate generation at the site is presented in Section 9.0 *Closed Areas*.

The original C of A (1980) initially established a 75-foot (23 metre) buffer area between the disposal area and the southerly property limit. The setback is necessary to reduce/prevent the potential for radial migration of potentially impacted groundwater from flowing offsite to the south as a result of landfill mounding. Based on existing plans and recent topographical surveys of the site, the Municipality is maintaining the minimum required buffer zone between the Waste and Diversion Site footprint and the residential/agricultural property located to the south of the site.

5.4 Site Operations

The updated PDO for the Waste and Diversion Site that was prepared and submitted to the MECP by GM BluePlan (formerly Gamsby and Mannerow Limited) in 2010 has been accepted and approved by the MECP. The PDO is referenced in the amended ECA that was issued in February 2012. As a result, site operations since 2018 reflect the updated operational plan as per the stages of development specified within the 2009 PDO.

The 2009 PDO specifies a series of five stages of development using the area ramp method of waste placement, in which progressive closure of designated cells is completed. Areas that have reached final contours should be capped and progressively closed using a minimum of 600 mm of low-permeability silty clay material and 150 mm of topsoil seeded to grass.



6. ENVIRONMENTAL MONITORING

The current ECA requires the submission of an annual monitoring report summarizing the environmental conditions at the Waste and Diversion Site and a statement with regard to Site compliance with regard to the Reasonable Use Concept, MECP Guideline B-7 (RUC). Based on the MECP requirements specified in the ECA, the report must address the results of any surface water and/or groundwater monitoring programs and assess the environmental conditions at the site in order to ensure the protection of the natural environment.

Recent historical water quality data indicates the presence of leachate impacted groundwater in the shallow overburden deposit in the vicinity of the Waste and Diversion Site, which is slowly migrating in a north-westerly direction. Previously completed annual monitoring reports concluded that leachate impacted groundwater is being contained to the subject property and that the Waste and Diversion Site was in compliance with the criteria specified in MECP Guideline B-7.

It is proposed to continue the established annual monitoring program at the site on a semi-annual basis (Spring and Fall) according to the analytical parameters outlined in Table 2. Monitoring locations are shown on the Monitoring Well Location Plan presented on Figure 5.

Table 2 - Groundwater Monitoring Locations and Analytical Parameters

GROUNDWATER	ANALYTICAL PARAMETERS
OW-1s, OW-2s, OW-3s, OW-4s OW-4d, OW-5s, OW-6s, OW-7s, OW-8s, OW-9s, OW-9d, OW-11s, OW-13s, OW-17s, OW-19s, OW-23s, OW-25d, OW-26d, OW-27, OW-28	Conductivity, Hardness, Alkalinity, pH Chloride, Sulphate, Nitrate, Nitrite, Ammonia, TKN, DOC (dissolved organic carbon), Metals including: Barium, Boron, Calcium, Iron, Magnesium, Manganese, Phosphorus, Potassium, and Sodium

6.1 Sampling Procedures and Requirements

Groundwater quality is monitored at the site by twice-annual sampling at a network of monitoring wells. It is standard procedure to measure the static groundwater level prior to purging three (3) casing volumes of stagnant water from each test well. Wells are allowed to recharge with fresh groundwater before sampling. Groundwater samples are collected using dedicated inertial-type pumps, are kept chilled, and are sent within 24 hours of the sampling event to an accredited laboratory (Bureau Veritas Laboratories) for appropriate analyses.

MECP Guideline B-7 establishes the basis for determining what constitutes the reasonable use of groundwater on properties adjacent to landfill. The potential use of groundwater in this region will typically be for domestic consumption. Therefore, the allowable concentrations presented within the Ontario Drinking Water Standards (ODWS) are utilized to determine the site-specific Reasonable Use Criteria through the application of MECP Guideline B-7. MECP Procedure B-7-1 provides technical details for the application of MECP Guideline B-7. A change in the quality of groundwater on an adjacent property, where the reasonable use is determined to be for drinking water, will be acceptable only where:

- i) Quality is not degraded by more than 50% of the difference between background concentrations and the Ontario Drinking Water Standards for *non-health related* parameters, and;

- ii) Quality is not degraded by more than 25% of the difference between background concentrations and the Ontario Drinking Water Standards for *health-related* parameters.

Background concentrations are considered to be the quality of the groundwater prior to influence or impact from landfill related activities.

6.2 Summary and Comparison of Background Groundwater Quality

The background groundwater quality at the site is determined by calculating the average concentrations from the groundwater samples collected at OW-7s and OW-11s from 1994 to 2004. These monitoring wells are located on the south property boundary and are located hydraulically upgradient of the Waste and Diversion site. The wells monitor the quality of groundwater in the shallow overburden unit where there is no evidence of influence by landfill leachate.

Based on the current and historical groundwater data from the background monitoring wells, the concentrations of hardness (as CaCO₃) and alkalinity in the natural groundwater are elevated and the hardness concentration consistently exceeds the criteria identified in the ODWS. These parameters are naturally occurring and are elevated due to the typical mineralization of the natural groundwater in the area of the site. In general, the background groundwater quality at the site is considered to be good with relatively low levels of typical anions, metals, and nutrient parameters. The geochemical signature of the background water quality is considered typical of groundwater conditions in a carbonate-rich system.

6.3 Summary of Hydrogeologic Setting

The site is located in an area where surficial silty sand deposits are found to an approximate depth of 6 to 8 metres below ground surface (m bgs). Underlying the silty sand layer is a thick layer of compact, relatively low-permeability silt till. The silt till unit likely acts as an aquitard that separates the shallow overburden aquifer from the underlying bedrock aquifer. This confining layer may also account for the relatively high water table, local wetland areas, and significant ponding of local surface waters observed in the area.

Onsite, the relatively low permeability silt till layer ranges in thickness from about 15 m to 20 m and is underlain by the bedrock aquifer, which is used for domestic water supplies in the area. The underlying bedrock is inferred to be dolomitic limestone of the Lockport Formation. A cross-section of the Waste and Diversion property using onsite geologic conditions is presented in Figure 7.

Piezometric data indicate that regional groundwater flow in the bedrock aquifer is generally to the north-west (Waterloo Hydrogeologic Inc., 2003). This is consistent with bedrock monitoring conducted on-site. Permeabilities of bedrock aquifers vary greatly depending on the degree of fracturing and weathering of the rock. According to the MECP Groundwater Probability Study (1983) the dolostone bedrock located beneath the site, has well yields ranging from 44.4 to 227.3 l/min.

The topography of the subject property slopes from the south to the north, at an approximate grade of 2.5 %, where a low-lying swampy area is located within the northern portion of the property. Based on current and historical water level data for the site, the overburden groundwater is inferred to flow in a north-westerly direction, which generally follows the local topography. The interpreted groundwater flow direction for the current monitoring year is presented on Figure 5.

The observation wells located onsite were installed at varying depths to facilitate the monitoring of groundwater quality within the shallow silty sand deposit, the underlying silt till layer, and the bedrock aquifer, respectively. The hydraulic conductivity (K) of silty sand is generally estimated to be in the range of 1×10^{-3} cm/s to 1×10^{-5} cm/s. Based on the change in the groundwater elevation from OW-11s to OW-1s, the inferred hydraulic gradient (i) of the groundwater flowing across the site is approximately 0.026 in a north-westerly direction.



Using the Darcy Flux, and an assumed porosity of 30% for silty sand, an approximate linear groundwater flow velocity (i.e., for conceptual purposes) in the shallow overburden unit is calculated to be in the range of 0.26 m/year to 26 m/year.

6.4 Leachate Production

The current and historical analytical results collected through the established monitoring program indicate that there is leachate impact to the shallow groundwater at onsite monitoring wells OW-4s, OW-9, OW-17s and OW-19s where elevated concentrations of several of the indicator parameters (including chloride, conductivity, hardness, sulphate, iron and ammonia) have consistently been reported for several years. The reported chloride concentrations at these locations have historically ranged between 4 mg/L and 260 mg/L with an average of 85 mg/L. The concentrations appear to be relatively stable to decreasing at OW-4s as the recently landfilled areas have moved westerly away from OW-4s. As expected, the concentrations appear to be increasing at OW-9, OW-17s and OW-19s as the active landfill area moved northwesterly toward these wells. It should be noted that these monitoring wells are located immediately north of the refuse pile and do not represent the quality of groundwater leaving the subject property. The analytical data from wells OW-1, OW-2 and OW-3, which are located downgradient of OW-19 indicates that the leachate indicator parameter concentrations decrease with distance from the closed landfill. Refer to section 6.7 for further discussion.

An ongoing evaluation of the analytical results from the downgradient shallow and deep monitoring wells OW4S/4D and OW9S/9D as well as at OW-26d, continues to indicate that leachate impacts remain in the higher permeability soils within the shallow/upper overburden. This evaluation further suggests a level of hydraulic separation between the shallow and deep overburden units and indicates that leachate impacts are more likely to be observed in the shallow, higher-permeability silty sand unit. At this time, there is no evidence of vertical migration of leachate influenced groundwater into the lower bedrock unit. A comparison of chloride concentrations at select locations within the shallow and deep overburden and underlying bedrock is provided on Figure 7.

6.5 Annual Monitoring Program

A groundwater monitoring program was initiated at the site in 1981. Nine monitoring wells were initially installed but several other wells, installed at varying depths, were drilled at the site between 1982 and 1989. Currently, there are a total of 21 monitoring wells located at the site, which intercept the groundwater in three distinct geologic units.

Five of the original monitoring wells (OW-14s, OW-15s, OW-20s, OW-21s, and OW-10d) were previously removed from the annual monitoring program and decommissioned using a licensed well driller. These observation wells were removed from the annual monitoring program due to their inability to produce groundwater and because they were not considered to provide additional information regarding the progression of leachate impacts or pertaining to compliance with MECP Guideline B-7. Consequently, a total of 18 monitoring wells are currently included in the annual monitoring program.

Monitoring well OW-16s has been consistently dry and thus, based on previous MECP correspondence, OW-16s has been decommissioned by a licensed well driller and replaced with two additional downgradient monitoring wells OW-27 and OW-28. The wells were installed in May of 2019 by a licenced well driller and borehole logs can be found in Appendix F.

As shown on Figure 2, the monitoring wells were installed to the west of OW-1s in close proximity to the residential property in an area that will adequately intercept the groundwater table and provide data for groundwater leaving the northwest portion of the Waste and Diversion property.



6.6 2022 Environmental Monitoring Program

Groundwater samples were collected from the site in the spring and fall. Groundwater samples were submitted to Bureau Veritas Laboratories (formerly Maxxam Analytics Inc.) in Mississauga for analysis of the MECP Schedule 5 Leachate Indicator list as specified in the MECP Landfill Standards Guideline (May, 1998). The Schedule 5 Leachate Indicator list includes, but is not limited to, the analysis of numerous typical leachate indicator parameters such as chloride, conductivity, ammonia, nitrate, and hardness. Copies of the laboratory Certificates of Analyses are presented in Appendix "E".

The reasonable use of groundwater adjacent to the Holland/Markdale Waste and Diversion Site is assumed to be for domestic purposes. Therefore, the benchmark for groundwater analyses are the criteria established using the Ontario Drinking Water Standards (ODWS). The background concentrations were assessed by reviewing concentrations monitored at OW-7s and OW-11s from 1994 to 2004. The background groundwater quality is presented in Table 3.

There are no surface water samples collected at the Holland/Markdale Waste and Diversion Site as part of the annual monitoring program because there is no surface water body onsite or in proximity to the subject property to allow for annual sampling.

The following is a detailed summary of the Environmental Monitoring Program for the Holland/Markdale Waste and Diversion Site.

6.7 Water Quality Analyses Results

North Boundary Condition (Downgradient)

The north property boundary is located approximately 800 metres downgradient of the Waste and Diversion footprint. The downgradient monitoring wells located furthest from the footprint are OW-1s, OW-2s, OW-3s, OW-23s, OW-25d, OW-27, and OW-28 which are approximately 200 metres north of the approved landfill footprint. Considering the additional 600 metres of downgradient buffer lands owned by the Municipality beyond the northern most monitoring wells, the quality of groundwater measured at these wells does not represent the quality of groundwater leaving the site.

The active area has been directly upgradient to OW-1s since 2018. Thus, the concentrations of indicator parameters at monitoring well OW-1s are reported to be elevated when compared to background conditions and are showing an increasing trend indicating possible leachate influence. Chloride concentrations were reported to be 47 mg/L and 39 mg/L in the spring and fall, respectively. It should be noted that while the concentrations are elevated, they are well below the criteria of MECP Guideline B-7.

Monitoring wells OW-27 and OW-28 were installed in May of 2019 northwest and thus downgradient of OW-1s and OW-16s and were installed primarily as downgradient compliance points to replace OW-16s. The indicator parameters at monitoring wells OW-27 and OW-28 are reported to be mostly similar to background conditions and thus lower than measured at OW-1. Chloride concentrations were observed to be near background concentrations (3.6 mg/L and 8.8 mg/L at OW-27 and 2.8 mg/L and 1.8 mg/L at OW-28, for spring and fall, respectively). The reported concentrations also exceeded the RUC for hardness at OW-27 and OW-28, but the concentrations were in the range of normal background variation.

The reported indicator concentrations at OW-2s and OW-3s meet the RUC, except for hardness and alkalinity (OW-2s only). As noted above, hardness and alkalinity concentrations are naturally elevated due to the typical mineralization of the natural groundwater in the area of the site. The ODWS criterion for hardness in drinking water is 80 to 100 mg/L with levels as high as 200 mg/L being considered poor, but tolerable. It should be noted that the ODWS criteria for hardness is an Operational Guideline (OG) that has been set for *treated* drinking water and not for groundwater.



The chloride concentrations at the downgradient monitoring wells are well within their historical ranges and generally exhibit stable long-term trends. Exceedances of MECP Guideline B-7 are summarized by location in Table 4. The current and historical analyses suggest that the groundwater that is impacted with leachate above the RUC remains onsite and does not cause impact to groundwater leaving the subject property that exceeds MECP Guideline B-7.

East Boundary Condition (Crossgradient)

The groundwater quality along the east property line is monitored at OW-8s, which is considered to be cross-gradient of the approved landfill footprint, and OW-5s which is to the northeast of the landfill footprint. The analytical data indicates that the groundwater quality at OW-8s and OW-5s is generally consistent with the groundwater in the upgradient monitoring wells. The chloride concentrations at OW-8s were reported to be 17 mg/L and 14 mg/L in the spring and fall, respectively.

The current analytical results of the groundwater at OW-8s indicate that the concentrations of hardness and alkalinity (fall only) exceeded the RUC. In the past OW-8s has shown elevated ammonia, alkalinity and conductivity. Historical data for OW-8s indicates that the concentrations of these three parameters have fluctuated over time and have periodically been reported above the criteria of MECP Guideline B-7.

The presence of slightly elevated ammonia, alkalinity, conductivity and periodic chloride and iron concentrations over time suggests that there may be a component of radial flow away from the landfill pile and minor influence from landfill leachate in the groundwater at this location. These fluctuating trends and slightly elevated parameters are to be expected since OW-8s is located at the toe of the easterly landfill slope. It should also be noted that the east property boundary is located approximately 350 metres beyond this monitoring location.

Therefore, based on the water quality to date and the northwesterly groundwater flow, impacts at the east boundary are not anticipated. Based on the concentrations reported since 1994, the leachate indicator parameter trends have intermittent fluctuations but primarily continue to be stable to decreasing over time. However, the groundwater quality at OW-8s will continue to be monitored as part of the established groundwater monitoring program to discern if a more pronounced long-term trend becomes apparent.

South Boundary Condition (Upgradient)

Groundwater quality along the south property line (upgradient) is monitored at OW-6s, OW-7s, OW-11s, and OW-13s. OW-18s, which is also located in proximity to the southeast corner of the property, is not currently part of the annual sampling program but continues to be used for the measurement and determination of groundwater flow. The leachate indicator parameters measured along the south property line indicate that there is no landfill related impact to the groundwater located hydraulically upgradient of the subject property. The average chloride concentration at the above noted locations is about 2 mg/L, which has been interpreted to generally reflect background groundwater quality as per the criteria of Guideline B-7. Generally, the concentrations of hardness and alkalinity have historically been elevated in the upgradient wells and at times have exceeded the Guideline B-7 criteria. However, the concentrations of these parameters are consistent with background concentrations at the site.

As previously discussed, the elevated hardness and alkalinity concentrations are attributed to the natural background groundwater quality and do not appear to be related to landfill leachate along the south property line.



West Boundary Condition (Crossgradient)

Condition 21 of the existing ECA stipulates that the western boundary of the Waste and Diversion Site must be located a minimum of 366 metres (1200 feet) from the Highway #10 right-of-way. Based on the observed direction of groundwater flow, the westerly property line is situated hydraulically cross-gradient of the Waste and Diversion Site and is considered to have a low risk for leachate impact. The groundwater to the west of the active face and the landfill mound was historically monitored at OW-26d, and to the southwest of the Waste and Diversion Site at OW-13s. The sampling of OW-13s was re-initiated during the 2014 monitoring program due to the progression of waste placement in the southwest corner of the landfill footprint. The analytical results for OW-13s indicate the groundwater quality is consistent with background conditions. The reported chloride concentrations were 1.2 mg/L in the spring (no sample was collected during the fall sampling due to dry conditions). The analytical results for OW- 26d indicate the groundwater quality is consistent with background conditions. The reported chloride concentrations were 6.0 mg/L in the spring.

Historical analytical data for the above noted monitoring wells indicates that the concentration of leachate indicator parameters show no impact from landfill leachate to the shallow or deep aquifers at the locations sampled. Based on the historic data, the groundwater quality along the west boundary is consistent with background conditions and is below the criteria of MECP Guideline B-7. Although the recent analytical data for the west property boundary is somewhat limited, based on the observed direction of groundwater flow towards the north property line and the significant distance from the landfill footprint to the westerly boundary, no impacts to the groundwater above the MECP Guideline B-7 criteria are anticipated at the westerly property boundary. The proposed monitoring well to the northwest of the landfill footprint will provide more certainty with respect to the groundwater flow direction and the groundwater quality to the west.

7. LANDFILL GAS MEASUREMENTS

Landfill gas is produced primarily by the bacterial decomposition of organic materials after the capping and closure of a landfill has been completed and is combustible if it accumulates to concentrations greater than the lower explosive limit (LEL). Landfill gas tends to migrate laterally from the landfill area when the gas is unable to escape vertically through the ground surface via dry, relatively permeable soils, commonly due to an overlying low permeability geologic strata or when the ground surface is frozen.

The Site is occupied by the scale house building located in the receiving area, approximately 80 m from the approved fill area. The location of the 'Scales and Scale House' is shown on the Figures provided. Beginning in 2022, monthly gas measurements were obtained from within the scale house and various exterior areas (including the styrofoam storage area, electronics, mattresses, and landfill footprint). Oxygen levels were consistently measured above 20% and LEL measurements typically produced ratings of 0%. Monthly readings were collected by the Municipality and are provided in Appendix 'B'.



8. ENVIRONMENTAL COMPLIANCE APPROVAL

The ECA, number A261901, for the site is based on the original application made in October 1980 (see Appendix "A") and the former Plan of Development and Operation completed in 1993.

An amendment to the ECA, dated August 1992, specifies the requirements for an annual report including water quality monitoring, calculations pertaining to remaining site capacity and site life, restrictions to the burning operations and the reporting deadline. Additional amendments to the Environmental Compliance Approval (ECA) were completed in September of 1996 and February of 2012, which specifies that Waste and Diversion Site operations at the site be completed as per the 2009 PDO completed by GMBP.

There was a further amendment to the ECA, dated August 15, 2017 allowing for the Holland/Markdale Waste and Diversion Site to be used as a waste transfer station. This allows waste to be transferred between all of the Waste and Diversion Sites operated by the Municipality (i.e. Artemesia Waste and Diversion Site and Osprey Waste and Diversion Site). This will allow the Municipality to consolidate operational costs, equipment use and provide a higher level of operational flexibility between the multiple Waste and Diversion Sites owned and operated by the Municipality.

9. CONCLUSIONS

- 1) The approved landfill footprint specified within the original ECA covers a total area of 6.4 ha. However, the required setback distances specified within the amended ECA allow for an approved landfill footprint of 4.78 ha. Currently, the total approved volumetric capacity of the Waste and Diversion Site is 499,000 m³, of which 463,000 m³ is approved for waste and daily cover.
- 2) The Municipality has consolidated its landfilling operations by creating Transfer Stations at each of its three Waste and Diversion Sites (Markdale/Holland, Artemesia and Osprey Waste and Diversion Sites). This will allow the Municipality to consolidate operational costs, equipment use and provide a higher level of operational flexibility between the multiple Waste and Diversion Sites owned and operated by the Municipality.
- 3) The estimated average annual fill rate over the past five operating years is 6,232 m³/year and the maximum observed fill rate is 7,848 m³/year, which reflects the consolidation efforts by the Municipality as all waste from the Municipality has been diverted to the Holland/Markdale site in addition to waste from the Township of Chatsworth. The Waste and Diversion Site has about 223,751 m³ of remaining capacity for waste and daily cover. At the average five-year annual fill rate of 6,232 m³/year, the remaining site life is approximately 36 years. At the maximum observed fill rate over the last five years, the Waste and Diversion Site would have sufficient capacity for approximately 28 years. At the average fill rate since the site has accepted waste from the entire Municipality (6,875 m³/year) the site has capacity for approximately 32 years.
- 4) The groundwater monitoring program indicates that leachate impacts are contained to the shallow overburden at the Waste and Diversion Site and that there is a level of hydraulic separation between the shallow overburden soils and the underlying low-permeability silt till (i.e., that is approximately 25 metres in thickness), which is further underlain by the limestone bedrock.
- 5) Based on a review and evaluation of the analytical findings, there is currently no apparent impact to the groundwater leaving the subject property above the Reasonable Use Criteria as referenced in MECF Guideline B-7.

10. CLOSED AREAS

A significant portion of the Waste and Diversion Site (approximately 19,000 m²) has reached the former proposed final contours that were set out in the former 1993 PDO. As per the approved 2009 PDO, the updated Proposed Final Contour Plan is presented on Figure 4. As per Stages 1 & 2 of development as referenced in the 2009 PDO, preparations of the previously closed portion of the Waste and Diversion Site will be completed to allow for waste placement to commence in the north-easterly portion of the approved landfill footprint.

GMBP previously recommended the application and grading of additional final cover material across the existing closed areas of the Waste and Diversion Site so that the infiltration rate through the surface of the closed area is in accordance with the design for the site with regard to groundwater protection as per MECP Guideline B-7. Under the next phase of proposed development, as per the approved 2009 PDO, the existing closed area will be receiving additional lifts of refuse and will be sloped and graded as per the new final contour plan for the approved landfill footprint. A lift of interim cover is to be placed over the non-active cells to further reduce the infiltration of surface water through the refuse pile. Under the revised final contour plan, the finished grade of the refuse pile has been designed to promote runoff and reduce infiltration, thus reducing the generation of landfill leachate at the site.

11. RECOMMENDATIONS

The following actions are recommended for the upcoming monitoring year(s):


- 1) Based on the recent amendments to the Certificate of Approval, and on MECP approval of the 2009 PDO, we recommend that Waste and Diversion Site operations continue as per the Stage 1 & 2 phases of development as outlined in the PDO.
- 2) It is important that the Municipality complete the successful removal of recyclable goods on a regular basis to further reduce the volume of waste entering the Waste and Diversion Site, to prevent clutter, and to maintain an aesthetically acceptable site.
- 3) It is recommended that the Municipality compact and cover waste on the same day following waste disposal, or as soon as practical, to prevent blowing litter, reduce leachate production, and maintain site aesthetics. To prevent refuse from blowing onto the neighbouring southerly property, where a significant amount of litter has been observed, the collection of litter along the south property line and around the site and improved covering operations should be completed. An additional effort to collect blowing litter from around the perimeter of the Waste and Diversion Site is recommended to maintain an aesthetically acceptable site.
- 4) It is recommended that extra care continue to be taken to remove unacceptable materials from the burn pile if shredding activities cease and burning operations are re-initiated.
- 5) The area in close proximity to the working face should continue to be monitored for leachate breakouts and remedial action taken as required. Attention should be given to consistently covering the refuse within the active fill area on a daily basis.
- 6) All future capping operations should be completed using a low permeability clayey silt material, or equivalent cover, to reduce surface water infiltration.



7) We propose to continue the established monitoring program on a semi-annual basis (Spring and Fall) as outlined below:

GROUNDWATER	ANALYTICAL PARAMETERS
OW-1s, OW-2s, OW-3s, OW-4s OW-4d, OW-5s, OW-6s, OW-7s, OW-8s, OW-9s, OW-9d, OW-11s, OW-13s, OW-17s, OW-19s, OW-23s, OW-25d, OW-26d, OW-27, OW-28	Conductivity, Hardness, Alkalinity, pH Chloride, Sulphate, Nitrate, Nitrite, Ammonia, TKN, DOC (dissolved organic carbon), Metals including: Barium, Boron, Calcium, Iron, Magnesium, Manganese, Phosphorus, Potassium, and Sodium

All of which is respectfully submitted,
 GM BLUEPLAN ENGINEERING LIMITED
 Per:


 J. K. Weller, C.E.T.

Per:

 A.W. Bringleston, B.E.S., C.E.T

Per:

 M. D. Nelson, P. Eng., P. Geo.

REPORT

TO: JWDSC
FROM: Jenn Eagan
DATE: July 4, 2023
REPORT: JWDSC.23.03
SUBJECT: Blue Box Transition - Municipality of Grey Highlands

RECOMMENDATION:

That the JWDSC receive staff report JWDSC.23.03 for information.

BACKGROUND AND ANALYSIS:

During the April 3, 2023 JWDSC, the following resolution was carried:

That the JWDSC request that staff prepare a report on the blue box recycling and waste reduction programs in Chatsworth and Grey Highlands for 2022, and the effect to the two municipalities of the change to producer responsibility; and
That the report be presented at a future JWDSC meeting.

The Municipality of Grey Highlands executed the Statement of Work and Master Servicing Agreement with Circular Materials (CMO) on April 11, 2023. In discussion with CMO, they advised that with Grey Highlands being the operating authority of the Holland-Markdale site, the site could only fall within the agreements with Grey Highlands. Any shared sites were not able to be included in more than one agreement.

As previously reported to the JWDSC at the April 3, 2023 meeting, under the new blue box regulation, CMO was going to deduct an automatic 25% for non-eligible sources from depot recycling. Guidance documentation was circulated with different options available for documenting and requesting a lower non-eligible deduction. Staff tracked each customer coming into the sites to determine if they were eligible or non-eligible. We were able to track and be approved for a 7% deduction instead of 25% for all Grey Highlands operated sites. Staff are continuing to track eligible and non-eligible sources.

OPERATIONAL CONSIDERATIONS:

An operational consideration for these agreements is the non-eligible sources for both curbside and depot programs. Each community will have to determine how they will be managing non-eligible sources post-transition period in 2026. Some of the options

available, that will be presented at a later date and both Councils should begin considering include the following:

- no longer accepting non-eligible sources at our facilities or through curbside collection
- only accepting curbside material from non-eligible sources through a separate contract
- accepting non-eligible source material in separate bins, that has to be collected separately from the eligible sources, and no associated fees for non-eligible users
- accepting non-eligible source material in separate bins, that has to be collected separately from the eligible sources, and charging a fee for non-eligible users to offset the contract costs

It has been recommended through different webinars and working groups that there could be cost savings available for communities that partner together to develop a program for their non-eligible sources.

GREY HIGHLANDS STRATEGIC PLAN:

Respected Environment - Manage Municipal resources in a responsible and sustainable manner considering future needs for adaptation and community resiliency.

FINANCIAL IMPACT:

There will be minimal cost impact during the transition period. The non-eligible sources deduction of 7% will be included in the year-end cost sharing under the 'Recycling Processing Fee' line item.

STAFFING IMPACT:

There has been substantial staff time invested into tracking sources, executing agreements with CMO, attending webinars, and the research into managing the blue box transition.

POLICIES/LEGISLATION::

[O. Reg 319/21: Blue Box](#)

ENVIRONMENTAL IMPACTS:

+1 low positive impact - there shouldn't be a large impact observed during the blue box transition program

CONSULTATION:

Shawn Moyer, Director of Environmental Services
Anna McCarthy, Director of Finance/Treasurer

Approved By:

Shawn Moyer, Director of
Environmental Services

Status:

Approved - 26 Jun 2023

REPORT

TO: JWDSC
FROM: Jenn Eagan
DATE: July 4, 2023
REPORT: JWDSC.23.04
SUBJECT: Site Operations and Level of Service

RECOMMENDATION:

That the JWDSC receive staff report JWDSC.23.04 for information;

BACKGROUND AND ANALYSIS:

During the May 31, 2023 JWDSC meeting, the following resolution was carried:

That the Joint Waste and Diversion Site Committee request that Council direct staff to prepare a level of service comparison with Blue Mountains and Southgate to bring back to the Committee along with the site operations and traffic data previously presented to Grey Highlands Council.

Below is the staffing and site hours for our neighbouring communities.

Municipality	Site	Hours of Operation	Staffing Level
Grey Highlands & Chatsworth	Holland-Markdale	Monday 9 - 4 Tuesday 9 - 4 Friday 9 - 4 Saturday 9 - 4	Winter - Monday, Tuesday, Friday - 2 attendants, 1 operator Saturday - 2 attendants, 1 operator Summer - Monday, Tuesday, Friday - 2 attendants, 2 operator Saturday - 2 attendants, 1 operator Note: team leader rotates through sites and back fills where needed
Grey Highlands	Osprey	Saturday 9 - 4	2 attendants
	Artemesia	Sunday 10 - 4	2 attendants
Chatsworth	Sullivan	Monday 9 - 4:30	2 attendants

		Saturday 9 - 4:30	
West Grey	Bentick	Wednesday 9 - 4 Saturday 8 - 4	Wednesday - 3 staff: recycler, scale attendant, landfill attendant Saturday - 4 staff: recycler, scale attendant, load checker, landfill attendant
	Durham	Thursday 12 - 6 Friday 12 - 6	3 staff: recycler, scale attendant, HHW attendant
	Normanby	Closed	
Southgate	Dundalk	Tuesday 10 - 3 Saturday 9 - 1	3 attendants
	Egermont	Wednesday 10 - 3 Saturday 9 - 1	1 attendant, or 2 when HazBin on site, 1 operator
Blue Mountains	Blue Mountains	Tuesday 8 - 4 Thursday 8 - 4 Saturday 8 - 4	Winter: 2 operators, 1 scale operator, 1 supervisor Summer: 3 operators, 1 scale operator, 1 student, 1 supervisor
Meaford & Owen Sound	Miller Waste Transfer Station	Monday 8 - 5 Tuesday 8 - 5 Wednesday 8 - 5 Thursday 8 - 5 Friday 8 - 5 Saturday 8 - 2	operated by Miller Waste

The following traffic data was presented to the Grey Highlands Council on May 17, 2023, a link to the staff report is available in the attachment section of this report. The 2023 table has been updated to reflect the data for May 2023.

In 2022, the following is the monthly average for each day the site was opened. Tuesday was the lowest annual average of 57 daily visitors.

	Monday	Tuesday	Friday	Saturday
January	61	60	73	Closed due to staff shortage
February	56	45	40	77
March	50	33	53	77
April	71	59	87	125
May	67	67	84	110
June	77	51	95	108
July	82	56	114	119
August	83	81	105	110
September	94	58	93	105
October	75	77	96	126
November	68	50	77	120
December	49	46	85	69

Average	69	57	84	107
---------	----	----	----	-----

Monthly averages have also been provided below for January - May of 2023.

	Monday	Tuesday	Friday	Saturday
January	40	50	55	78
February	41	36	37	63
March	41	39	61	48
April	60	59	84	95
May	104	94	123	176
Average	57	56	72	92

OPERATIONAL CONSIDERATIONS:

Grey Highlands Staffing and Operations

The Holland-Markdale site has different staff present depending on operations, the days that the site is open to the public or closed. There are 2 attendants on site during opened hours, with additional attendants present during training. These attendants are responsible for the scale and receiving areas.

The Grey Highlands Environmental Services Department has one full time operator, summer operator and team leader in 5 days a week, with rotating Saturdays, that are responsible for the landfilling operations as well as site and equipment maintenance. The Environmental Services department shares a full time operator with the Transportation & Public Spaces department. This operator is with the Environmental Services department during the summer months to help with the increased site maintenance, increased traffic, and to backfill for holidays.

Under the Environmental Compliance Approval (ECA), cover material is to be applied to the working face within 24 hours of placing waste. Staff are working on a small area of the working face to be efficient with their daily operations and cover material. The material is placed in the opened area, compacted, and daily cover applied, which involves the use of the loader and compactor.

At the Holland-Markdale WDS, there is a trailer unloading area, which the operators are responsible for clearing throughout the day. As the bins or bunkers get full throughout the day, the loader is used to empty and clear space for more material to be received. An operator or team leader will provide coverage for the attendants for their breaks. The operators and team leader also complete equipment maintenance, ground maintenance at all three sites, deliveries of additional curbside carts, and assist with illegal dumping clean up.

Diversion material removal and waste transfers from Osprey and Artemesia WDS are scheduled on Wednesday or Thursdays when all the sites are closed to the public in Grey Highlands. This allows for the equipment and trucks to safely get loaded while there are no residents on the site. The days that all the sites are closed are also the days that grounds maintenance and site improvements are completed. Some of the current projects at the Holland-Markdale site include the new fence around the receiving area, a deck around the new scale, and widening the exit lane around the new scale.

Staff are also looking into the new office trailer with a water tank and holding tank so the rental toilet trailer will not be needed.

Traffic Data

Adjusting the hours of the Holland-Markdale WDS would require amending the ECA for the site and updating the site signage to reflect the change in hours.

Site staff have noted that during the week, majority of the visitors to the Holland-Markdale WDS are coming to the site with trailer loads of waste, which are currently not accepted at the other sites in Grey Highlands. Eliminating a day at the Holland-Markdale site would cause these visitors to have to wait until the site is open a different day of the week, which could result in increased traffic on other days and could require more attendants when open.

Based on the averages from 2022 and 2023 so far, Tuesday is the least active traffic day at the Holland-Markdale site. This would mean that attendants would not need to be on site Tuesday but operators would still need to be onsite to receive curbside material from the Township of Chatsworth and complete clean up from Monday. The remaining time the operators would complete maintenance and site clean up at all three sites, and staying up to date on their training.

FINANCIAL IMPACT:

There are many unknown factors that would influence the financial impact of changing the Holland-Markdale WDS hours, which would include revenue fluctuations, and signage costs if hours changed.

The staffing impact for two attendants one day per week is estimated to be \$26,000 for wages and related expenses.

STAFFING IMPACT:

The staffing impacts will depend on the site hours changing, if the hours are altered then attendants would see reduced hours.

ATTACHMENTS OR REFERENCE:

[Staff report ENV.23.13](#) presented to Grey Highlands Council on May 17, 2023

Approved By:

Shawn Moyer, Director of
Environmental Services

Status:

Approved - 27 Jun 2023