



W I L L S

Status Update

Norwood Transfer Station and Closed Landfill
(Site)

ECA # A680053

INTRODUCTION

Wills Waste Management Services Chronology

- ➔ 2022
 - Council awarded the annual environmental monitoring and reporting for the Site (5-year contract 2022-2026).
 - Annual Monitoring Report (AMR) is completed by March 31 each year.
 - AMR is submitted to the Ministry of Environment, Conservation and Parks (MECP) for review.

- ➔ 2023
 - The Design, Operations and Closure Report was updated to include MECP requested changes to the environmental monitoring program and detailed closure requirements.
 - Wills prepared and submitted application to amend the ECA for closure, which was issued by the MECP on June 6, 2023.
 - Prepared tender for Site closure and provided support during tendering process.

- ➔ 2024
 - On-going monitoring and addressing historical ECA compliance.

General Compliance Items

- 2021 MECP Technical Support Requirements
 - ➔ Groundwater from the Site may be discharging to surface water in the Mill Pond and requires investigation.
 - ➔ Potential external source for surface water quality concerns in the Mill Pond requires investigation.
- 2022 Annual Monitoring Report Findings
 - ➔ Historically, the Site has not been evaluated in accordance with the approved environmental monitoring program.
- 2023 Annual Monitoring Report Findings
 - ➔ Potential MECP Guideline B-7 Reasonable Use Criteria (RUC) compliance concerns for groundwater.
- ECA Requirements
 - ➔ Implement updated environmental monitoring program in accordance with ECA.
 - ➔ Final closure of landfill remains outstanding.

Groundwater – ECA Compliance

- ➔ The annual environmental monitoring is to be conducted in accordance with the ECA.
- ➔ Groundwater monitoring is conducted in the spring and fall annually.

Outstanding requirements

- ➔ ECA requires the installation of two new monitor wells down gradient of the Approved Waste Disposal Area.
- ➔ ECA requires that TW6-1 be abandoned - no longer required due to consistent dry groundwater conditions.
- ➔ Investigate the hydrogeological connection between groundwater and surface water down gradient of the landfill and the Mill Pond.

Groundwater Quality Assessment

Spring 2024 RUC Compliance

- Groundwater at two RUC compliance monitor wells TW10 & TW11 has triggered Tier-Two of the Contingency Plan.
- Tier-Two requires Enhanced Monitoring.

Tier-Two Enhanced Monitoring Program

- Monthly groundwater monitoring for three consecutive months in 2024.
- Groundwater samples must be collected from the background monitor well (TW8) and the location(s) where the Tier-One exceedances occurred, including:
 - ➡ TW3 (leachate monitor well)
 - ➡ TW4 (leachate monitor well)
 - ➡ TW10
 - ➡ TW11
- Groundwater samples must be submitted to an accredited laboratory.
- Preparation of a Summary Report.

Tiered Contingency Plan

Tier-One – Routine Monitoring

IF

3 parameters exceed Maximum Acceptable Concentration during 3 consecutive monitoring events

THEN

Tier-Two – Enhanced Monitoring

To confirm if exceedances are due to a waste disposal site impact or other factors.

IF CONFIRMED

Tier-Three – Contingency Measures Planning and Implementation

Determined through consultation with the MECP.

Tier-Two Enhanced Monitoring - Consultation

- If the noted exceedance(s) is confirmed through Enhanced Monitoring, discussions will be held with **Township** staff to review the results and confirm next steps.
- **MECP** must be notified within 30 days following confirmation of the exceedance(s).
- If remedial measures are warranted, the Township must advise the MECP within 6 months of the activation of the Tier-Two trigger

Surface Water - Compliance

- ECA Requirements

- ➔ Surface water samples are collected in the spring, summer, and fall annually from the Ouse River and the Mill Pond.

- ➔ Surface water quality results indicate moderately elevated concentrations of parameters in the Mill Pond, though not currently attributable to the Site.

- 2021 MECP Comments

- ➔ Is there a potential external source for surface water quality concerns in the Mill Pond?

- ➔ Is groundwater from the Site discharging to surface water in the Mill Pond?

- To be addressed by:

- Additional surface water monitoring in the Ouse River and the Mill Pond.
 - Groundwater quality in the monitor wells on the shores of the Mill Pond to be compared to surface water criteria.

ECA Compliance – Landfill Closure

- Condition 9 of the ECA states the Site shall be closed by September 2023 in accordance with the Closure Plan approved by the Director.

➔ Final Closure of the Site is expected to reduce the production of leachate and associated groundwater and surface water quality concerns.

- **Potential Closure Options:**

- Close landfill in accordance with the approved Closure Design.
- Excavate and process waste to reduce volume, replace, regrade and install landfill cap.
- Excavate and process the existing waste, transport waste to PCCWMF, replace screened waste, compact, and install cap.
- Create a new engineered waste disposal area northwest of the existing AWDA northwest of the existing landfill, excavate, process place and compact existing waste, and install cap.

Next Steps

- Conduct Enhanced Monitoring Program
- Prepare Summary Report
- Install two new monitor wells
- Abandon TW6-1
- Investigate potential external source for surface water quality concerns in the Mill Pond
- Investigate the hydrogeological connection between groundwater and surface water
- Consult with MECP:
 - ➡ Discuss the groundwater RUC Compliance Plan.
 - ➡ Approach to final closure of landfill.

Estimated Costs: Year One (2024)

- Enhanced Monitoring Program & Summary Report
 - \$35,000
- Investigate external source of surface water quality concerns in the Mill Pond
 - \$3,900
- MECP Consultation
 - \$10,000
- Total Estimated Costs
 - \$48,900

Estimated Costs: Year Two (2025)

- Install two new monitor wells & abandon TW6-1
 - \$44,500
- Investigate the hydrogeological connection between groundwater and surface water
 - \$5,300
- MECP Consultation
 - \$10,000
- Total Estimated Costs
 - \$59,800

Range of Expected Closure Option Costs

- Close landfill in accordance with the approved Closure Design.
 - \$900,000 to \$1,200,000
- Excavate and process waste to reduce volume, replace, regrade and install landfill cap.
 - \$3,300,000 to \$3,600,000
- Excavate and process the existing waste, transport waste to PCCWMF, replace screened waste, compact, and install cap.
 - \$8,300,000 to \$8,900,000
- Create a new engineered waste disposal area northwest of the existing AWDA northwest of the existing landfill, excavate, process place and compact existing waste, and install cap.
 - \$21,500,000 to \$25,000,000

Questions?



W I L L S