LEGEND

GROUNDWATER ELEVATION ON OCTOBER 16, 2013
(METRES ABOVE SEA LEVEL)

GROUNDWATER ELEVATION CONTOUR (METRES ABOVE SEA LEVEL)

INTERPRETED GROUNDWATER FLOW DIRECTION

MONITORING WELL LOCATION

CONTOUR LINE (5m)

SURFACE WATER FEATURE

WATER AREA

PROPERTY BOUNDARY

NOTE

THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDEN ASSOCIATES LTD. REPORT.

REFERENCE

GRID INFORMATION: ONTARIO 2000; DATA PRODUCED BY GOLDEN ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES. "GOLDEN PRINTER 2012" PROJECTION: TRANSVERSE MERCATOR; DATUM: NAD 83; COORDINATE SYSTEM: UTM ZONE 18

GLACIAL TILL GROUNDWATER FLOW

CAPITAL REGION RESOURCE RECOVERY CENTRE

FIGURE 7-4
PANEL A): LOCATION OF THE CHAMPLAIN SEA BASIN IN EASTERN CANADA

PANEL B): MAP OF STUDY AREAS SHOWING PALEOCHANNELS, PALEO-LANDSLIDES, AND AREAS OF EARTHQUAKE-INDUCED DISTURBANCE. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT.


NOTE
DESCRIPTION
CAPITAL REGION RESOURCE RECOVERY CENTRE
PALEO-CHANNELS

REFERENCE
**STABILITY ANALYSIS - EASTERN SIDE OF LANDFILL ADJACENT TO SWMP**

**CAPITAL REGION RESOURCE RECOVERY CENTRE**

**Figure 11-1A**

- **Name**: Berm Fill
  - Model: Mohr-Coulomb
  - Unit Weight: 18 kN/m³
  - Cohesion: 0 kPa
  - Phi: 28°
- **Name**: Cover
  - Model: Mohr-Coulomb
  - Unit Weight: 19 kN/m³
  - Cohesion: 0 kPa
  - Phi: 25°
- **Name**: Waste
  - Model: Mohr-Coulomb
  - Unit Weight: 12 kN/m³
  - Cohesion: 0 kPa
  - Phi: 30°
- **Name**: Saturated Waste
  - Model: Mohr-Coulomb
  - Unit Weight: 16 kN/m³
  - Cohesion: 0 kPa
  - Phi: 30°
- **Name**: Drainage Layer
  - Model: Mohr-Coulomb
  - Unit Weight: 18 kN/m³
  - Cohesion: 0 kPa
  - Phi: 30°
- **Name**: Upper Clay A
  - Model: Undrained (Phi=0)
  - Unit Weight: 15 kN/m³
  - Cohesion: 10 kPa
- **Name**: Upper Clay B1
  - Model: Undrained (Phi=0)
  - Unit Weight: 15 kN/m³
  - Cohesion: 12 kPa
- **Name**: Upper Clay B2
  - Model: Undrained (Phi=0)
  - Unit Weight: 15 kN/m³
  - Cohesion: 11 kPa
- **Name**: Upper Clay C
  - Model: Bedrock (Impenetrable)
- **Name**: Upper Clay D
  - Model: Bedrock (Impenetrable)
- **Name**: Lower Clay A
  - Model: Bedrock (Impenetrable)
- **Name**: Lower Clay B
  - Model: Bedrock (Impenetrable)
- **Name**: Surficial Soils
  - Model: Mohr-Coulomb
  - Unit Weight: 19 kN/m³
  - Cohesion: 0 kPa
  - Phi: 28°
- **Name**: Glacial Till
  - Model: Bedrock (Impenetrable)
- **Name**: Bedrock
  - Model: Bedrock (Impenetrable)

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**File Name**: 12-45 UCC IP 23 OFDT.gsz
**Revision Number**: 203
**Name**: 12-1125-0045 Boundary Road Site
**Date**: 03/09/2013
**Time**: 2:44:00 PM
**Method**: Morgenstern-Price
**Direction of movement**: Right to Left
**PWP Conditions Source**: Piezometric Line

---

**Project No.**: 12-1125-0045
**Drawn**: WAM
**Date**: 8/28/2014
**Checked**: PLE
**Review**: PAS
STABILITY ANALYSIS - EASTERN SIDE OF LANDFILL ADJACENT TO SWMP
CAPITAL REGION RESOURCE RECOVERY CENTRE
(3 x VERTICAL EXAGGERATION)

Figure 11-1B
Project No. 12-1125-0045  
Drawn: WAM  
Date: 8/28/2014  
Checked: PLE  
Review: PAS  

STABILITY ANALYSIS - NORTHERN END OF LANDFILL ADJACENT TO SIMPSON DRAIN  
CAPITAL REGION RESOURCE RECOVERY CENTRE  

Figure 11-2A
STABILITY ANALYSIS - NORTHERN END OF LANDFILL ADJACENT TO SIMPSON DRAIN
CAPITAL REGION RESOURCE RECOVERY CENTRE
(3 x VERTICAL EXAGGERATION)
STABILITY ANALYSIS - INTERIM WASTE SLOPE
CAPITAL REGION RESOURCE RECOVERY CENTRE

File Name: 12-45 UCC IP14H 1V INT.gsz  
Revision Number: 179  
Name: 12-1125-0045 Boundary Road Site  
Date: 04/09/2013  
Time: 2:11:56 PM  
Method: Morgenstern-Price  
Direction of movement: Left to Right  
PWP Conditions Source: Piezometric Line

Distance (m) (x 1000)  
Elevation (m)  
-0.2 -0.1 0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2
-70 -50 -30 -10 10 30

Nome: Upper Clay A  
Model: Undrained (\( \Phi=0 \))  
Unit Weight: 15 kN/m³  
Cohesion: 10 kPa

Nome: Upper Clay B1  
Model: Undrained (\( \Phi=0 \))  
Unit Weight: 15 kN/m³  
Cohesion: 12 kPa

Nome: Upper Clay B2  
Model: Undrained (\( \Phi=0 \))  
Unit Weight: 15 kN/m³  
Cohesion: 11 kPa

Nome: Upper Clay C  
Model: Bedrock (Impenetrable)

Nome: Upper Clay D  
Model: Bedrock (Impenetrable)

Nome: Lower Clay A  
Model: Bedrock (Impenetrable)

Nome: Lower Clay B  
Model: Bedrock (Impenetrable)

Nome: Surficial Soils  
Model: Mohr-Coulomb  
Unit Weight: 18 kN/m³  
Cohesion: 0 kPa  
\( \Phi \): 28°

Nome: Cover  
Model: Mohr-Coulomb  
Unit Weight: 19 kN/m³  
Cohesion: 0 kPa  
\( \Phi \): 25°

Nome: Waste  
Model: Mohr-Coulomb  
Unit Weight: 12 kN/m³  
Cohesion: 0 kPa  
\( \Phi \): 30°

Nome: Saturated Waste  
Model: Mohr-Coulomb  
Unit Weight: 16 kN/m³  
Cohesion: 0 kPa  
\( \Phi \): 30°

Nome: Drainage Layer  
Model: Mohr-Coulomb  
Unit Weight: 18 kN/m³  
Cohesion: 0 kPa  
\( \Phi \): 30°

Nome: Surficial Soils  
Model: Mohr-Coulomb  
Unit Weight: 19 kN/m³  
Cohesion: 0 kPa  
\( \Phi \): 28°
Figure 11-3B

STABILITY ANALYSIS - INTERIM WASTE SLOPE
CAPITAL REGION RESOURCE RECOVERY CENTRE
(3 x VERTICAL EXAGGERATION)
Figure 11-4

CALCULATED RANGE OF TOTAL SETTLEMENT
SETTLEMENT VERSUS TIME - 25-METRE HIGH LANDFILL
CAPITAL REGION RESOURCE RECOVERY CENTRE

Project No. 12-1125-0045
Drawn: CK
Date: Nov. 2013
Checked: PLE
Review: PAS
SETTLEMENT VERSUS TIME - 13.5-METRE HIGH LANDFILL

CALCULATED RANGE OF TOTAL SETTLEMENT

TIME (YEARS)

TOTAL SETTLEMENT (mm)

0 2 0 4 0 6 0 8 1 0 1 2 0

0 1 0 0 0 0 0 0

0 1 0 0 0 0 0

0 1 0 0 0 0 0

0 1 0 0 0 0 0