

APPENDIX 'G'

GEOTECHNICAL REPORT

Geotechnical Testing Services for the Regional and Local Street Renewal Program

2026 Local Streets (26-R-06)

Prepared for:

AECOM Canada ULC
99 Commerce Drive, Winnipeg
MB R3P 0Y7

March 9, 2026

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Introduction

On November 19, 2025, H. Manalo Consulting Ltd. (HMCL) was authorized by Ryan Cunningham of AECOM Canada ULC to proceed with the requested geotechnical investigation. The objective of the investigation was to assess existing road conditions through pavement coring and subsurface soil sampling on collector and local streets under the City of Winnipeg Package 26-R-06. The list of streets included in this project is provided in Table 1 below.

Table 1. Local Street Package 26-R-06

Location	Classification	Treatment
Bradford St – Saskatchewan Av/ Wellington Av	Industrial	Concrete Reconstruction
Goulding St – Ellice Av/ St Matthews Av	Local	Asphalt Reconstruction
Goulding St – Sargent Av/ Ellice Av	Local	Asphalt Reconstruction
Goulding St – Wolever Av/ Portage Av	Local	Rehabilitation
480 Madison St/ Madison St. Alley – Silver Av/ Kensington St	Alley	Rehabilitation
St. Matthew Av/ Alley – Strathcona St/ Wolever Av	Alley	Rehabilitation
Sargent Av/ Minto St Alley – Downing St/ Ellice Av	Alley	Asphalt Rehabilitation
Canora St/ Portage Av Alley – Picardy Pl/ Broadway	Alley	Asphalt Rehabilitation
Westview Park Roads – (Garbage Hill) Wellington Av to end	Parks Road	Asphalt Reconstruction

Field Work Program

The investigation adhered to the City of Winnipeg's guidelines provided in the tender, section E3 Site Investigation Requirements. The core locations were designated by

AECOM Canada ULC. Pavement coring was conducted from December 15 to December 29, 2025, using a 160 mm diameter coring bit. For local streets scheduled for pavement rehabilitation, pavement cores were extracted at joints and mid-slab to assess pavement condition. Subgrade drilling was carried out to depths of 2.5 m for reconstruction project between December 16 and December 29, 2025. Initial soil classification was performed on site, and samples were collected. At all core and test hole locations, the sections were refilled with aggregates and cold-mix asphalt. All collected samples were sent to the HMCL laboratory for additional review and analysis.

Laboratory Analysis and Reporting

Core samples were brought back to the laboratory for documentation of pavement type and thickness and core sample images were documented for reference. Asphalt pavement thickness ranged from 22 mm to 92 mm, while concrete pavement thickness varied between 107 mm and 220 mm. Additionally, compressive strength testing was performed on concrete core samples taken from major rehabilitation sites.

Subsurface soil samples were tested for moisture content and visually classified. Selected samples underwent plasticity index, particle size distribution, and CBR testing. A soil log for each test hole was completed for reference. The required quantity of testing was determined by the client in accordance with City of Winnipeg requirements.

We appreciated the opportunity to assist you in this project. Please call the undersigned if you require further information.

Prepared by:



Mayumi Kawano, EIT

Geotechnical Engineer Intern

Field and Laboratory Supervisor

Reviewed by:



Paul Bevel

Manager, Field and Laboratory Services

APPENDIX A.1.

SUMMARY OF PAVEMENT MEASUREMENTS AND COMPRESSIVE STRENGTH TEST RESULTS

A.1 Summary of Pavement Measurements and Compressive Strength Test Results

Reconstruction Sites	Core Hole No.	Core Hole Location	Asphalt Thickness (mm)	Concrete Thickness (mm)	Compressive Strength (MPa)
BRADFORD STREET (SASKATCHEWAN AVE TO WELLINGTON AVE)	1	Near parking entrance of Best Western Plus Hotel, NBL; 1.5m away from the curb 14 U, 628935 E, 5529269 N	-	200	-
	2	Near parking entrance of Urban Tactical, NBL; 2m away from the curb 14 U, 628939 E, 5529403 N	-	216	-
	3	Near parking entrance of Fast Parts Plus, NBL; 2m away from the curb 14 U, 628943 E, 5529522 N	-	207	-
	4	Front of Canada Compound (Western) LTD, NBL; 2m away from the curb 14 U, 628946 E, 5529616 N	60	160 ^A	-
	5	Near parking entrance of 950 Bradford St., SBL; 1.5m away from the curb 14 U, 628943 E, 5529685 N	-	210	-
GOULDING STREET (ELLICE AVE TO ST MATTHEWS AVE)	1	Front of House # 777 Goulding St., NBL; 1.5m away from curb 14U, 630637 E, 5528080 N	30	225 ^A	-
	2	Front of House # 795 Goulding St., NBL; 1.5m away from curb 14 U, 630640 E, 5528159 N	30	171 ^A	-
	3	Front of House # 815 Goulding St., NBL; 1m away from curb 14 U, 630643 E, 5528253 N	50 ^A	160 ^A	-
	4	Front of House # 830 Goulding St., SBL; 1m away from curb 14 U, 630641 E, 5528346 N	30 ^A	170 ^A	-
GOULDING STREET (SARGENT AVE TO ELLICE AVE)	1	Front of House # 863 Goulding St., NBL; 1.5m away from curb 14 U, 630648 E, 5528472 N	15 ^A	220	-
	2	Front of House # 880 Goulding St., SBL; 1.5m away from curb 14 U, 630646 E, 5528563 N	65	187 ^A	-
	3	Front of House # 907 Goulding St., NBL; 1.5m away from curb 14 U, 630653 E, 5528698 N	92	190	-
	4	Front of House # 919 Goulding St., NBL; 1m away from curb 14 U, 630655 E, 5528760 N	30 ^A	230 ^A	-

Note:

^A - The exact concrete thickness cannot be determined due to the deterioration of the concrete.

A.1 Summary of Pavement Measurements and Compressive Strength Test Results

Reconstruction Sites	Core Hole No.	Core Hole Location	Asphalt Thickness (mm)	Concrete Thickness (mm)	Compressive Strength (MPa)
MINTO STREET AND DOWNING STREET ALLEY (SARGENT AVE TO ELLICE AVE)	1	Back lane of House # 915 Minto St.; 1m away from the edge of the alley 14 U, 630751 E, 5528455 N	-	240 ^A	-
	2	Back lane of House # 951 Minto St.; 1m away from the edge of the alley 14 U, 630757 E, 5528614 N	60 ^A	160 ^A	-
	3	Back lane of House # 1098 Downing St.; 1m away from the edge of the alley 14 U, 630762 E, 5528753 N	30 ^A	200 ^A	-
PORTAGE AVENUE AND PICARDY PLACE ALLEY (CANORA ST TO BROADWAY)	1	Back lane of First Presbyterian Church; 1m away from the edge of the alley 14 U, 631759 E, 5527575 N	-	150 ^A	-
	2	Back lane of House # 31 Picardy Pl; 1m away from the edge of the alley 14 U. 631845 E, 5527613 N	-	200	-

Note:

^A - The exact concrete thickness cannot be determined due to the deterioration of the concrete.

A.1 Summary of Pavement Measurements and Compressive Strength Test Results

Rehabilitation Sites	Core Hole No.	Core Hole Location	Asphalt Thickness (mm)	Concrete Thickness (mm)	Compressive Strength (MPa)
GOULDING STREET (WOLEVER AVE TO PORTAGE AVE)	1	Mid Slab; Side of Commercial Bldg. 1151 Portage Ave, NBL; 1.5m away from the curb 14 U, 630618 E, 5527334 N	-	160	61.07
	2	Mid Slab; Front of House # 647 Goulding St., NBL; 1.5m away from the curb 14 U, 630625 E, 5527579 N	-	107	46.84
MADISON STREET AND KENSINGTON STREET ALLEY (SILVER AVE TO 480 MADISON ST)	1	Mid Slab; Back lane of Commercial Bldg. 1601 Silver Ave; 1.5m away from the edge of the alley 14 U, 628986 E, 5527701	-	142	37.16
STRATHCONA STREET ALLEY (ST MATTHEWS AVE TO WOLEVER AVE)	1	Mid Slab; Back lane of House # 810 Strathcona St.; 1m away from the edge of the alley 14 U, 629897 E, 5527701 N	-	167	43.49
	2	Joint; Back lane of House # 830 Strathcona St.; 1m away from the edge of the alley 14 U, 629898 E, 5527745 N	-	140 ^A	-
	3	Joint; Back lane of House # 900 Strathcona St.; 1m away from the edge of the alley 14 U, 629902 E, 5527963 N	-	145 ^A	-
	4	Mid Slab; Back lane of House # 910 Strathcona St.; 1m away from the edge of the alley 14 U, 629904 E, 5527999 N	-	188	39.78

Note:

^A - The exact concrete thickness cannot be determined due to the deterioration of the concrete.

APPENDIX A.2.

SUMMARY OF LABORATORY TESTING

A.2 Summary of Laboratory Testing

Reconstruction Sites

TH	Sample ID	PSA				PI			PR		CBR	
		Gravel (%)	Sand (%)	Silt (%)	Clay (%)	LL (%)	PL (%)	PI (%)	MDD (kg/m³)	OMC (%)	at 2.5mm penetration	at 5.1mm penetration
BRADFORD STREET (SASKATCHEWAN AVE TO WELLINGTON AVE)												
TH 2	HM 811 GS 6	-	3.3	48.2	48.5	61	24	37	1563	24.2	2.2	1.6
TH 3	HM 812 GS 6	-	1.5	42.2	56.4	82	31	52	1454	28.4	1.5	1.1
TH 4	HM 813 GS 5	-	7.9	70.8	21.2	25	13	12	1863	13.6	5.5	5.5
GOULDING STREET (ELLICE AVE TO ST MATTHEWS AVE)												
TH 2	HM 797 GS 6	-	3.9	79.5	16.7	25	13	12	1833	15.2	7	5.5
TH 3	HM 798 GS 6	-	4.5	52.7	42.8	81	32	49	1525	24.6	3	2.2

A.2 Summary of Laboratory Testing

Reconstruction Sites

TH	Sample ID	PSA				PI			PR		CBR	
		Gravel (%)	Sand (%)	Silt (%)	Clay (%)	LL (%)	PL (%)	PI (%)	MDD (kg/m³)	OMC (%)	at 2.5mm penetration	at 5.1mm penetration
GOULDING STREET (SARGENT AVE TO ELLICE AVE)												
TH 1	HM 799 GS 4	-	3.8	18.1	78.1	85	31	54	1396	26.6	3.5	2.4
TH 3	HM 815 GS 4	-	1.2	27.1	71.8	88	31	57	1450	28.6	2.4	1.7
TH 4	HM 816 GS 4	-	3.0	49.9	47.1	54	20	34	1616	19.8	1.3	1.0
MINTO STREET AND DOWNING STREET ALLEY (SARGENT AVE TO ELLICE AVE)												
TH 1	HM 801 GS 4	-	6.2	71.4	22.4	31	13	18	1737	16.8	5.8	4.1
PORTAGE AVENUE AND PICARDY PLACE ALLEY (CANORA ST TO BROADWAY)												
TH 1	HM 819 GS 4	-	2.9	46.7	50.5	70	26	44	1462	28.4	3.1	2.2
TH 2	HM 819 GS 5	-	4.1	36.9	59.1	77	31	46	1436	28.2	1.8	1.4

APPENDIX B.1.

BRADFORD STREET

(SASKATCHEWAN AVE TO WELLINGTON AVE)

Reconstruction Sites

Pavement Coring and Subsurface Drilling Locations



Reconstruction Sites

Pavement Structure Measurement

Test Hole No.	Test Hole Location	Asphalt Thickness (mm)	Concrete Thickness (mm)
Bradford Street (Saskatchewan Ave to Wellington Ave)			
TH1	Near parking entrance of Best Western Plus Hotel, NBL; 1.5m away from the curb 14 U, 628935 E, 5529269 N	-	200
TH2	Near parking entrance of Urban Tactical, NBL; 2m away from the curb 14 U, 628939 E, 5529403 N	-	216
TH3	Near parking entrance of Fast Parts Plus, NBL; 2m away from the curb 14 U, 628943 E, 5529522 N	-	207
TH4	Front of Canada Compound (Western) LTD, NBL; 2m away from the curb 14 U, 628946 E, 5529616 N	60	160 ^A
TH5	Near parking entrance of 950 Bradford St., SBL; 1.5m away from the curb 14 U, 628943 E, 5529685 N	-	210

Note: ^A - The exact concrete thickness could not be determined due to the deterioration of the concrete.



Project No: 112-2512

Project: 2026 Local Streets (26-R-06)

Client: AECOM Canada Ltd

Location: Bradford Street (Near parking entrance of Best Western Plus Hotel, NBL)

TH1

Logged By: MK

Depth ft m	Symbol	Description	Number	Type	Pocket Penetrometer Test (kPa)	Water Content
					25 50 75 125 175 225	10 20 30 40 50 60 70 80 90
0		Ground Surface				
		Pavement 200mm CONCRETE				
1		Clay Fill silty, some sand, trace gravel, low plastic, soft, moist, brown black mixed, frozen	1	GS		
2		soft below 0.5m	2	GS		
3			3	GS		
4		Silt some clay, low plastic, soft, wet to moist, light brown	4	GS		
5		frozen to 1.2m	5	GS		
6		clayey, tan below 1.65m	6	GS		
7		Clay silty, high plastic, firm, moist, light brown	7	GS		
8		trace silt pockets, brown below 1.9m	8	GS		
9		End of testhole				
10		- No seepage observed - Test hole was backfilled with auger cuttings and topped with limestone and cold patch asphalt - UTM: 14 U, 628935 E, 5529269 N				
11						

Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 26, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1



Project No: 112-2512

Project: 2026 Local Streets (26-R-06)

Client: AECOM Canada Ltd

Location: Bradford Street (Near parking entrance of Urban Tactical, NBL)

TH2

Logged By: MK

Depth ft m	Symbol	Description	Number	Type	Pocket Penetrometer Test (kPa)	Water Content
					25 50 75 125 175 225	10 20 30 40 50 60 70 80 90
0		Ground Surface				
		Pavement 216mm CONCRETE				
1		Silt some clay, low plastic, soft, wet to moist, light brown	1	GS		
2			2	GS		
3			3	GS		
4		Clay and Silt fissured, medium plastic, firm, moist, light brown Lab result (HM 811) Gravel - 0, Sand - 3.3, Silt - 48.2, Clay - 48.5 LL - 61, PL - 24, PI - 37 CBR at 2.5mm penetration - 2.2	4	GS		
5			5	GS		
6			6	GS		
7			7	GS		
8			8	GS		
9		End of testhole				
10		- No seepage observed - Test hole was backfilled with auger cuttings and topped with limestone and cold patch asphalt -UTM:14 U, 628939 E, 5529403 N				
11						

Drill Method: Auger Drilling

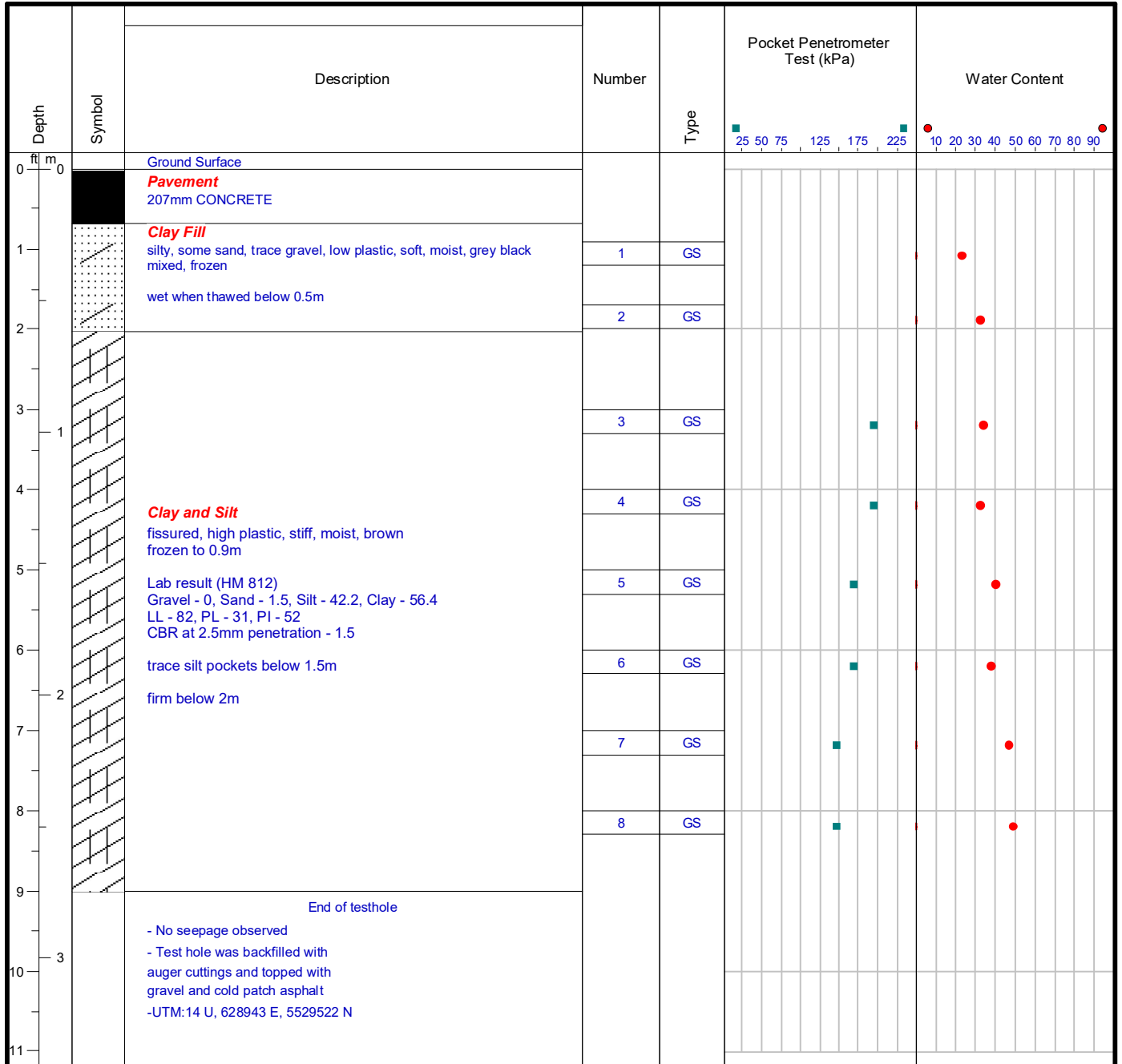
Datum: Existing surface

Drill Date: December 26, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1



Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 26, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1

Depth ft m	Symbol	Description	Number	Type	Pocket Penetrometer Test (kPa)	Water Content
					25 50 75 125 175 225	10 20 30 40 50 60 70 80 90
0		Ground Surface				
		Pavement 60mm ASPHALT 160mm CONCRETE				
1		Clay Fill silty, some sand, trace gravel, low plastic, soft, moist, brown, frozen wet below 0.5m	1	GS		
2			2	GS		
3		Clay silty, stiff, moist, brown Frozen to 0.9m	3	GS		
4			4	GS		
5			5	GS		
6		Silt clayey, trace sand, soft to firm, moist, light brown Lab Result (HM 813) Gravel - 0, Sand - 7.9, Silt - 70.8, Clay - 21.2 LL - 25, PL - 13, PI - 12 CBR at 2.5mm penetration - 5.5	6	GS		
7		trace silt pockets below 1.5m	7	GS		
8		wet, tan below 1.8m	8	GS		
9		End of testhole				
10		- No seepage observed - Test hole was backfilled with auger cuttings and topped with gravel and cold patch asphalt -UTM:14 U, 628946 E, 5529616 N				
11						

Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 26, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1



Project No: 112-2512

Project: 2026 Local Streets (26-R-06)

Client: AECOM Canada Ltd

Location: Bradford Street (Near parking entrance of 950 Bradford St., SBL)

TH5

Logged By: MK

Depth ft m	Symbol	Description	Number	Type	Pocket Penetrometer Test (kPa)	Water Content
					25 50 75 125 175 225	10 20 30 40 50 60 70 80 90
0		Ground Surface				
		Pavement 210mm CONCRETE				
1		Clay Fill silty, some sand, trace gravel, low plastic, soft, moist, brown, frozen	1	GS		
2			2	GS		
3		Clay silty, low plastic, soft to firm, moist, light brown frozen to 0.9m	3	GS		
4			4	GS		
5		Silt some clay, trace sand, soft, moist, tan	5	GS		
6			6	GS		
7			7	GS		
8		Clay and Silt with traces of silt pockets, high plastic, stiff, moist, brown	8	GS		
9		End of testhole				
10		- No seepage observed - Test hole was backfilled with auger cuttings and topped with gravel and cold patch asphalt -UTM:14 U, 628943 E, 5529685 N				
11						

Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 26, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1

CALIFORNIA BEARING RATIO (CBR) TEST - ASTM D 1883

Client: AECOM Canada ULC
99 Commerce Drive, Winnipeg
MB R3P 0Y7

Project No: 112-2512
Lab No: HM 811
Date sampled/By: 26-Dec-25 HA

Attention: Ryan Cunningham

Date Received: 26-Dec-25 HA

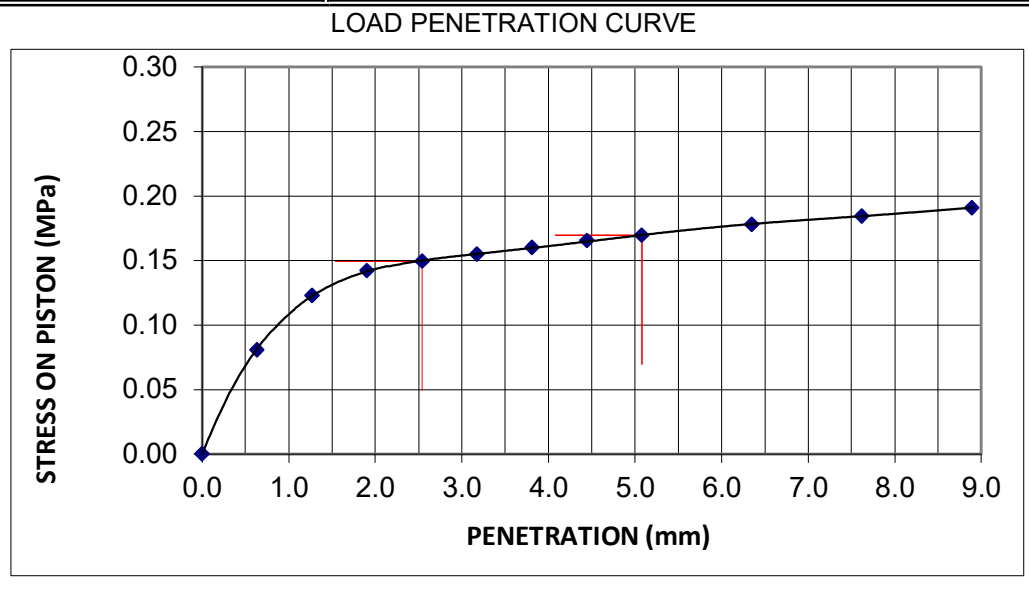
Project 2026 Local Street Renewal Program – 26-R-06

Date Tested /By: 02-Jan-26 MA

Location: Bradford St., between Saskatchewan Ave. and Wellington Ave.

SAMPLE DATA		SPECIMEN DATA		
Sample Type:	CLAY and silt	DESCRIPTION	Before Soaking	After Testing
Source:	Bradford St. - TH-2 - GS 6	Moisture Content (MC), %	18.1	29.3
Sampled by:	HA	MC of top 25mm layer, %		
Optimum Moisture Content:	24.2 %	Dry Density, kg/m ³	1478	1448
Maximum Dry Density:	1563 kg/cm ³	Compaction, %	95%	
Method of Compaction:	Standard Proctor	CBR at 2.5mm penetration, %		2.2
Tested by:	DA	Swell, %		6.3
	Date Tested: 29-Dec-25			

LOAD DATA	
PENETRATION mm	STRESS MPa
0	0.00
0.64	0.08
1.27	0.12
1.91	0.14
2.54	0.15
3.18	0.15
3.81	0.16
4.45	0.17
5.08	0.17
6.35	0.18
7.62	0.18
8.89	0.19



PENETRATION mm	STANDARD LOAD MPa	TEST LOAD		BEARING RATIO (soaked)	
		ACTUAL MPa	CORRECTED MPa	at 2.5 mm penetration	at 5.1 mm penetration
2.54	6.9	0.15	0.15	2.2	-
5.08	10.3	0.17	0.17	-	1.6

Remarks:

P. Bevel

Reviewed by: Paul Bevel

CALIFORNIA BEARING RATIO (CBR) TEST - ASTM D 1883

 Client: AECOM Canada ULC
 99 Commerce Drive, Winnipeg
 MB R3P 0Y7

 Project No: 112-2512
 Lab No: HM 812
 Date sampled/By: 26-Dec-25 HA

Attention: Ryan Cunningham

Date Received: 26-Dec-25 HA

Project 2026 Local Street Renewal Program – 26-R-06

Date Tested /By: 02-Jan-26 MA

Location: Bradford St., between Saskatchewan Ave. and Wellington Ave.

SAMPLE DATA		SPECIMEN DATA		
Sample Type:	CLAY and silt	DESCRIPTION	Before Soaking	After Testing
Source:	Bradford St. - TH-3 - GS 6	Moisture Content (MC), %	27.8	35.1
Sampled by:	HA	MC of top 25mm layer, %		
Optimum Moisture Content:	28.4 %	Dry Density, kg/m ³	1383	1374
Maximum Dry Density:	1454 kg/cm ³	Compaction, %	95%	
Method of Compaction:	Standard Proctor	CBR at 2.5mm penetration, %		1.5
Tested by:	MA	Swell, %		6.2
	Date Tested: 29-Dec-25			

LOAD DATA		LOAD PENETRATION CURVE			
PENETRATION mm	STRESS MPa				
0	0.00				
0.64	0.06				
1.27	0.08				
1.91	0.10				
2.54	0.10				
3.18	0.11				
3.81	0.11				
4.45	0.11				
5.08	0.12				
6.35	0.12				
7.62	0.13				
8.89	0.14				
PENETRATION mm	STANDARD LOAD MPa	TEST LOAD		BEARING RATIO (soaked)	
		ACTUAL MPa	CORRECTED MPa	at 2.5 mm penetration	at 5.1 mm penetration
2.54	6.9	0.10	0.10	1.5	-
5.08	10.3	0.12	0.12	-	1.1

Remarks:

P. Bevel

Reviewed by: Paul Bevel

CALIFORNIA BEARING RATIO (CBR) TEST - ASTM D 1883

 Client: AECOM Canada ULC
 99 Commerce Drive, Winnipeg
 MB R3P 0Y7

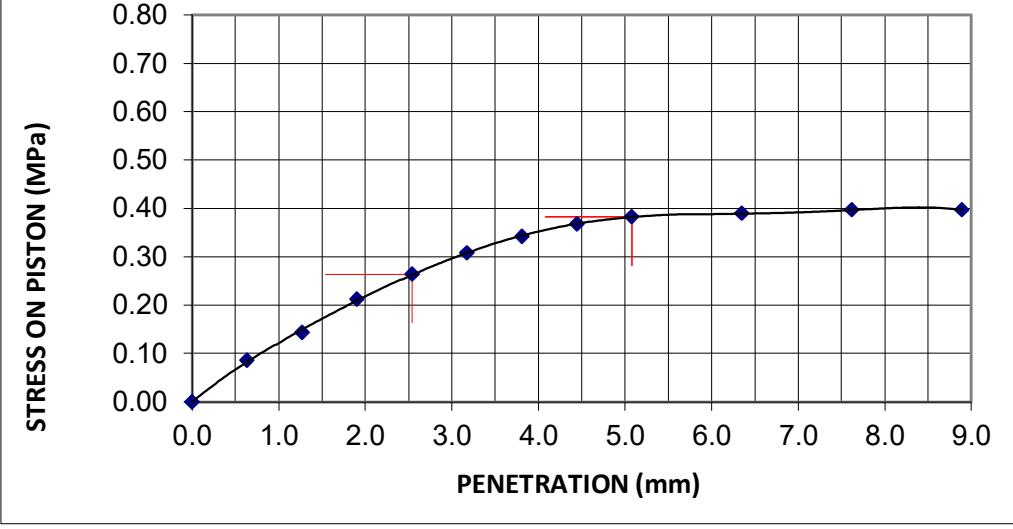
 Project No: 112-2512
 Lab No: HM 813
 Date sampled/By: 26-Dec-25 HA
 Date Received: 26-Dec-25 HA
 Date Tested /By: 02-Jan-26 MA

Attention: Ryan Cunningham

Project 2026 Local Street Renewal Program – 26-R-06

Location: Bradford St., between Saskatchewan Ave. and Wellington Ave.

SAMPLE DATA		SPECIMEN DATA		
Sample Type:	SILT - some clay, trace sand	DESCRIPTION	Before Soaking	After Testing
Source:	Bradford St. - TH-4 - GS 5	Moisture Content (MC), %	13.3	15.5
Sampled by:	HA	MC of top 25mm layer, %		
Optimum Moisture Content:	13.6 %	Dry Density, kg/m ³	1774	1762
Maximum Dry Density:	1863 kg/cm ³	Compaction, %	95%	
Method of Compaction:	Standard Proctor	CBR at 2.5mm penetration, %		3.7
Tested by:	MA	Swell, %		0.6
	Date Tested: 29-Dec-25			

LOAD DATA		LOAD PENETRATION CURVE			
PENETRATION mm	STRESS MPa				
0	0.00				
0.64	0.09				
1.27	0.14				
1.91	0.21				
2.54	0.26				
3.18	0.31				
3.81	0.34				
4.45	0.37				
5.08	0.38				
6.35	0.39				
7.62	0.40				
8.89	0.40				
PENETRATION mm	STANDARD LOAD MPa	TEST LOAD		BEARING RATIO (soaked)	
		ACTUAL MPa	CORRECTED MPa	at 2.5 mm penetration	at 5.1 mm penetration
2.54	6.9	0.26	0.26	3.8	-
5.08	10.3	0.38	0.38	-	3.7

Remarks:

P. Bevel

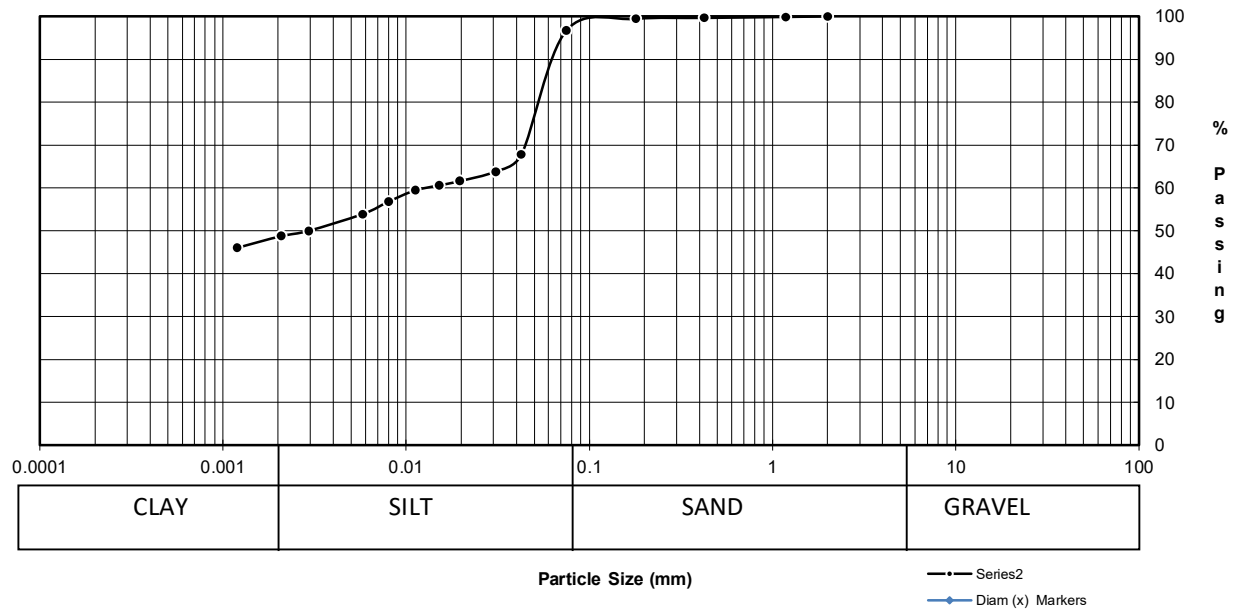
Reviewed by: Paul Bevel

PARTICLE SIZE ANALYSIS OF SOILS TEST REPORT

CLIENT: AECOM Canada ULC Project No.: 112-2512
99 Commerce Drive, Winnipeg PSA Test No.: 7
MB R3P 0Y7 Lab No.: HM 811
ATTENTION: Ryan Cunningham
PROJECT: 2026 Local Street Renewal Program – 26-R-06
Bradford St., between Saskatchewan Ave. and Wellington Ave.

Date Sampled: 16-Dec-25	Date Received: 16-Dec-25	Sieve Analysis	Hydrometer Analysis
Sampled By: HA	Date Tested: 30-Dec-25	Sieve (mm) % Passing	Diameter % Finer
Material Identification B.H./T.H. No. TH 2 Depth 5.5-ft Sample Source GS 6 Specific Gravity of Material: 2.65	50.00	100.0	
	37.50	100.0	
	25.00	100.0	
	19.00	100.0	
	16.00	100.0	
	12.50	100.0	0.0425 67.8
	9.50	100.0	0.0308 63.8
	4.75	100.0	0.0196 61.6
	2.00	100.0	0.0152 60.6
	1.18	99.9	0.0112 59.4
	0.425	99.6	0.0080 56.8
	0.180	99.4	0.0058 53.9
	0.075	96.7	0.0012 46.0

Grain Size Analysis



% Composition		D10
0.00	Gravel	D30
3.28	Sand	D60
48.21	Silt	Cu
48.51	Clay	Cc

Remarks:

Technician: B. Yung

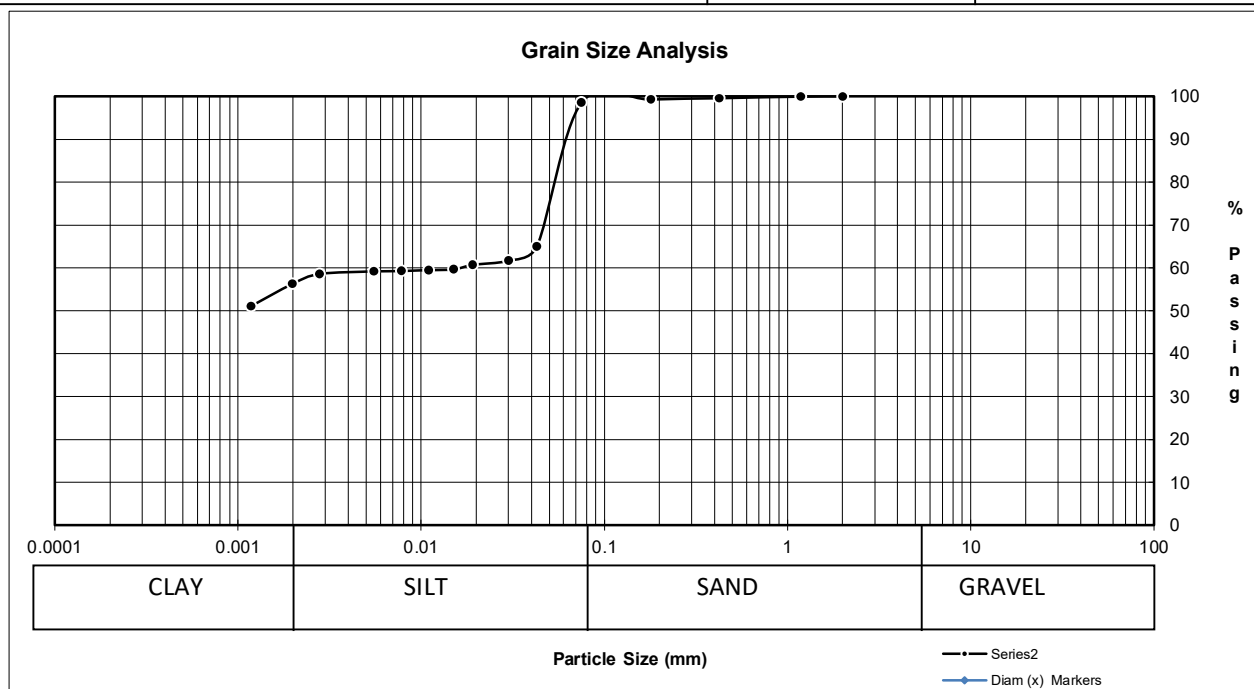
Reviewed by Paul Bevel

P. Bevel

PARTICLE SIZE ANALYSIS OF SOILS TEST REPORT

CLIENT: AECOM Canada ULC Project No.: 112-2512
99 Commerce Drive, Winnipeg PSA Test No.: 8
MB R3P 0Y7 Lab No.: HM 812
ATTENTION: Ryan Cunningham
PROJECT: 2026 Local Street Renewal Program – 26-R-06
Bradford St., between Saskatchewan Ave. and Wellington Ave.

Date Sampled: 26-Dec-25	Date Received: 26-Dec-25	Sieve Analysis	Hydrometer Analysis
Sampled By: HA	Date Tested: 30-Dec-25	Sieve (mm) % Passing	Diameter % Finer
Material Identification B.H./T.H. No. TH 3 Depth 5.5-ft Sample Source GS 6 Specific Gravity of Material: 2.65	50.00	100.0	
	37.50	100.0	
	25.00	100.0	
	19.00	100.0	
	16.00	100.0	
	12.50	100.0	0.0427 64.9
	9.50	100.0	0.0301 61.7
	4.75	100.0	0.0191 60.7
	2.00	100.0	0.0150 59.7
	1.18	99.9	0.0110 59.5
	0.425	99.6	0.0078 59.3
	0.180	99.3	0.0055 59.2
	0.075	98.5	0.0012 51.0



% Composition		D10
1.46	Gravel	D30
42.16	Sand	D60
56.38	Silt	Cu
	Clay	Cc

Remarks:

Technician: B. Yung

Reviewed by Paul Bevel

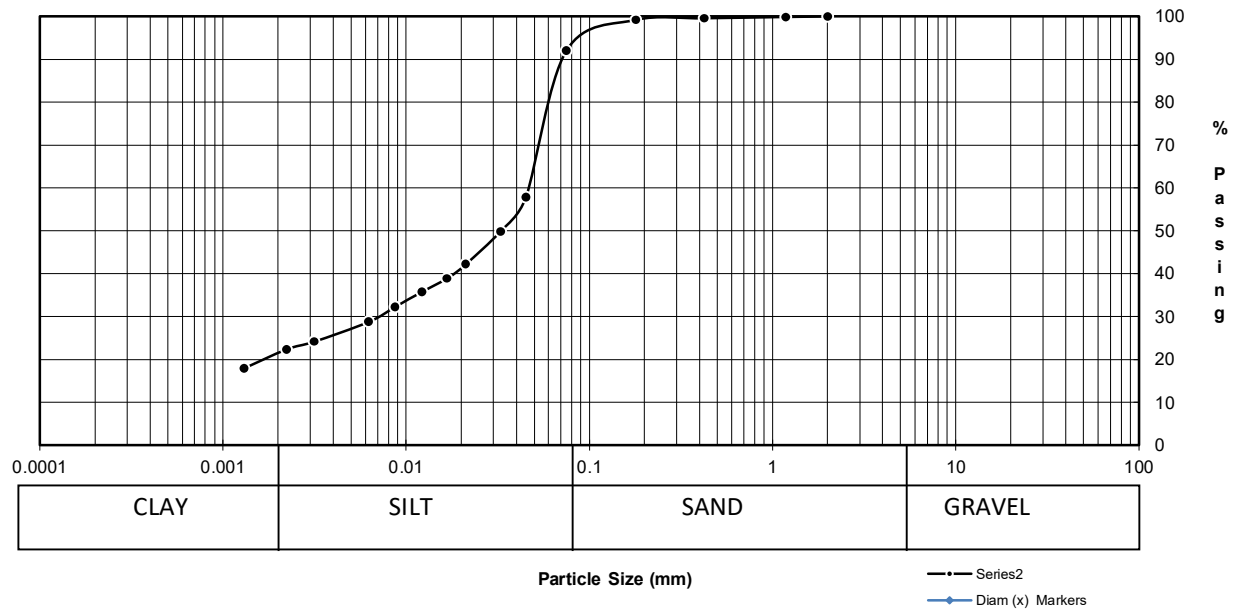
P. Bevel

PARTICLE SIZE ANALYSIS OF SOILS TEST REPORT

CLIENT: AECOM Canada ULC Project No.: 112-2512
99 Commerce Drive, Winnipeg PSA Test No.: 9
MB R3P 0Y7 Lab No.: HM 813
ATTENTION: Ryan Cunningham
PROJECT: 2026 Local Street Renewal Program – 26-R-06
Bradford St., between Saskatchewan Ave. and Wellington Ave.

Date Sampled: 26-Dec-25	Date Received: 26-Dec-25	Sieve Analysis	Hydrometer Analysis
Sampled By: HA	Date Tested: 30-Dec-25	Sieve (mm) % Passing	Diameter % Finer
Material Identification B.H./T.H. No. TH 4 Depth 5-FT Sample Source GS 5 Specific Gravity of Material: 2.65	50.00	100.0	
	37.50	100.0	
	25.00	100.0	
	19.00	100.0	
	16.00	100.0	
	12.50	100.0	0.0450 57.8
	9.50	100.0	0.0328 49.8
	4.75	100.0	0.0211 42.2
	2.00	100.0	0.0167 38.9
	1.18	99.8	0.0122 35.8
	0.425	99.5	0.0087 32.2
	0.180	99.2	0.0063 28.8
	0.075	92.1	0.0013 17.9

Grain Size Analysis



% Composition		D10
	Gravel	D30
7.94	Sand	D60
70.82	Silt	Cu
21.24	Clay	Cc

Remarks:

Technician: B. Yung

Reviewed by Paul Bevel

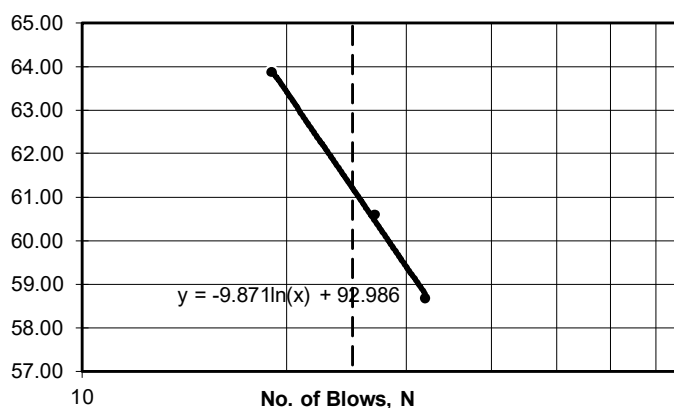
P. Bevel

Atterberg Limits (ASTM D4318)

Client: AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7 Attention.: Ryan Cunningham Project: 2026 Local Street Renewal Program – 26-R-06 Bradford St., bet Saskatchewan Ave. and Wellington Ave.	Project No.: 112-2512 PI Test No.: 7 Lab No.: HM 811 Date Sampled/By: 26-Dec-25 HA Date Received: 26-Dec-25 Date Tested / By: 02-Jan-26 GM
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Liquid Limit Determination					Liquid Limit 25 Blows
Dish No.:	1	2	3		
Wet Soil + Dish:	11.64	11.98	10.22		
Dry Soil + Dish:	8.8	8.95	7.78		
Moisture:	2.84	3.03	2.44		
Dish:	3.96	3.95	3.96		
Dry Soil:	4.84	5	3.82		
% Moisture:	58.68	60.60	63.87		
No. of Blows:	32	27	19		
Liquid Limit:					61

Liquid Limit



Material Identification:

Test Hole: **TH 2**
 Grab Sample No: **GS 6**
 Depth: **5.5-ft**

Liquid Limit, %: **61**
 Plastic Limit, %: **24**
 Plasticity Index: **37**
 (LL-PL)

Plastic Limit Determination					
Dish No.:	1	2	3		
Wet Soil + Dish:	10.13	10.06	10.75		
Dry Soil + Dish:	8.95	8.9	9.60		
Moisture:	1.18	1.16	1.15		
Dish:	3.92	3.89	4.96		
Dry Soil:	5.03	5.01	4.64		
% Moisture:	23.46	23.15	24.78		
				Average:	24

Test Method : ASTM: D4318, D2216

Remarks:

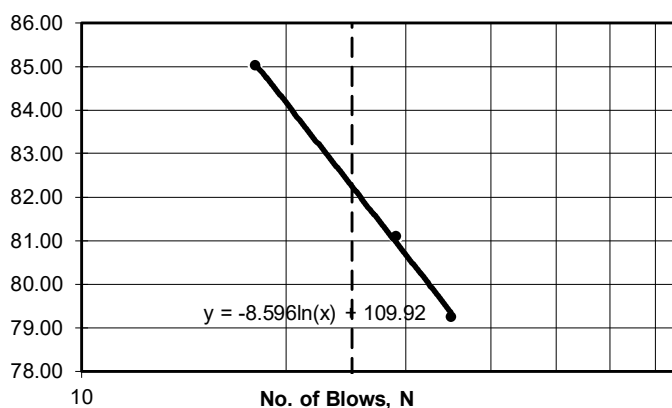
Reviewed by: Paul Bevel

Atterberg Limits (ASTM D4318)

Client:	AECOM Canada ULC	Project No.:	112-2512
	99 Commerce Drive, Winnipeg	PI Test No.:	8
	MB R3P 0Y7	Lab No.:	HM 812
Attention.:	Ryan Cunningham	Date Sampled/By:	26-Dec-25 HA
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	26-Dec-25
	Bradford St., bet Saskatchewan Ave. and Wellington Ave.	Date Tested / By:	02-Jan-26 GM

Liquid Limit Determination

Dish No.:	1	2	3		Liquid Limit 25 Blows
Wet Soil + Dish:	11.29	10.94	11.48		
Dry Soil + Dish:	8.27	8.02	8.24		
Moisture:	3.02	2.92	3.24		
Dish:	4.46	4.42	4.43		
Dry Soil:	3.81	3.6	3.81		
% Moisture:	79.27	81.11	85.04		
No. of Blows:	35	29	18		
Liquid Limit:					82

Liquid Limit**Material Identification:**

Test Hole: **TH 3**
Grab Sample No: **GS 6**
Depth: **5.5-ft**

Liquid Limit, %: **82**
Plastic Limit, %: **31**
Plasticity Index: **52**
(LL-PL)

Plastic Limit Determination

Dish No.:	1	2	3		
Wet Soil + Dish:	10.27	10.33	9.96		
Dry Soil + Dish:	8.96	9.02	8.67		
Moisture:	1.31	1.31	1.29		
Dish:	4.71	4.67	4.46		
Dry Soil:	4.25	4.35	4.21		
% Moisture:	30.82	30.11	30.64		
				Average:	31

Test Method : ASTM: D4318, D2216

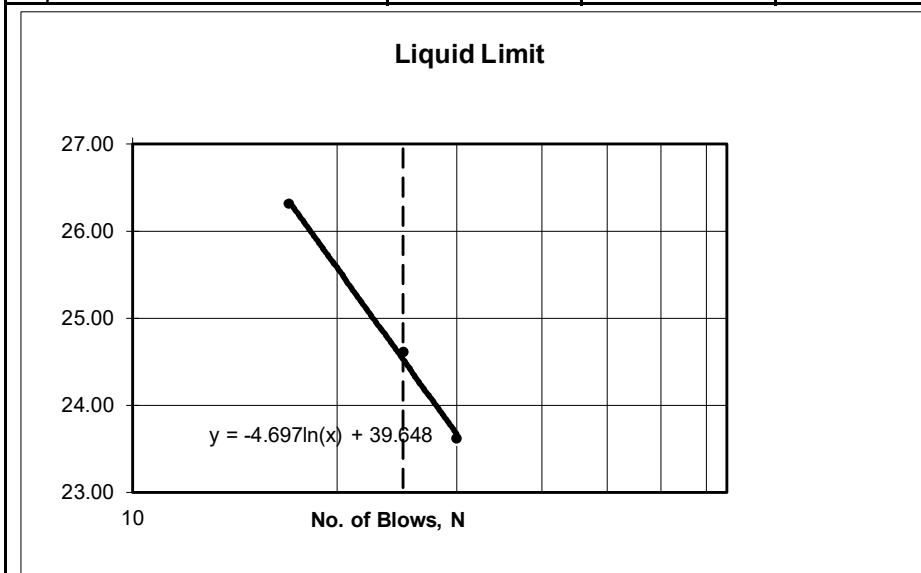
Remarks:

Reviewed by: Paul Bevel

Atterberg Limits (ASTM D4318)

Client: AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7 Attention.: Ryan Cunningham Project: 2026 Local Street Renewal Program – 26-R-06 Bradford St., bet Saskatchewan Ave. and Wellington Ave.	Project No.: 112-2512 PI Test No.: 9 Lab No.: HM 813 Date Sampled/By: 26-Dec-25 HA Date Received: 26-Dec-25 Date Tested / By: 02-Jan-26 GM
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Liquid Limit Determination					Liquid Limit 25 Blows
Dish No.:	1	2	3		
Wet Soil + Dish:	13.56	12.36	11.96		
Dry Soil + Dish:	11.72	10.79	10.41		
Moisture:	1.84	1.57	1.55		
Dish:	3.93	4.41	4.52		
Dry Soil:	7.79	6.38	5.89		
% Moisture:	23.62	24.61	26.32		
No. of Blows:	30	25	17		
Liquid Limit:					25


Material Identification:

Test Hole: **TH 4**
 Grab Sample No: **GS 6**
 Depth: **5.5-ft**

Liquid Limit, %: **25**
 Plastic Limit, %: **13**
 Plasticity Index: **12**
 (LL-PL)

Plastic Limit Determination					
Dish No.:	1	2	3		
Wet Soil + Dish:	12.11	11.76	11.71		
Dry Soil + Dish:	11.25	10.91	10.90		
Moisture:	0.86	0.85	0.81		
Dish:	4.69	4.49	4.43		
Dry Soil:	6.56	6.42	6.47		
% Moisture:	13.11	13.24	12.52		
				Average:	13

Test Method : ASTM: D4318, D2216

Remarks:

Reviewed by: Paul Bevel

MAXIMUM DRY DENSITY AND MOISTURE CONTENT - Proctor Method (ASTM D698)

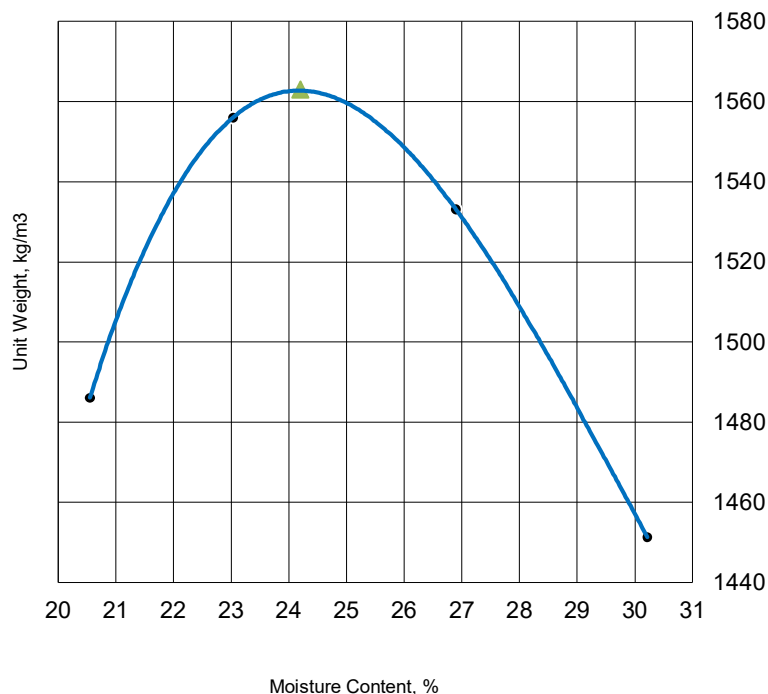
CLIENT	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No.:	112-2512
ATTENTION:	Ryan Cunningham	Lab No.:	HM 811
PROJECT:	2026 Local Street Renewal Program – 26-R-06 Bradford St., between Saskatchewan Ave. and Wellington Ave.	Proctor Test No.:	7

Date Sampled:	26-Dec-25	Date Received:	26-Dec-25	PROCEDURE	A
Sampled By:	HA	Date Tested:	29-Dec-25	PREPARATION	Dry

MATERIAL INFORMATION				COMPACTION METHOD	Manual
Material Type:	CLAY AND SILT - trace sand			BLOWS PER LAYER	25
Material Use:	Soil Investigat	Material Supplier:	Not Applicable	NO. OF LAYERS	3
Maximum Size:	5mm	Material Source:	TH 2 - GS 6	MOLD SIZE	100
				MOLD VOLUME	935
				WEIGHT OF HAMMER	2.5 kg

Test No.	1	2	3	4	
Wet Density	1791	1914	1945	1890	
Moisture Content	20.5	23.0	26.9	30.2	
Dry Density	1486	1556	1533	1451	

Moisture - Density Relationship



Maximum Dry Density (MDD):
1563 kg/m³
Optimum Moisture Content
24.2 %

STONE CORRECTION (ASTM D 4718)

Retained on 4.75mm sieve:
%
Corrected Moisture:
24.2 %
Corrected Maximum Dry Density:
1563 kg/m³

Remarks:

Tested by: Dayo Aiyeru

Reviewed by: Paul Bevel

P. Bevel

MAXIMUM DRY DENSITY AND MOISTURE CONTENT - Proctor Method (ASTM D698)

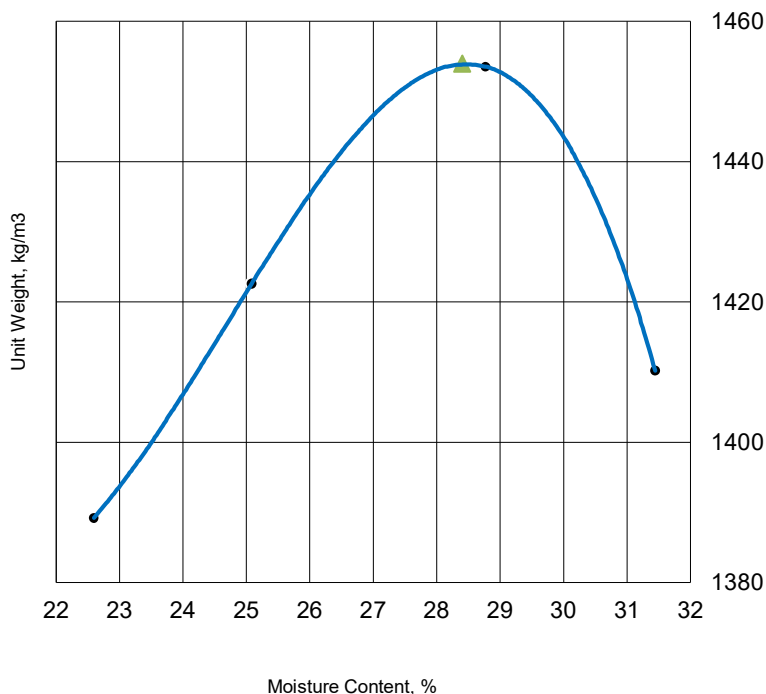
CLIENT	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No.:	112-2512
ATTENTION:	Ryan Cunningham	Lab No.:	HM 812
PROJECT:	2026 Local Street Renewal Program – 26-R-06 Bradford St., between Saskatchewan Ave. and Wellington Ave.	Proctor Test No.:	8

Date Sampled:	26-Dec-25	Date Received:	26-Dec-25	PROCEDURE	A
Sampled By:	HA	Date Tested:	29-Dec-25	PREPARATION	Dry

MATERIAL INFORMATION				COMPACTION METHOD	Manual
Material Type:	CLAY AND SILT - trace sand			BLOWS PER LAYER	25
Material Use:	Soil Investigat	Material Supplier:	Not Applicable	NO. OF LAYERS	3
Maximum Size:	5mm	Material Source:	TH 3 - GS 6	MOLD SIZE	100
				MOLD VOLUME	943
				WEIGHT OF HAMMER	2.5 kg

Test No.	1	2	3	4	
Wet Density	1703	1779	1872	1854	
Moisture Content	22.6	25.1	28.8	31.4	
Dry Density	1389	1423	1454	1410	

Moisture - Density Relationship



Maximum Dry Density (MDD):
1454 kg/m³
Optimum Moisture Content
28.4 %

STONE CORRECTION (ASTM D 4718)

Retained on 4.75mm sieve:
%
Corrected Moisture:
28.4 %
Corrected Maximum Dry Density:
1454 kg/m³

Remarks:

Tested by: Mehdi Abbasi

Reviewed by: Paul Bevel

P. Bevel

MAXIMUM DRY DENSITY AND MOISTURE CONTENT - Proctor Method (ASTM D698)

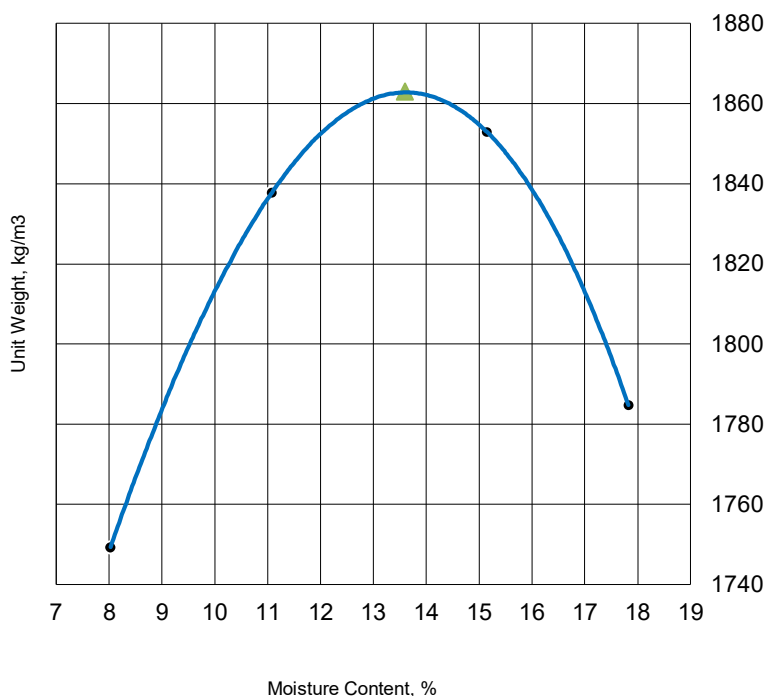
CLIENT	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No.:	112-2512
ATTENTION:	Ryan Cunningham	Lab No.:	HM 813
PROJECT:	2026 Local Street Renewal Program – 26-R-06 Bradford St., between Saskatchewan Ave. and Wellington Ave.	Proctor Test No.:	9

Date Sampled:	26-Dec-25	Date Received:	26-Dec-25	PROCEDURE	A
Sampled By:	HA	Date Tested:	29-Dec-25	PREPARATION	Dry

MATERIAL INFORMATION				COMPACTION METHOD	Manual
Material Type:	SILT - clayey, trace sand			BLOWS PER LAYER	25
Material Use:	Soil Investigat	Material Supplier:	Not Applicable	NO. OF LAYERS	3
Maximum Size:	5mm	Material Source:	TH 4 - GS 5	MOLD SIZE	100
				MOLD VOLUME	943
				WEIGHT OF HAMMER	2.5 kg

Test No.	1	2	3	4	
Wet Density	1890	2041	2134	2103	
Moisture Content	8.0	11.1	15.1	17.8	
Dry Density	1749	1838	1853	1785	

Moisture - Density Relationship



Maximum Dry Density (MDD):
1863 kg/m³
Optimum Moisture Content
13.6 %

STONE CORRECTION (ASTM D 4718)

Retained on 4.75mm sieve:
%
Corrected Moisture:
13.6 %
Corrected Maximum Dry Density:
1863 kg/m³

Remarks:

P. Bevel

Tested by: Mehdi Abbasi

Reviewed by: Paul Bevel

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	10
		Lab No.:	HM 810
Attention:	Ryan Cunningham	Date Sampled / By:	December 16, 2025/HA
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 16, 2025
		Date Tested / By:	December 27, 2025/Chris B.
	Bradford St., between Saskatchewan Ave. and Wellington Ave.		

Test Hole No.	TH1-GS1	TH1-GS2	TH1-GS3	TH1-GS4	TH1-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	A8	B5	A3	V-1	C0-4
Wt Wet Sample + Tare	183.5	182	290.1	197.1	162.2
Wt Dry Sample + Tare	150.5	149	235.2	151.2	133
Wt Water	33.0	33.0	54.9	45.9	29.2
Wt Tare	4.8	4.3	4.0	4.7	4.6
Wt Dry Sample	145.7	144.7	231.2	146.5	128.4
Moisture Content (%)	22.6	22.8	23.7	31.3	22.7
Test Hole No.	TH1-GS6	TH1-GS7	TH1-GS8		
Depth	6-ft	7-ft	8-ft		
Tare No.	SE7	G20	G-1		
Wt Wet Sample + Tare	214.9	158.4	175.6		
Wt Dry Sample + Tare	172.9	112.8	121.3		
Wt Water	42.0	45.6	54.3		
Wt Tare	4.3	4.7	4.4		
Wt Dry Sample	168.6	108.1	116.9		
Moisture Content (%)	24.9	42.2	46.4		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	11
		Lab No.:	HM 811
Attention:	Ryan Cunningham	Date Sampled / By:	December 16, 2025/HA
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 16, 2025
		Date Tested / By:	December 27, 2025/Chris B.
Bradford St., between Saskatchewan Ave. and Wellington Ave.			

Test Hole No.	TH2-GS1	TH2-GS2	TH2-GS3	TH2-GS4	TH2-GS5
Depth	1ft	2ft	3ft	4ft	5ft
Tare No.	C8	H-7	S-23	HM-06	TX
Wt Wet Sample + Tare	177.8	156.7	237.7	210.8	172
Wt Dry Sample + Tare	151.1	121.1	175.3	174	127
Wt Water	26.7	35.6	62.4	36.8	45.0
Wt Tare	4.7	4.4	4.6	4.0	4.9
Wt Dry Sample	146.4	116.7	170.7	170.0	122.1
Moisture Content (%)	18.2	30.5	36.6	21.6	36.9
Test Hole No.	TH2-GS6	TH2-GS7	TH2-GS8		
Depth	6ft	7ft	8ft		
Tare No.	C-02	KD19	C0-6		
Wt Wet Sample + Tare	174.2	217.9	167.4		
Wt Dry Sample + Tare	128.7	154.8	117.1		
Wt Water	45.5	63.1	50.3		
Wt Tare	4.1	4.6	4.8		
Wt Dry Sample	124.6	150.2	112.3		
Moisture Content (%)	36.5	42.0	44.8		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	12
		Lab No.:	HM 812
Attention:	Ryan Cunningham	Date Sampled / By:	December 26, 2025/ HA
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 26, 2025
		Date Tested / By:	December 27, 2025/Chris B.
	Bradford St., between Saskatchewan Ave. and Wellington Ave.		

Test Hole No.	TH3-GS1	TH3-GS2	TH3-GS3	TH3-GS4	TH3-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	H15	T107	P4	C-03	GM9
Wt Wet Sample + Tare	158.1	172.9	168.4	243.1	203.8
Wt Dry Sample + Tare	128.6	131.2	126.4	183.9	146.4
Wt Water	29.5	41.7	42.0	59.2	57.4
Wt Tare	4.8	4.5	4.2	4.2	4.0
Wt Dry Sample	123.8	126.7	122.2	179.7	142.4
Moisture Content (%)	23.8	32.9	34.4	32.9	40.3
Test Hole No.	TH3-GS6	TH3-GS7	TH3-GS8		
Depth	6-ft	7-ft	8-ft		
Tare No.	GM5	GM6	G11		
Wt Wet Sample + Tare	196.3	180.6	183.2		
Wt Dry Sample + Tare	143.4	123.8	124.2		
Wt Water	52.9	56.8	59.0		
Wt Tare	4.0	4.1	4.5		
Wt Dry Sample	139.4	119.7	119.7		
Moisture Content (%)	37.9	47.5	49.3		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	13
		Lab No.:	HM 813
Attention:	Ryan Cunningham	Date Sampled / By:	December 16, 2025/HA
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 16, 2025
		Date Tested / By:	December 27, 2026 / Chris B.
	Bradford St., between Saskatchewan Ave. and Wellington Ave.		

Test Hole No.	TH4-GS1	TH4-GS2	TH4-GS3	TH4-GS4	TH4-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	H24	H-10	A2	A14	H25
Wt Wet Sample + Tare	164.2	261.9	180.1	222.9	217.4
Wt Dry Sample + Tare	136.7	191.3	149.3	176.8	176
Wt Water	27.5	70.6	30.8	46.1	41.4
Wt Tare	4.7	4.7	4.0	4.0	4.7
Wt Dry Sample	132.0	186.6	145.3	172.8	171.3
Moisture Content (%)	20.8	37.8	21.2	26.7	24.2
Test Hole No.	TH4-GS6	TH4-GS7	TH4-GS8		
Depth	6-ft	7-ft	8-ft		
Tare No.	C3	M25	B1		
Wt Wet Sample + Tare	156.3	185.5	161.5		
Wt Dry Sample + Tare	126.6	151.6	131.4		
Wt Water	29.7	33.9	30.1		
Wt Tare	4.9	4.7	4.0		
Wt Dry Sample	121.7	146.9	127.4		
Moisture Content (%)	24.4	23.1	23.6		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	14
		Lab No.:	HM 814
Attention:	Ryan Cunningham	Date Sampled / By:	December 26, 2025 / HA
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 26, 2025
		Date Tested / By:	December 27, 2025/ Chris B.
Bradford St., between Saskatchewan Ave. and Wellington Ave.			

Test Hole No.	TH5-GS1	TH5-GS2	TH5-GS3	TH5-GS4	TH5-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	M55	M53	M22	KMC	H-26
Wt Wet Sample + Tare	168.6	196.9	235.6	212.2	257.2
Wt Dry Sample + Tare	134.3	152.5	183	169.3	209
Wt Water	34.3	44.4	52.6	42.9	48.2
Wt Tare	4.6	4.5	4.8	4.5	4.5
Wt Dry Sample	129.7	148.0	178.2	164.8	204.5
Moisture Content (%)	26.4	30.0	29.5	26.0	23.6
Test Hole No.	TH5-GS6	TH5-GS7	TH5-GS8		
Depth	6-ft	7-ft	8-ft		
Tare No.	H16	M47	PS-2		
Wt Wet Sample + Tare	242.6	224.7	186.6		
Wt Dry Sample + Tare	196.4	168.8	130.6		
Wt Water	46.2	55.9	56.0		
Wt Tare	4.4	5.3	4.6		
Wt Dry Sample	192.0	163.5	126.0		
Moisture Content (%)	24.1	34.2	44.4		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

Reconstruction Sites

Picture of Cores

Bradford St - Saskatchewan Av/Wellington Av



Core 1



Core 1 - Site Photo



Core 2



Core 2 - Site Photo

Reconstruction Sites

Picture of Cores

Bradford St - Saskatchewan Av/Wellington Av



Core 3



Core 3 - Site Photo



Core 4



Core 4 - Site Photo

Reconstruction Sites

Picture of Cores

Bradford St - Saskatchewan Av/Wellington Av



Core 5



Core 5 - Site Photo

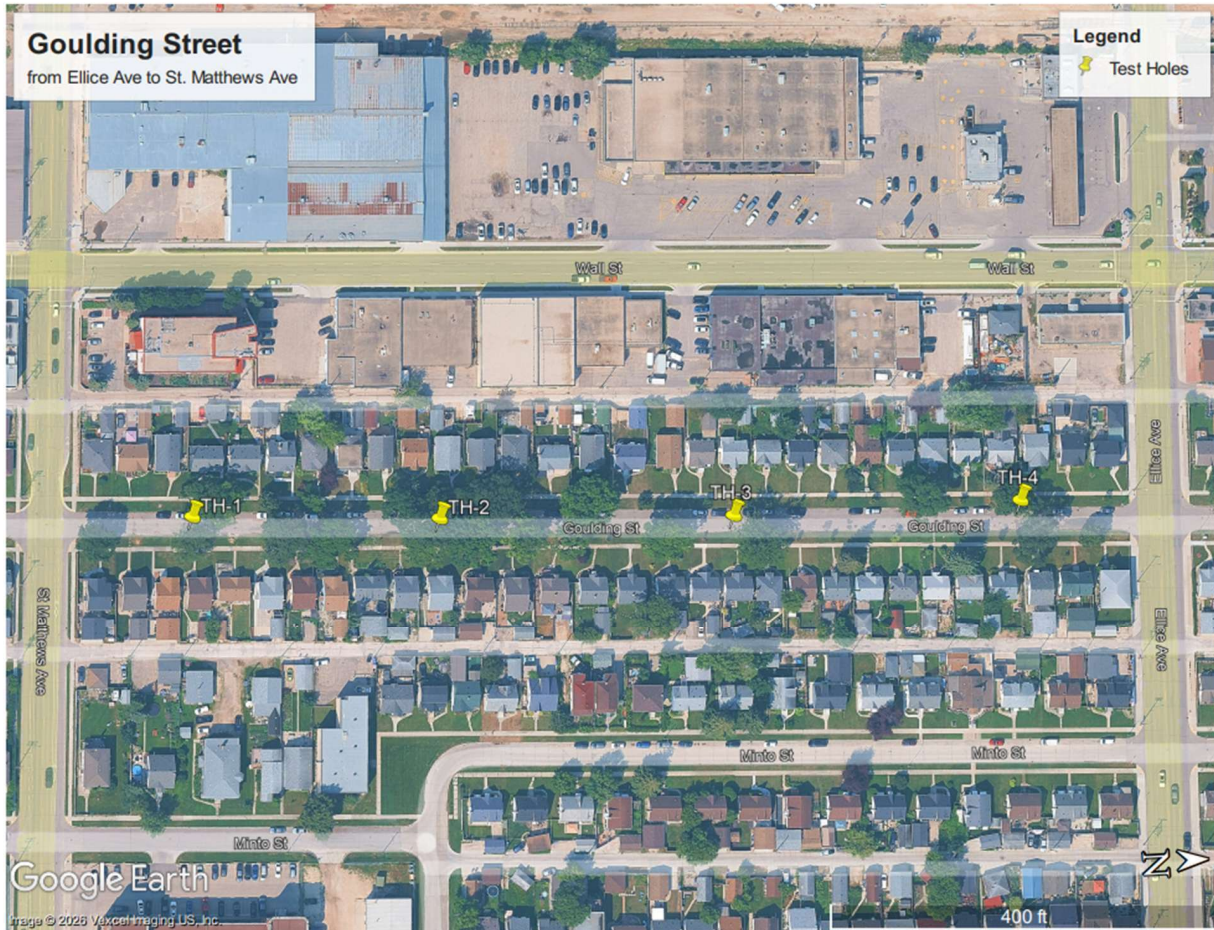
APPENDIX B.2.

GOULDING STREET

(ELLICE AVE TO ST MATTHEWS AVE)

Reconstruction Sites

Pavement Coring and Subsurface Drilling Locations



Reconstruction Sites

Pavement Structure Measurement

Test Hole No.	Test Hole Location	Asphalt Thickness (mm)	Concrete Thickness (mm)
Goulding Street (Ellice Ave to St Matthews Ave)			
TH1	Front of House # 777 Goulding St., NBL; 1.5m away from curb 14U, 630637 E, 5528080 N	30	225 ^A
TH2	Front of House # 795 Goulding St., NBL; 1.5m away from curb 14 U, 630640 E, 5528159 N	30	171 ^A
TH3	Front of House # 815 Goulding St., NBL; 1m away from curb 14 U, 630643 E, 5528253 N	50 ^A	160 ^A
TH4	Front of House # 830 Goulding St., SBL; 1m away from curb 14 U, 630641 E, 5528346 N	30 ^A	170 ^A

Note: ^A - The exact concrete thickness could not be determined due to the deterioration of the concrete.

Depth ft m	Symbol	Description	Number	Type	Pocket Penetrometer Test (kPa)	Water Content
					25 50 75 125 175 225	10 20 30 40 50 60 70 80 90
0		Ground Surface				
		Pavement 30mm ASPHALT 225mm CONCRETE				
1		Clay Fill silty with trace silt, moist to wet, mixed brown and black, frozen	1	GS		
2			2	GS		
3		Silt some clay, low plastic, soft, damp, light brown clayey, soft to firm, moist below 1.2m	3	GS		
4			4	GS		
5			5	GS		
6		Clay silty, high plastic, stiff, moist, brown	6	GS		
7			7	GS		
8		End of testhole	8	GS		
9						
10		- No seepage observed - Test hole was backfilled with auger cuttings and topped with crushed limestone and cold patch asphalt - UTM:14U, 630637 E, 5528080 N				
11						

Drill Method: Auger Drilling

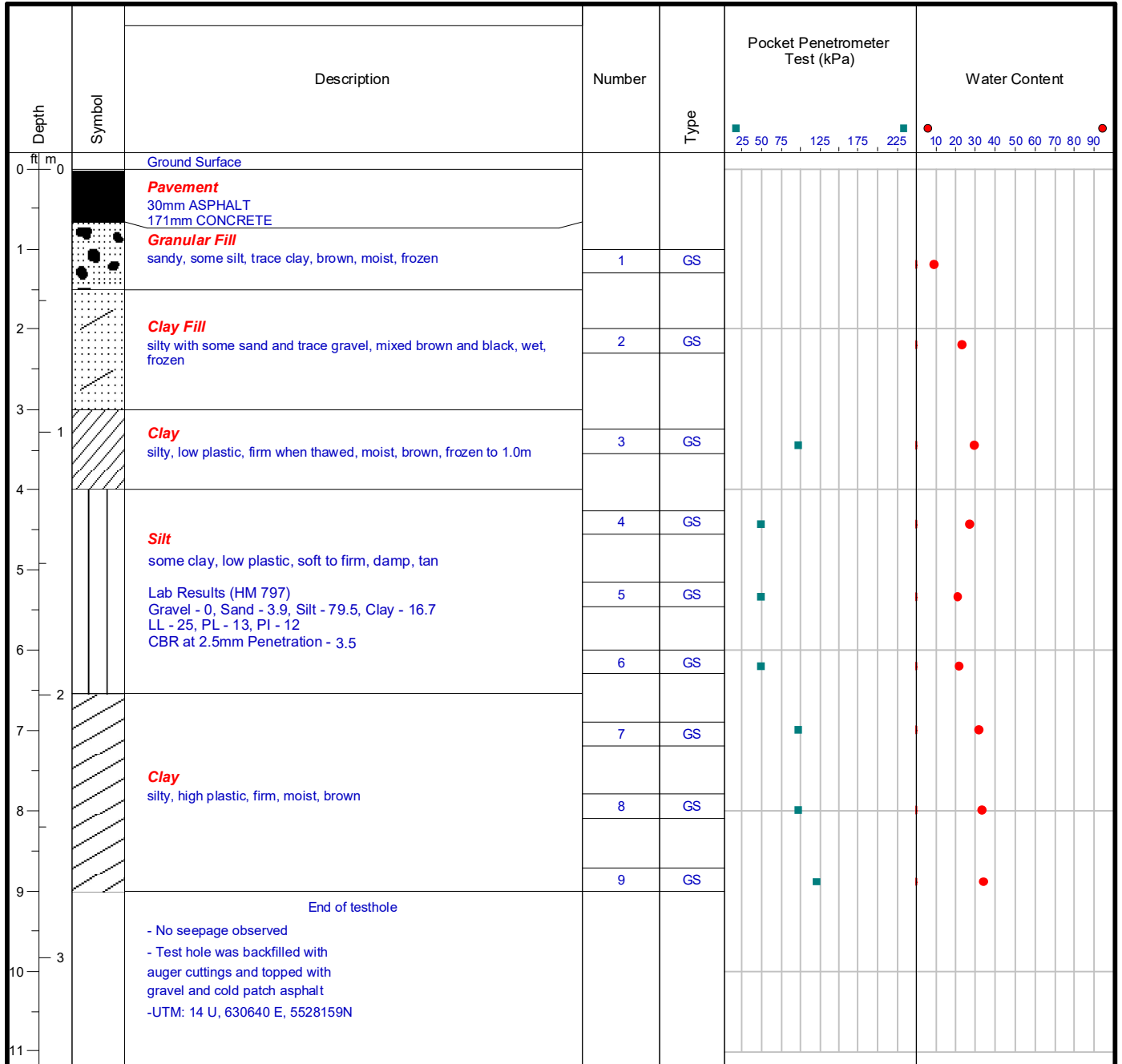
Datum: Existing surface

Drill Date: December 16, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1



Drill Method: Auger Drilling

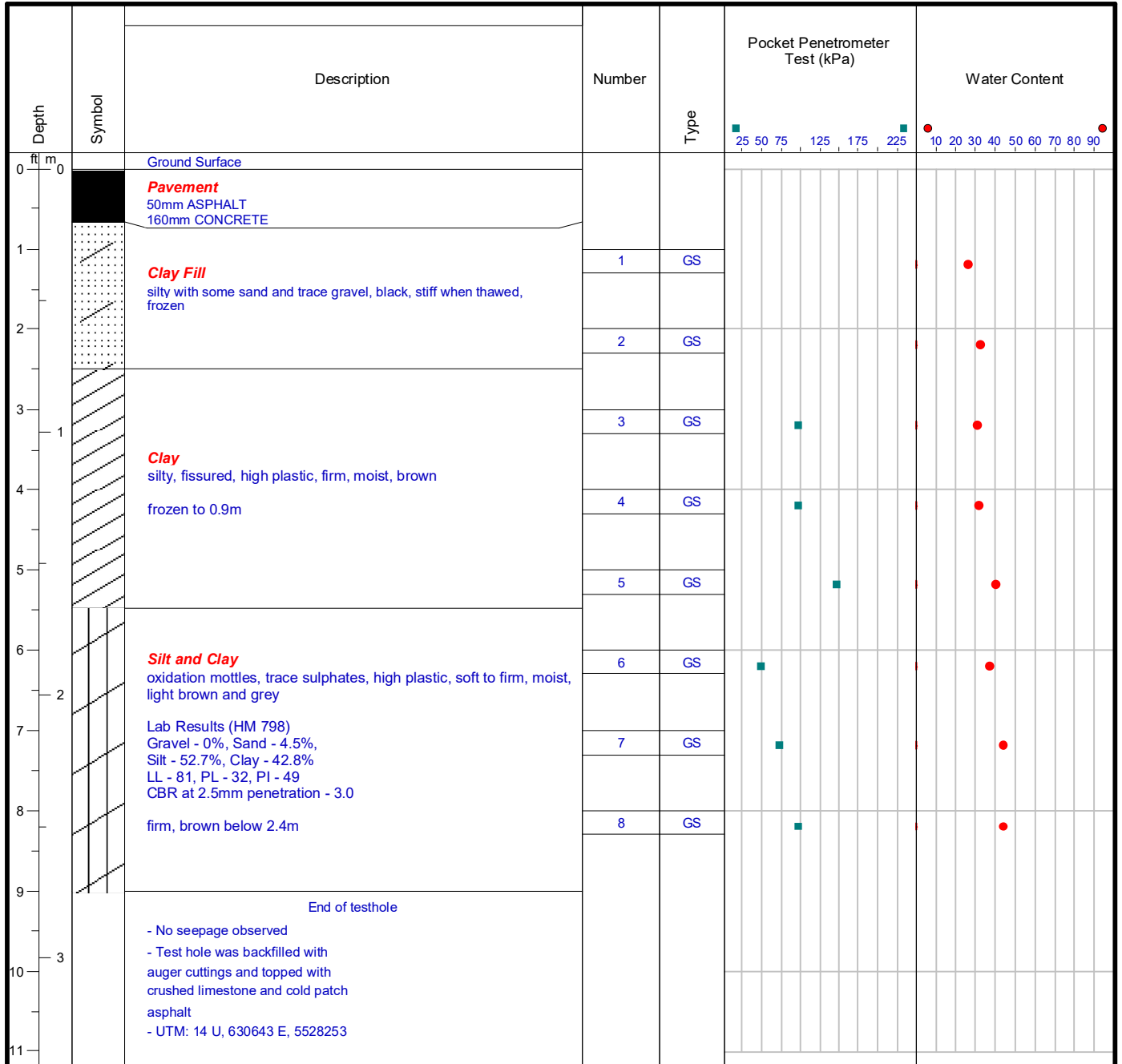
Datum: Existing surface

Drill Date: December 16, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1



Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 16, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1

Depth ft m	Symbol	Description	Number	Type	Pocket Penetrometer Test (kPa)	Water Content
					25 50 75 125 175 225	10 20 30 40 50 60 70 80 90
0		Ground Surface				
		Pavement 30mm ASPHALT 170mm CONCRETE				
1		Clay Fill silty with some sand and trace gravel, black, stiff when thawed, frozen	1	GS		
2			2	GS		
3			3	GS		
4		Clay silty, fissured, high plastic, firm, moist, brown frozen to 0.9m	4	GS		
5			5	GS		
6			6	GS		
7		Silt and Clay oxidation mottles, trace sulphates, high plastic, soft to firm, moist, light brown and grey	7	GS		
8		firm, brown below 2.4m	8	GS		
9		End of testhole				
10		- No seepage observed - Test hole was backfilled with auger cuttings and topped with crushed limestone and cold patch asphalt -UTM:14 U, 630641 E, 5528346 N				
11						

Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 16, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1

CALIFORNIA BEARING RATIO (CBR) TEST - ASTM D 1883

 Client: AECOM Canada ULC
 99 Commerce Drive, Winnipeg
 MB R3P 0Y7

Attention: Ryan Cunningham

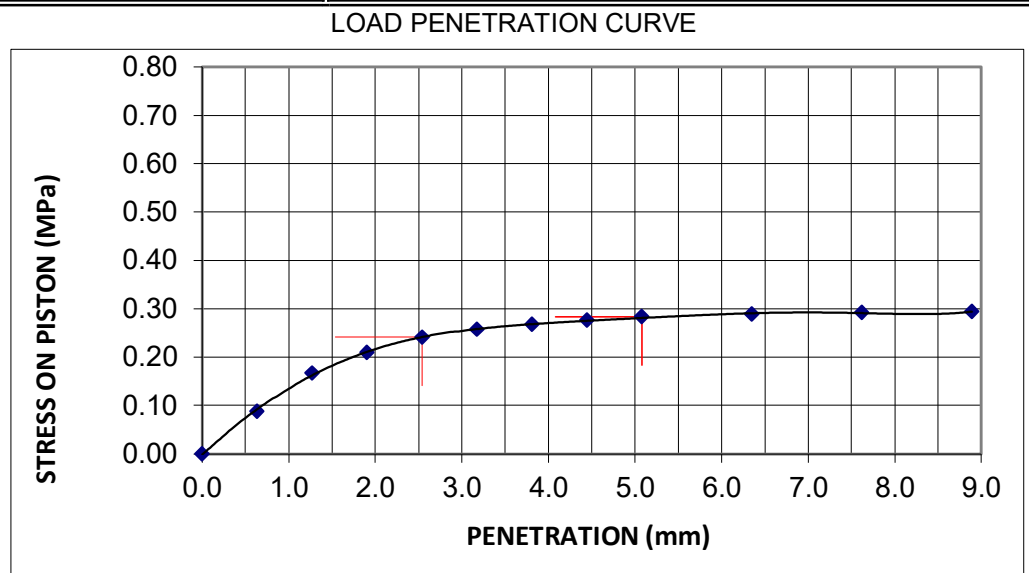
Project 2026 Local Street Renewal Program – 26-R-06

Location: Goulding St., between Ellice Ave and Matthews Ave

 Project No: 112-2512
 Lab No: HM 797
 Date sampled/By: 18-Dec-25 MK
 Date Received: 18-Dec-25 MK
 Date Tested /By: 26-Dec-25 ECS

SAMPLE DATA		SPECIMEN DATA		
Sample Type:	SILT - some clay, trace sand	DESCRIPTION	Before Soaking	After Testing
Source:	Goulding St. - TH-2 - GS 6	Moisture Content (MC), %	16.2	18.1
Sampled by:	MK	MC of top 25mm layer, %		
Optimum Moisture Content:	15.2 %	Dry Density, kg/m ³	1743	1708
Maximum Dry Density:	1833 kg/cm ³	Compaction, %	95%	
Method of Compaction:	Standard Proctor	CBR at 2.5mm penetration, %		3.5
Tested by:	CB	Swell, %		2.8
	Date Tested: 22-Dec-25			

LOAD DATA	
PENETRATION mm	STRESS MPa
0	0.00
0.64	0.09
1.27	0.17
1.91	0.21
2.54	0.24
3.18	0.26
3.81	0.27
4.45	0.28
5.08	0.28
6.35	0.29
7.62	0.29
8.89	0.29



PENETRATION mm	STANDARD LOAD MPa	TEST LOAD		BEARING RATIO (soaked)	
		ACTUAL MPa	CORRECTED MPa	at 2.5 mm penetration	at 5.1 mm penetration
2.54	6.9	0.24	0.24	3.5	-
5.08	10.3	0.28	0.28	-	2.8

Remarks:

P. Bevel

Reviewed by: Paul Bevel

CALIFORNIA BEARING RATIO (CBR) TEST - ASTM D 1883

 Client: AECOM Canada ULC
 99 Commerce Drive, Winnipeg
 MB R3P 0Y7

 Project No: 112-2512
 Lab No: HM 798
 Date sampled/By: 18-Dec-25 MK
 Date Received: 18-Dec-25 MK
 Date Tested /By: 02-Jan-26 MA

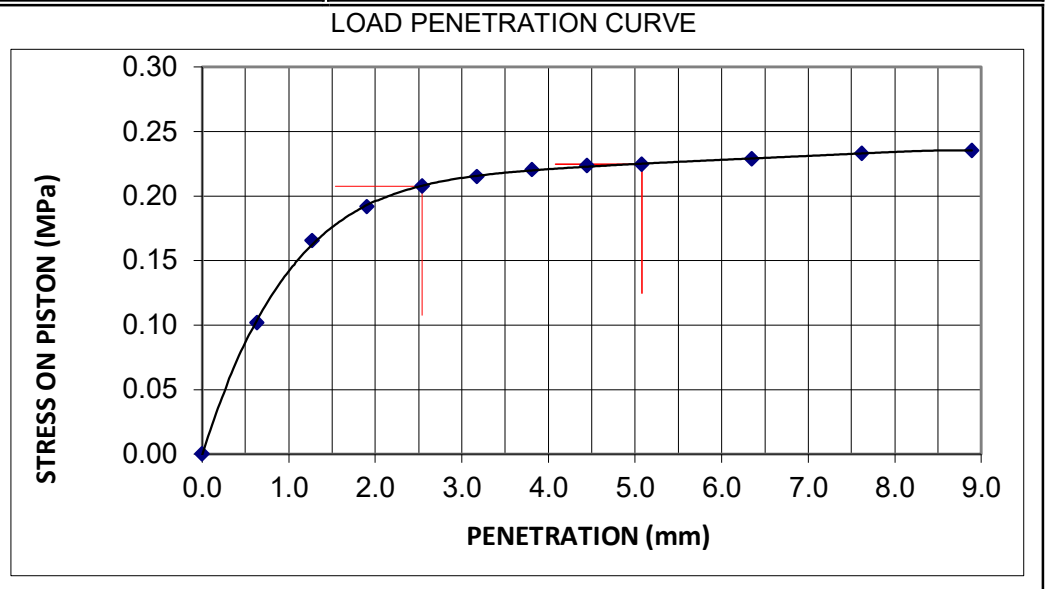
Attention: Ryan Cunningham

Project 2026 Local Street Renewal Program – 26-R-06

Location: Goulding St., between Ellice Ave and Matthews Ave

SAMPLE DATA		SPECIMEN DATA		
Sample Type:	SILT and clay	DESCRIPTION	Before Soaking	After Testing
Source:	Goulding St. - TH-3 - GS 6	Moisture Content (MC), %	25.1	30.4
Sampled by:	MK	MC of top 25mm layer, %		
Optimum Moisture Content:	24.6 %	Dry Density, kg/m ³	1450	1446
Maximum Dry Density:	1525 kg/cm ³	Compaction, %	95%	
Method of Compaction:	Standard Proctor	CBR at 2.5mm penetration, %		3.0
Tested by:	MA	Swell, %		5.8
	Date Tested: 30-Dec-25			

LOAD DATA	
PENETRATION mm	STRESS MPa
0	0.00
0.64	0.10
1.27	0.17
1.91	0.19
2.54	0.21
3.18	0.21
3.81	0.22
4.45	0.22
5.08	0.22
6.35	0.23
7.62	0.23
8.89	0.24



PENETRATION mm	STANDARD LOAD MPa	TEST LOAD		BEARING RATIO (soaked)	
		ACTUAL MPa	CORRECTED MPa	at 2.5 mm penetration	at 5.1 mm penetration
2.54	6.9	0.21	0.21	3.0	-
5.08	10.3	0.22	0.22	-	2.2

Remarks:

P. Bevel

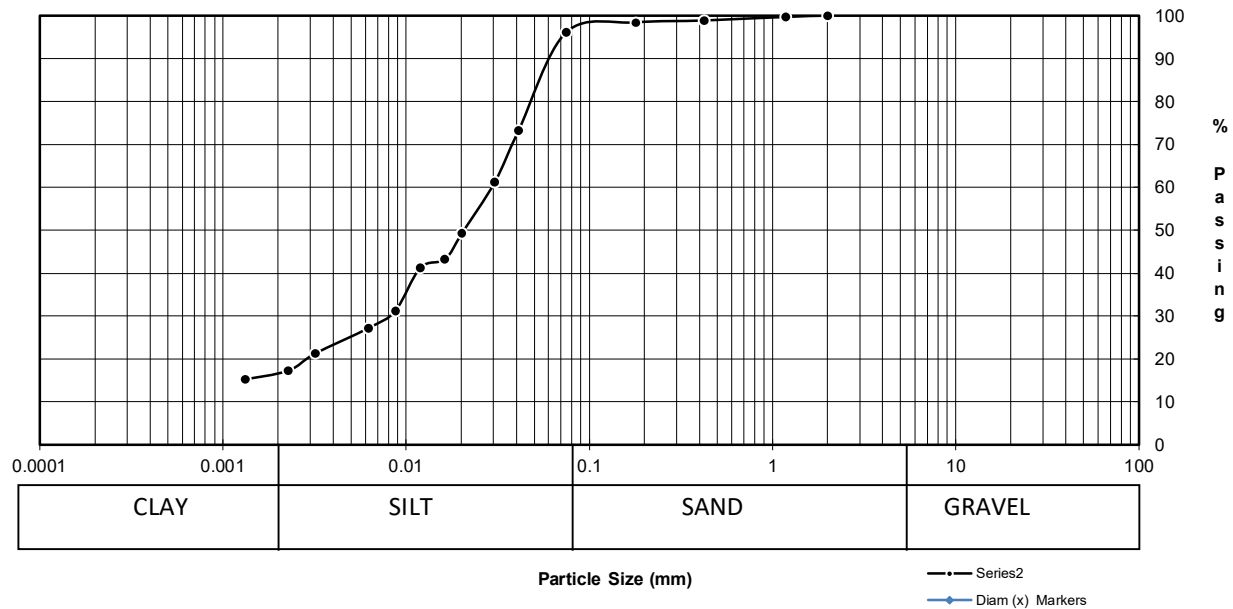
Reviewed by: Paul Bevel

PARTICLE SIZE ANALYSIS OF SOILS TEST REPORT

CLIENT: AECOM Canada ULC Project No.: 112-2512
99 Commerce Drive, Winnipeg PSA Test No.: 1
MB R3P 0Y7 Lab No.: HM 797
ATTENTION: Ryan Cunningham
PROJECT: 2026 Local Street Renewal Program – 26-R-06
Goulding St., between Ellice Ave and Matthews Ave

Date Sampled: 18-Dec-25	Date Received: 18-Dec-25	Sieve Analysis	Hydrometer Analysis
Sampled By: MK	Date Tested: 19-Dec-25	Sieve (mm) % Passing	Diameter % Finer
Material Identification B.H./T.H. No. TH 2 Depth 5.5-ft Sample Source GS 6 Specific Gravity of Material: 2.65	50.00	100.0	
	37.50	100.0	
	25.00	100.0	
	19.00	100.0	
	16.00	100.0	
	12.50	100.0	0.0411 73.2
	9.50	100.0	0.0305 61.2
	4.75	100.0	0.0202 49.2
	2.00	100.0	0.0163 43.2
	1.18	99.8	0.0120 41.2
	0.425	98.9	0.0087 31.2
	0.180	98.4	0.0063 27.2
	0.075	96.1	0.0013 15.2

Grain Size Analysis



	% Composition		D10
			D30
	3.86	Gravel	D60
	79.48	Sand	Cu
	16.66	Clay	Cc

Remarks:

P. Bevel

Technician: B. Yung

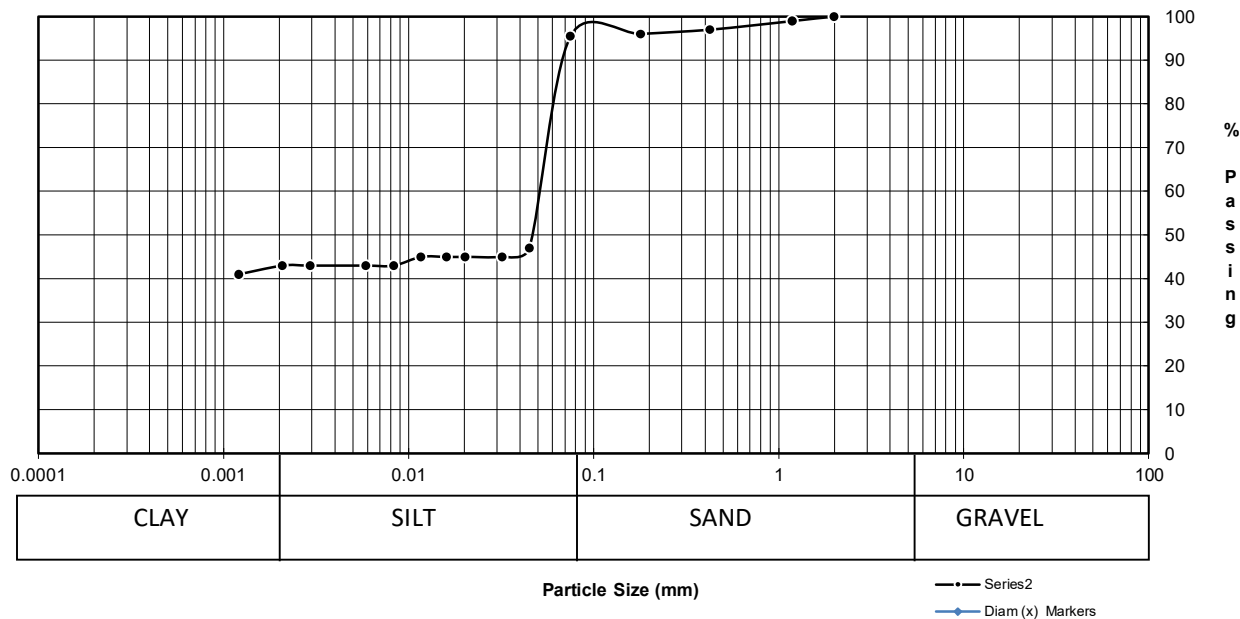
Reviewed by Paul Bevel

PARTICLE SIZE ANALYSIS OF SOILS TEST REPORT

CLIENT: AECOM Canada ULC Project No.: 112-2512
99 Commerce Drive, Winnipeg PSA Test No.: 2
MB R3P 0Y7 Lab No.: HM 798
ATTENTION: Ryan Cunningham
PROJECT: 2026 Local Street Renewal Program – 26-R-06
Goulding St., between Ellice Ave and Matthews Ave

Date Sampled:	18-Dec-25	Date Received:	18-Dec-25	Sieve Analysis		Hydrometer Analysis	
Sampled By:	MK	Date Tested:	29-Dec-25	Sieve (mm)	% Passing	Diameter	% Finer
Material Identification B.H./T.H. No. TH 3 Depth 6-ft Sample Source GS 6 Specific Gravity of Material: 2.65				50.00	100.0		
				37.50	100.0		
				25.00	100.0		
				19.00	100.0		
				16.00	100.0		
				12.50	100.0	0.0449	47.0
				9.50	100.0	0.0320	45.0
				4.75	100.0	0.0202	45.0
				2.00	100.0	0.0160	45.0
				1.18	99.0	0.0117	45.0
				0.425	97.0	0.0083	43.0
				0.180	96.0	0.0059	43.0
				0.075	95.5	0.0012	41.0

Grain Size Analysis



% Composition		D10
4.50	Gravel	D30
52.68	Sand	D60
42.82	Silt	Cu
	Clay	Cc

Remarks:

Technician: E. Santiago

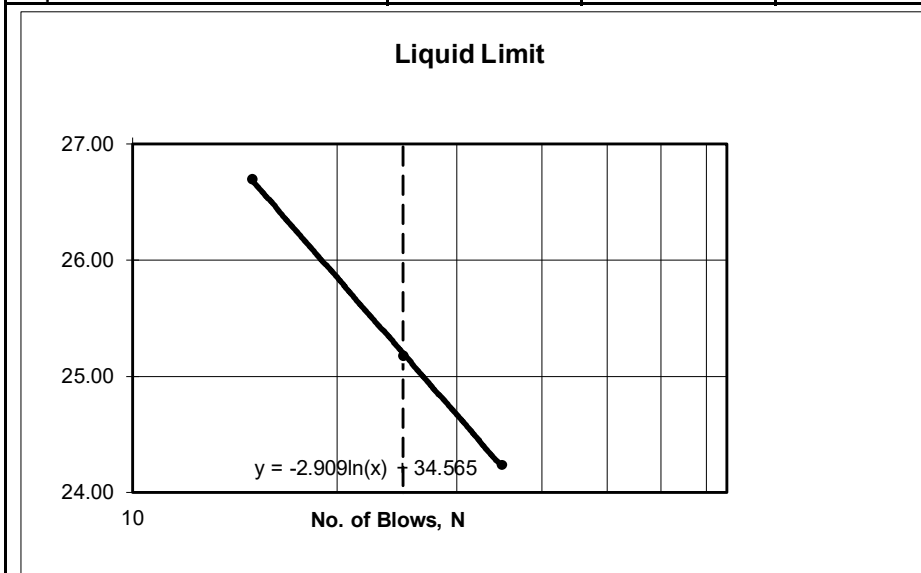
Reviewed by: Paul Bevel

P. Bevel

Atterberg Limits (ASTM D4318)

Client:	AECOM Canada ULC	Project No.:	112-2512
	99 Commerce Drive, Winnipeg	PI Test No.:	1
	MB R3P 0Y7	Lab No.:	HM 797
Attention.:	Ryan Cunningham	Date Sampled/By:	18-Dec-25 MK
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	18-Dec-25
	Goulding St. bet. Ellice Ave/Matthews Ave	Date Tested / By:	19-Dec-25 GM

Liquid Limit Determination					Liquid Limit 25 Blows
Dish No.:	1	2	3		
Wet Soil + Dish:	10.57	11.6	13.08		
Dry Soil + Dish:	9.38	10.17	11.27		
Moisture:	1.19	1.43	1.81		
Dish:	4.47	4.49	4.49		
Dry Soil:	4.91	5.68	6.78		
% Moisture:	24.24	25.18	26.70		
No. of Blows:	35	25	15		
Liquid Limit:					25

**Material Identification:**

Test Hole: **TH 2**
Grab Sample No: **GS 6**
Depth: **5.5-ft**

Liquid Limit, %: **25**
Plastic Limit, %: **13**
Plasticity Index: **12**
(LL-PL)

Plastic Limit Determination					
Dish No.:	1	2	3		
Wet Soil + Dish:	11.66	11.69	11.63		
Dry Soil + Dish:	10.84	10.85	10.80		
Moisture:	0.82	0.84	0.83		
Dish:	4.42	4.42	4.44		
Dry Soil:	6.42	6.43	6.36		
% Moisture:	12.77	13.06	13.05		
				Average:	13

Test Method : ASTM: D4318, D2216

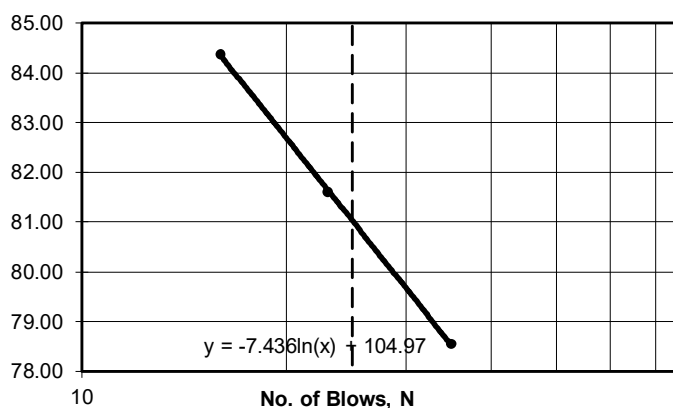
Remarks:

P. Bevel
Reviewed by: Paul Bevel

Atterberg Limits (ASTM D4318)

Client:	AECOM Canada ULC	Project No.:	112-2512
	99 Commerce Drive, Winnipeg	PI Test No.:	2
	MB R3P 0Y7	Lab No.:	HM 798
Attention.:	Ryan Cunningham	Date Sampled/By:	18-Dec-25 MK
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	18-Dec-25
	Goulding St. bet. Ellice Ave/Matthews Ave	Date Tested / By:	19-Dec-25 GM

Liquid Limit Determination					Liquid Limit 25 Blows
Dish No.:	1	2	3		
Wet Soil + Dish:	10.89	11.68	11.54		
Dry Soil + Dish:	8.07	8.44	8.3		
Moisture:	2.82	3.24	3.24		
Dish:	4.48	4.47	4.46		
Dry Soil:	3.59	3.97	3.84		
% Moisture:	78.55	81.61	84.37		
No. of Blows:	35	23	16		
Liquid Limit:					81

Liquid Limit**Material Identification:**

Test Hole: **TH 2**
Grab Sample No: **GS 6**
Depth: **6-ft**

Liquid Limit, %: **81**
Plastic Limit, %: **32**
Plasticity Index: **49**
(LL-PL)

Plastic Limit Determination					
Dish No.:	1	2	3		
Wet Soil + Dish:	10.39	10.69	10.73		
Dry Soil + Dish:	8.93	9.16	9.25		
Moisture:	1.46	1.53	1.48		
Dish:	4.4	4.49	4.49		
Dry Soil:	4.53	4.67	4.76		
% Moisture:	32.23	32.76	31.09		
				Average:	32

Test Method : ASTM: D4318, D2216

Remarks:

P. Bevel

Reviewed by: Paul Bevel

MAXIMUM DRY DENSITY AND MOISTURE CONTENT - Proctor Method (ASTM D698)

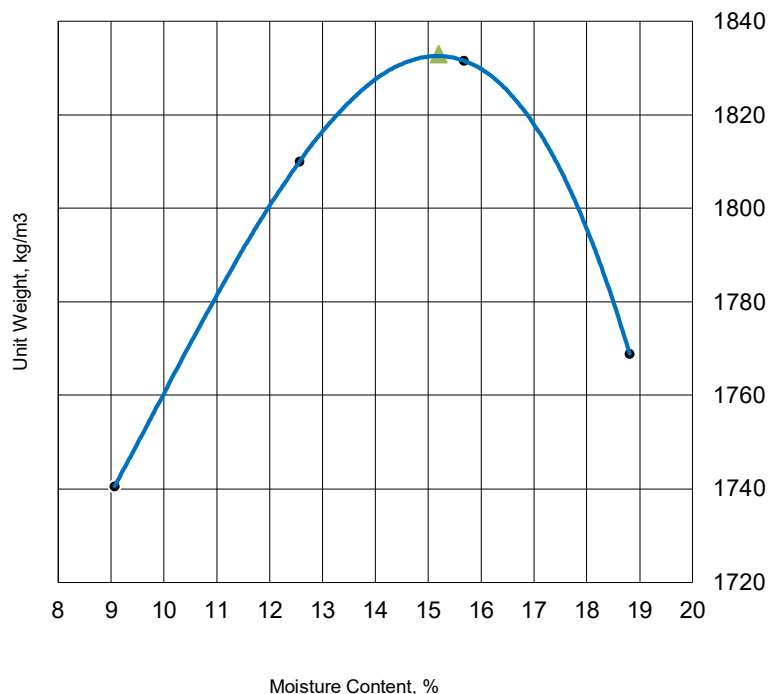
CLIENT	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No.:	112-2512
ATTENTION:	Ryan Cunningham	Lab No.:	HM 797
PROJECT:	2026 Local Street Renewal Program – 26-R-06 Goulding St., between Ellice Ave and Matthews Ave	Proctor Test No.:	1

Date Sampled:	18-Dec-25	Date Received:	18-Dec-25	PROCEDURE	A
Sampled By:	MK	Date Tested:	22-Dec-25	PREPARATION	Dry

MATERIAL INFORMATION				COMPACTION METHOD	Manual
Material Type:	SILT - some clay			BLOWS PER LAYER	25
Material Use:	Soil Investigat	Material Supplier:	Not Applicable	NO. OF LAYERS	3
Maximum Size:	5mm	Material Source:	TH 2 - GS 6	MOLD SIZE	100
				MOLD VOLUME	935
				WEIGHT OF HAMMER	2.5 kg

Test No.	1	2	3	4	
Wet Density	1898	2037	2119	2102	
Moisture Content	9.1	12.6	15.7	18.8	
Dry Density	1741	1810	1832	1769	

Moisture - Density Relationship



Maximum Dry Density (MDD):
1833 kg/m³
Optimum Moisture Content
15.2 %

STONE CORRECTION (ASTM D 4718)

Retained on 4.75mm sieve:
_____%
Corrected Moisture:
15.2 %
Corrected Maximum Dry Density:
1833 kg/m³

Remarks:

Tested by: C. Bautista

Reviewed by: Paul Bevel

P. Bevel

52

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	17
		Lab No.:	HM 817
Attention:	Ryan Cunningham	Date Sampled / By:	December 26, 2025/HA
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 26, 2025
		Date Tested / By:	December 27, 2025/Chris B.
Goulding St., between Ellice Ave and Matthews Ave			

Test Hole No.	TH1-GS1	TH1-GS2	TH1-GS3	TH1-GS4	TH1-GS5
Depth	1.5-ft	2.5-ft	3-ft	4-ft	5-ft
Tare No.	V2	B4	PS-3	Z-1	G12
Wt Wet Sample + Tare	184.2	189.3	210.7	187.3	237.7
Wt Dry Sample + Tare	138.4	142.2	162.2	151.8	178.1
Wt Water	45.8	47.1	48.5	35.5	59.6
Wt Tare	4.6	4.0	4.5	4.5	4.0
Wt Dry Sample	133.8	138.2	157.7	147.3	174.1
Moisture Content (%)	34.2	34.1	30.8	24.1	34.2
Test Hole No.	TH1-GS6	TH1-GS7	TH1-GS8		
Depth	6-ft	7-ft	8-ft		
Tare No.	SE-6	G2	H4		
Wt Wet Sample + Tare	160.7	171.3	172.1		
Wt Dry Sample + Tare	118.5	120	121.9		
Wt Water	42.2	51.3	50.2		
Wt Tare	4.9	4.7	4.5		
Wt Dry Sample	113.6	115.3	117.4		
Moisture Content (%)	37.1	44.5	42.8		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	1
		Lab No.:	HM 797
Attention:	Ryan Cunningham	Date Sampled / By:	December 18, 2025 / MK
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 18, 2025
	Goulding St., between Ellice Ave and Matthews Ave	Date Tested / By:	December 18, 2025/Mehdi A.

Test Hole No.	TH-2-GS1	TH-2-GS2	TH-2-GS3	TH-2-GS4	TH-2-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	M50	C2	C10	M9	G3
Wt Wet Sample + Tare	141.5	173.1	193.3	168.6	192.7
Wt Dry Sample + Tare	131.4	140.6	150.3	133.2	159.7
Wt Water	10.1	32.5	43.0	35.4	33.0
Wt Tare	4.8	4.9	4.8	4.7	4.8
Wt Dry Sample	126.6	135.7	145.5	128.5	154.9
Moisture Content (%)	8.0	23.9	29.6	27.5	21.3
Test Hole No.	TH-2-GS6	TH-2-GS7	TH-2-GS8	TH-2-GS8	
Depth	6-ft	7-ft	8-ft	9-ft	
Tare No.	M49	A-1	A-1A	A-1A	
Wt Wet Sample + Tare	207.4	174.1	238.4	171.3	
Wt Dry Sample + Tare	170.8	132.8	179.8	128.3	
Wt Water	36.6	41.3	58.6	43.0	
Wt Tare	4.9	4.8	4.8	4.8	
Wt Dry Sample	165.9	128.0	175.0	123.5	
Moisture Content (%)	22.1	32.3	33.5	34.8	
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

MOISTURE CONTENT OF SOIL (ASTM D2216)

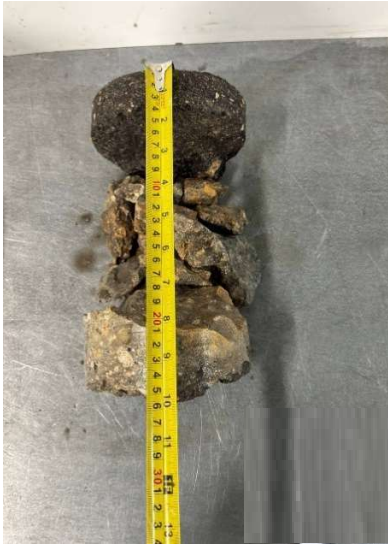
Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	18
		Lab No.:	HM 818
Attention:	Ryan Cunningham	Date Sampled / By:	December 26, 2025/HA
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 26, 2025
		Date Tested / By:	December 27, 2025/Chris B.
Goulding St., between Ellice Ave and Matthews Ave			

Test Hole No.	TH4-GS1	TH4-GS2	TH4-GS3	TH4-GS4	TH4-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	318	M32	M56	BR17	M41
Wt Wet Sample + Tare	164.2	166	160.1	178.9	227.2
Wt Dry Sample + Tare	119.8	122.2	118	134.44	174.7
Wt Water	44.4	43.8	42.1	44.5	52.5
Wt Tare	4.8	4.6	4.8	4.4	4.8
Wt Dry Sample	115.0	117.6	113.2	130.0	169.9
Moisture Content (%)	38.6	37.2	37.2	34.2	30.9
Test Hole No.	TH4-GS6	TH4-GS7	TH4-GS8		
Depth	6-ft	7-ft	8-ft		
Tare No.	PS-4	A-3	G13.		
Wt Wet Sample + Tare	161.1	187.2	173.8		
Wt Dry Sample + Tare	118.7	129.1	124		
Wt Water	42.4	58.1	49.8		
Wt Tare	4.4	4.7	5.2		
Wt Dry Sample	114.3	124.4	118.8		
Moisture Content (%)	37.1	46.7	41.9		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

Reconstruction Sites

Picture of Cores

Goulding St - Ellice Av/St Matthews Av



Core 1



Core 1 - Site Photo



Core 2



Core 2 - Site Photo

Reconstruction Sites

Picture of Cores

Goulding St - Ellice Av/St Matthews Av



Core 3



Core 3 - Site Photo



Core 4



Core 4 - Site Photo

APPENDIX B.3.

GOULDING STREET **(SARGENT AVE TO ELLICE AVE)**

Reconstruction Sites

Pavement Coring and Subsurface Drilling Locations

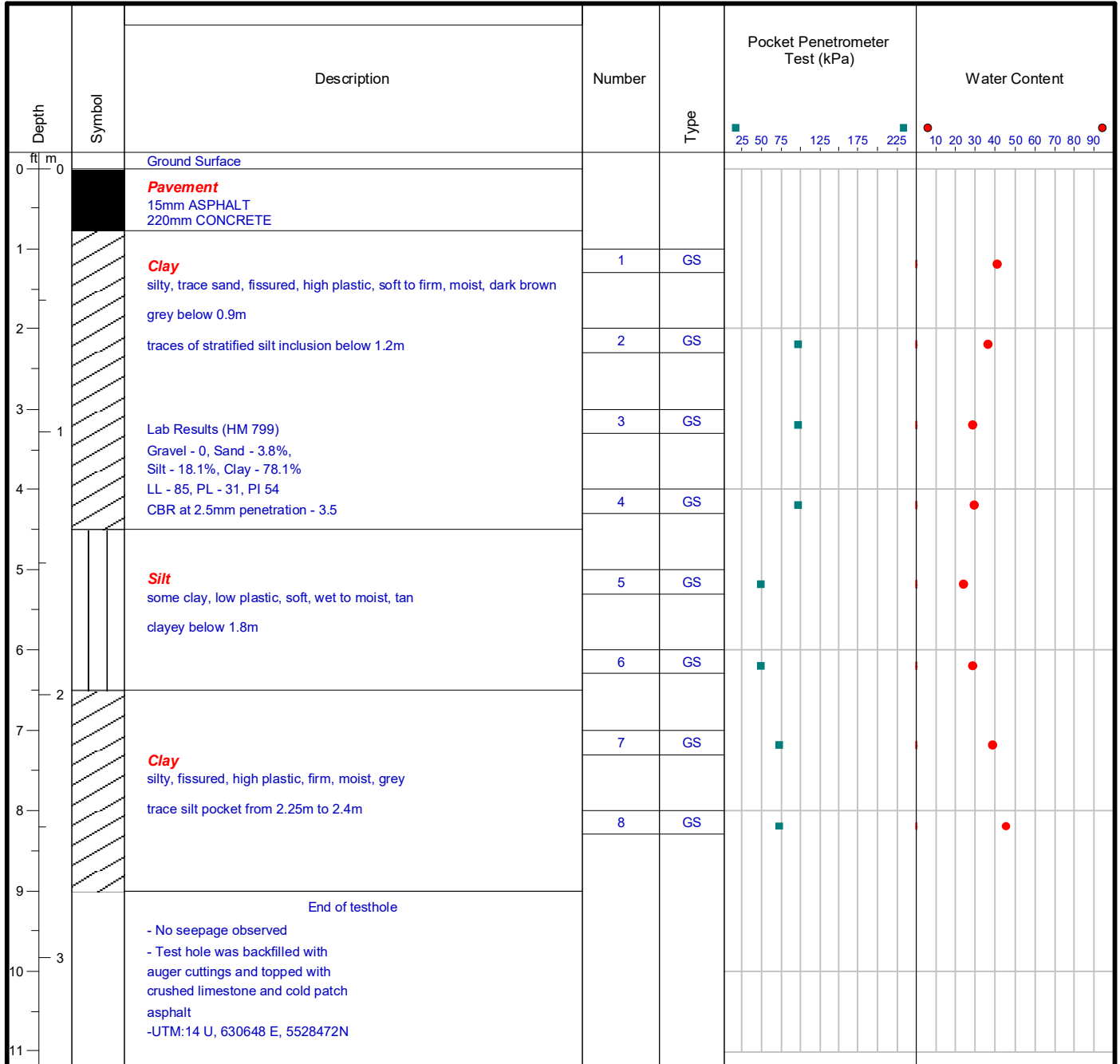


Reconstruction Sites

Pavement Structure Measurement

Test Hole No.	Test Hole Location	Asphalt Thickness (mm)	Concrete Thickness (mm)
Goulding Street (Sargent Ave to Ellice Ave)			
TH1	Front of House # 863 Goulding St., NBL; 1.5m away from curb 14 U, 630648 E, 5528472 N	15 ^A	220
TH2	Front of House # 880 Goulding St., SBL; 1.5m away from curb 14 U, 630646 E, 5528563 N	65	187 ^A
TH3	Front of House # 907 Goulding St., NBL; 1.5m away from curb 14 U, 630653 E, 5528698 N	92	190
TH4	Front of House # 919 Goulding St., NBL; 1m away from curb 14 U, 630655 E, 5528760 N	30 ^A	230 ^A

Note: ^A - The exact concrete thickness could not be determined due to the deterioration of the concrete.



Drill Method: Auger Drilling

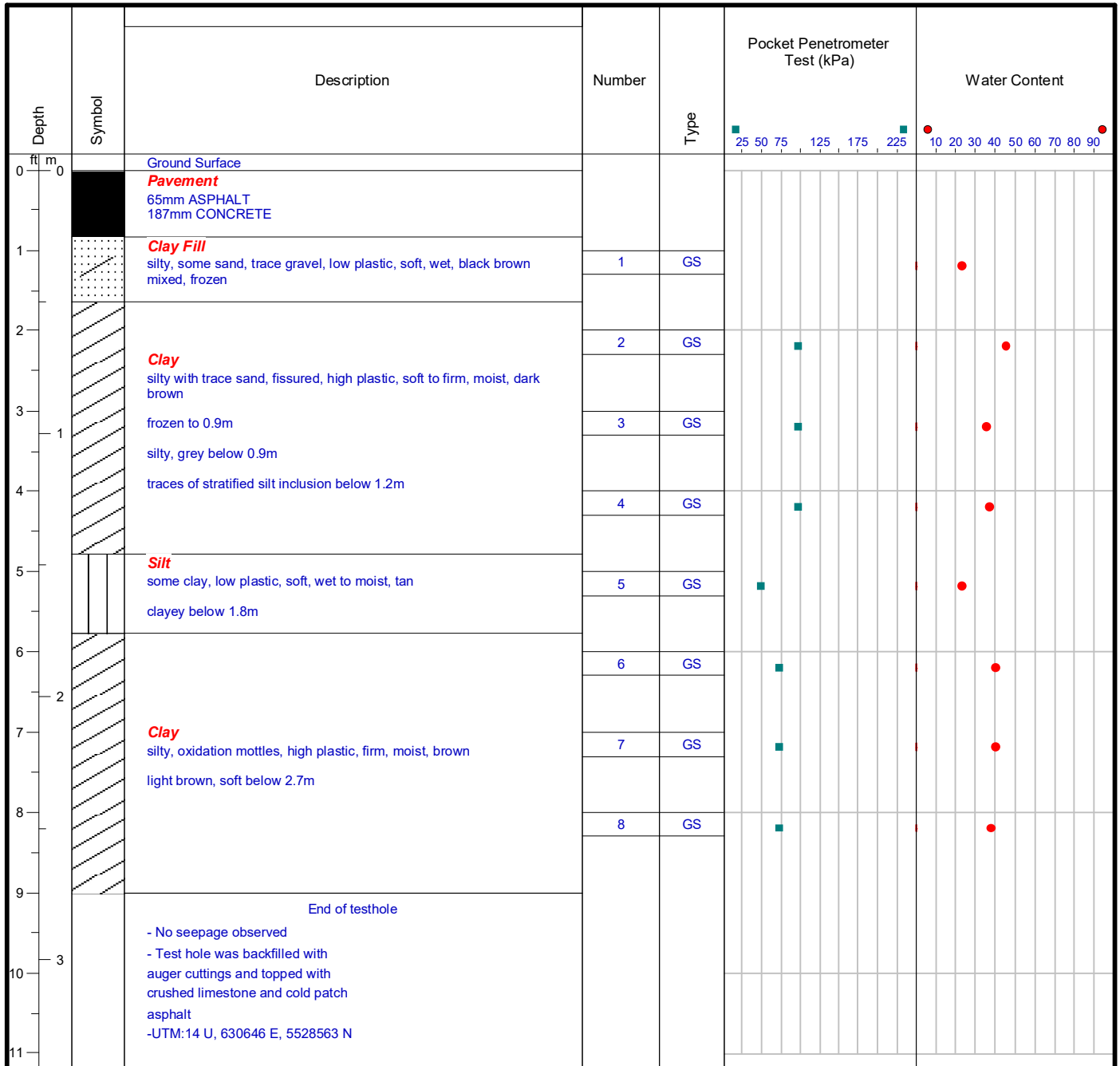
Datum: Existing surface

Drill Date: December 16, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1



Drill Method: Auger Drilling

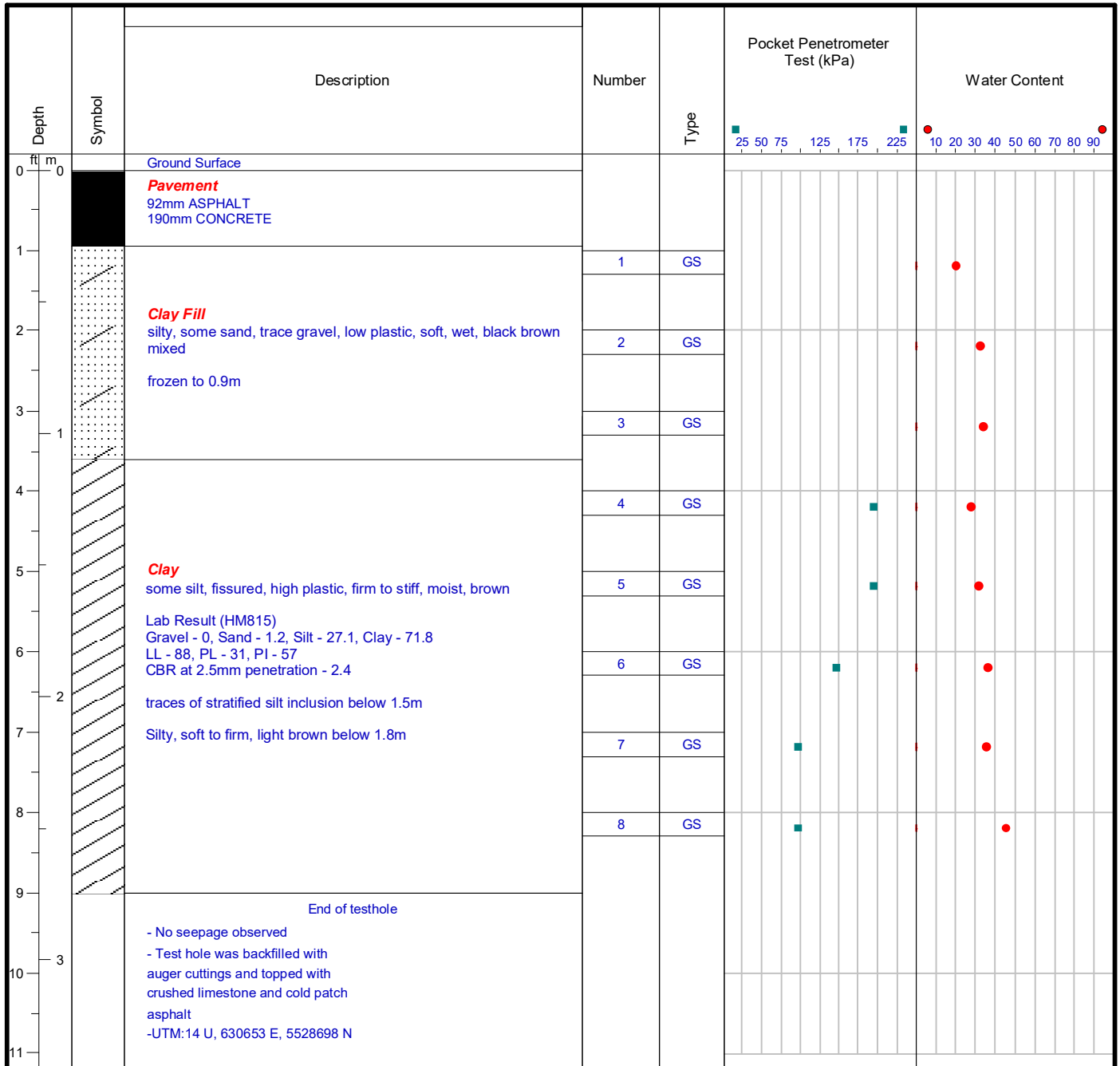
Datum: Existing surface

Drill Date: December 16, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1



Drill Method: Auger Drilling

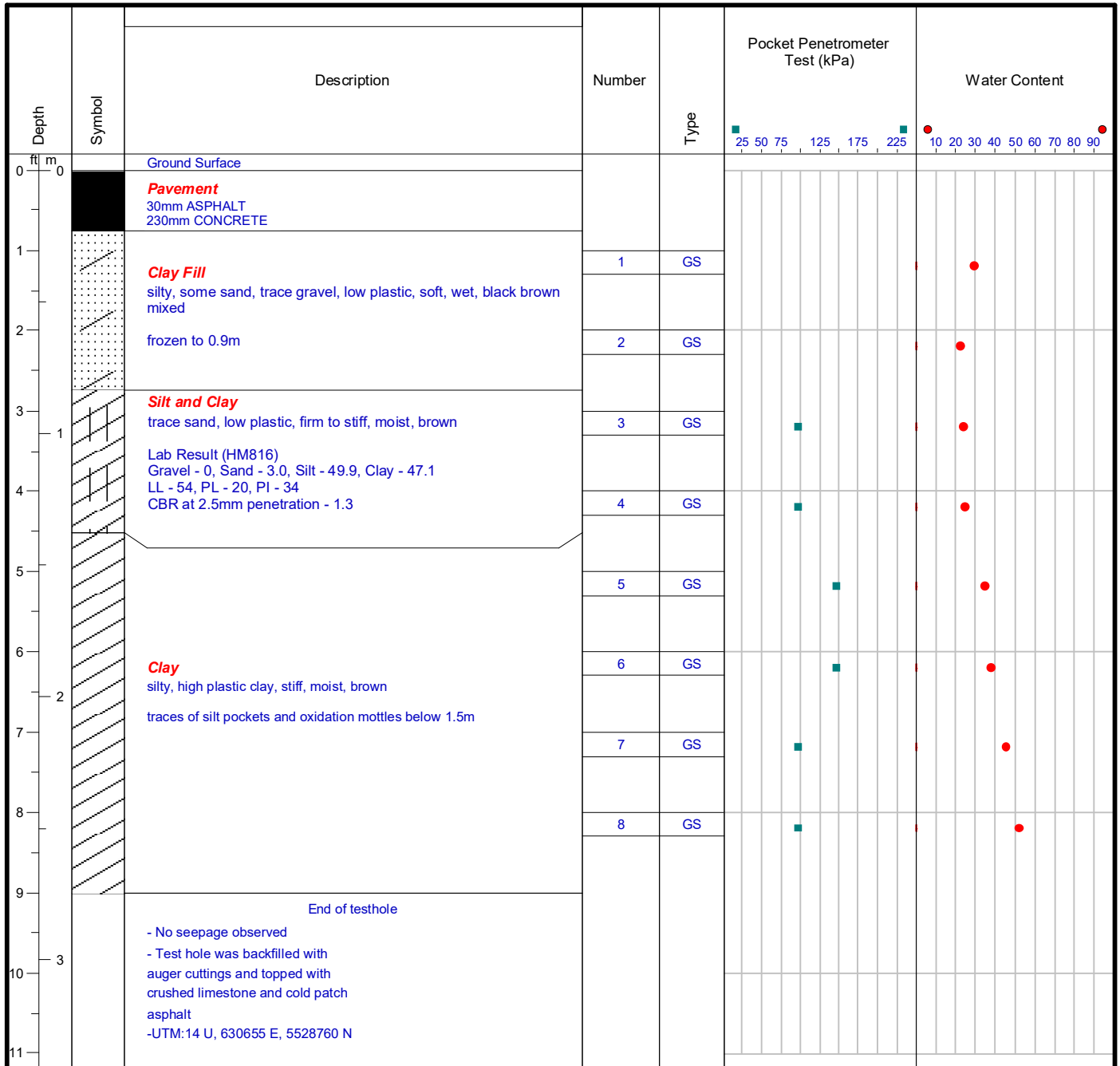
Datum: Existing surface

Drill Date: December 16, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1



Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 16, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1

CALIFORNIA BEARING RATIO (CBR) TEST - ASTM D 1883

 Client: AECOM Canada ULC
 99 Commerce Drive, Winnipeg
 MB R3P 0Y7

 Project No: 112-2512
 Lab No: HM 799
 Date sampled/By: 18-Dec-25 MK
 Date Received: 18-Dec-25 MK
 Date Tested /By: 26-Dec-25 ECS

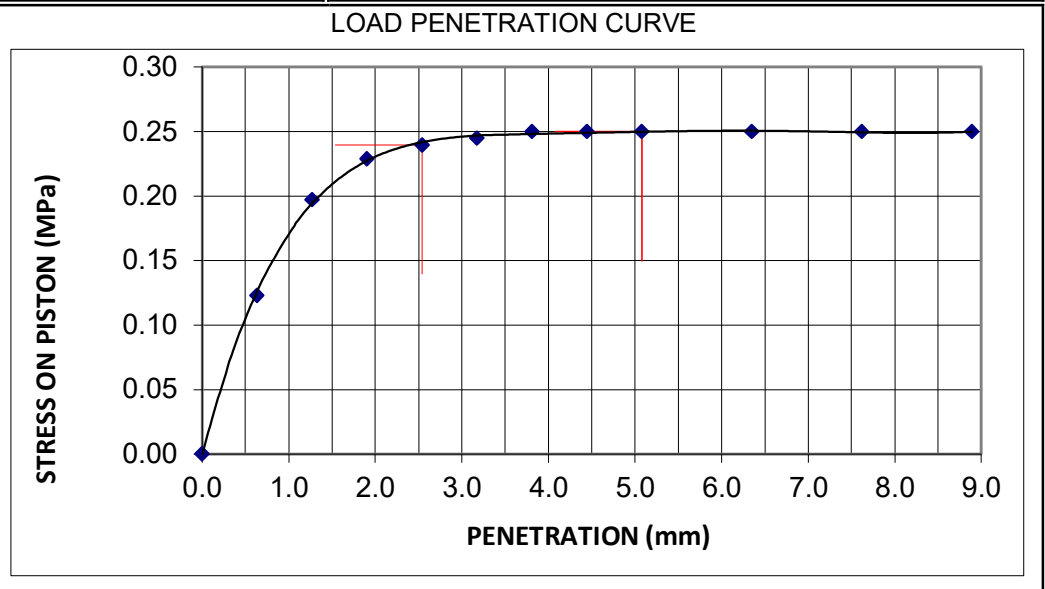
Attention: Ryan Cunningham

Project 2026 Local Street Renewal Program – 26-R-06

Location: Goulding St., between Sargent Ave and Ellice Ave

SAMPLE DATA		SPECIMEN DATA		
Sample Type:	CLAY - Silty with trace sand	DESCRIPTION	Before Soaking	After Testing
Source:	Goulding St. - TH-1 - GS 4	Moisture Content (MC), %	27.3	30.2
Sampled by:	MK	MC of top 25mm layer, %		
Optimum Moisture Content:	26.6 %	Dry Density, kg/m ³	1328	1315
Maximum Dry Density:	1396 kg/cm ³	Compaction, %	95%	
Method of Compaction:	Standard Proctor	CBR at 2.5mm penetration, %		3.5
Tested by:	MA	Swell, %		9.8
	Date Tested: 20-Dec-25			

LOAD DATA	
PENETRATION mm	STRESS MPa
0	0.00
0.64	0.12
1.27	0.20
1.91	0.23
2.54	0.24
3.18	0.24
3.81	0.25
4.45	0.25
5.08	0.25
6.35	0.25
7.62	0.25
8.89	0.25



PENETRATION mm	STANDARD LOAD MPa	TEST LOAD		BEARING RATIO (soaked)	
		ACTUAL MPa	CORRECTED MPa	at 2.5 mm penetration	at 5.1 mm penetration
2.54	6.9	0.24	0.24	3.5	-
5.08	10.3	0.25	0.25	-	2.4

Remarks:

P. Bevel

Reviewed by: Paul Bevel

CALIFORNIA BEARING RATIO (CBR) TEST - ASTM D 1883

 Client: AECOM Canada ULC
 99 Commerce Drive, Winnipeg
 MB R3P 0Y7

Attention: Ryan Cunningham

Project 2026 Local Street Renewal Program – 26-R-06

Location: Goulding St., between Sargent Ave and Ellice Ave

 Project No: 112-2512
 Lab No: HM 815
 Date sampled/By: 26-Dec-25 HA
 Date Received: 26-Dec-25 HA
 Date Tested /By: 02-Jan-26 MA

SAMPLE DATA		SPECIMEN DATA		
Sample Type:	CLAY - some silt	DESCRIPTION	Before Soaking	After Testing
Source:	Goulding St. - TH-3 - GS 4	Moisture Content (MC), %	28.9	30.3
Sampled by:	HA	MC of top 25mm layer, %		
Optimum Moisture Content:	28.6 %	Dry Density, kg/m ³	1378	1364
Maximum Dry Density:	1450 kg/cm ³	Compaction, %	95%	
Method of Compaction:	Standard Proctor	CBR at 2.5mm penetration, %		2.4
Tested by:	DA	Swell, %		5.8
	Date Tested: 29-Dec-25			

LOAD DATA		LOAD PENETRATION CURVE	
PENETRATION mm	STRESS MPa		
0	0.00		
0.64	0.09		
1.27	0.14		
1.91	0.16		
2.54	0.17		
3.18	0.17		
3.81	0.17		
4.45	0.17		
5.08	0.18		
6.35	0.18		
7.62	0.19		
8.89	0.19		

PENETRATION mm	STANDARD LOAD MPa	TEST LOAD		BEARING RATIO (soaked)	
		ACTUAL MPa	CORRECTED MPa	at 2.5 mm penetration	at 5.1 mm penetration
2.54	6.9	0.17	0.17	2.4	-
5.08	10.3	0.18	0.18	-	1.7

Remarks:

P. Bevel

Reviewed by: Paul Bevel

CALIFORNIA BEARING RATIO (CBR) TEST - ASTM D 1883

 Client: AECOM Canada ULC
 99 Commerce Drive, Winnipeg
 MB R3P 0Y7

Attention: Ryan Cunningham

Project 2026 Local Street Renewal Program – 26-R-06

Location: Goulding St., between Sargent Ave and Ellice Ave

Project No: 112-2512

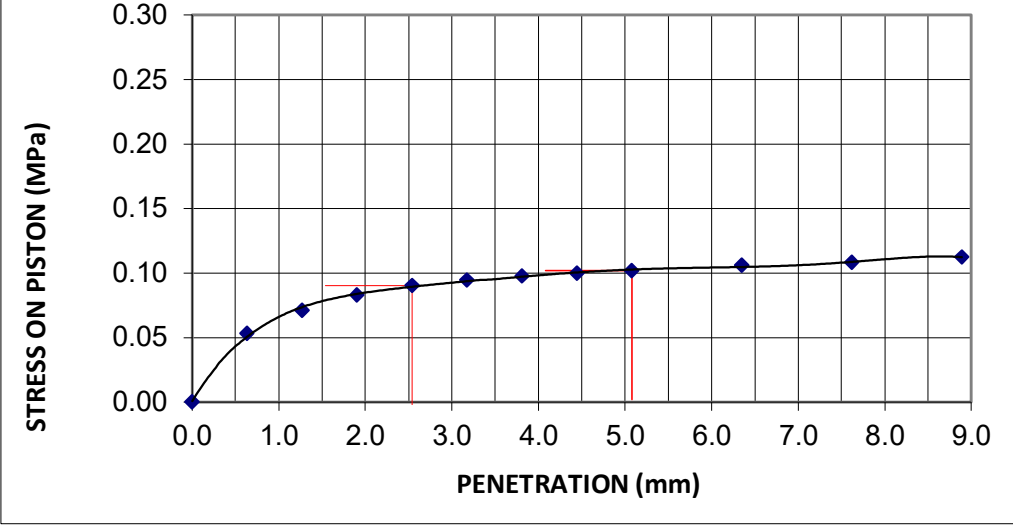
Lab No: HM 816

Date sampled/By: 26-Dec-25 HA

Date Received: 26-Dec-25 HA

Date Tested /By: 02-Jan-26 MA

SAMPLE DATA		SPECIMEN DATA		
Sample Type:	SILT and clay - trace sand	DESCRIPTION	Before Soaking	After Testing
Source:	Goulding St. - TH-4 - GS 4	Moisture Content (MC), %	20.1	24.3
Sampled by:	HA	MC of top 25mm layer, %		
Optimum Moisture Content:	19.8 %	Dry Density, kg/m ³	1535	1519
Maximum Dry Density:	1616 kg/cm ³	Compaction, %	95%	
Method of Compaction:	Standard Proctor	CBR at 2.5mm penetration, %		1.3
Tested by:	MA	Swell, %		7.5
	Date Tested: 30-Dec-25			

LOAD DATA		LOAD PENETRATION CURVE			
PENETRATION mm	STRESS MPa				
0	0.00				
0.64	0.05				
1.27	0.07				
1.91	0.08				
2.54	0.09				
3.18	0.09				
3.81	0.10				
4.45	0.10				
5.08	0.10				
6.35	0.11				
7.62	0.11				
8.89	0.11				
PENETRATION mm	STANDARD LOAD MPa	TEST LOAD		BEARING RATIO (soaked)	
		ACTUAL MPa	CORRECTED MPa	at 2.5 mm penetration	at 5.1 mm penetration
2.54	6.9	0.09	0.09	1.3	-
5.08	10.3	0.10	0.10	-	1.0

Remarks:

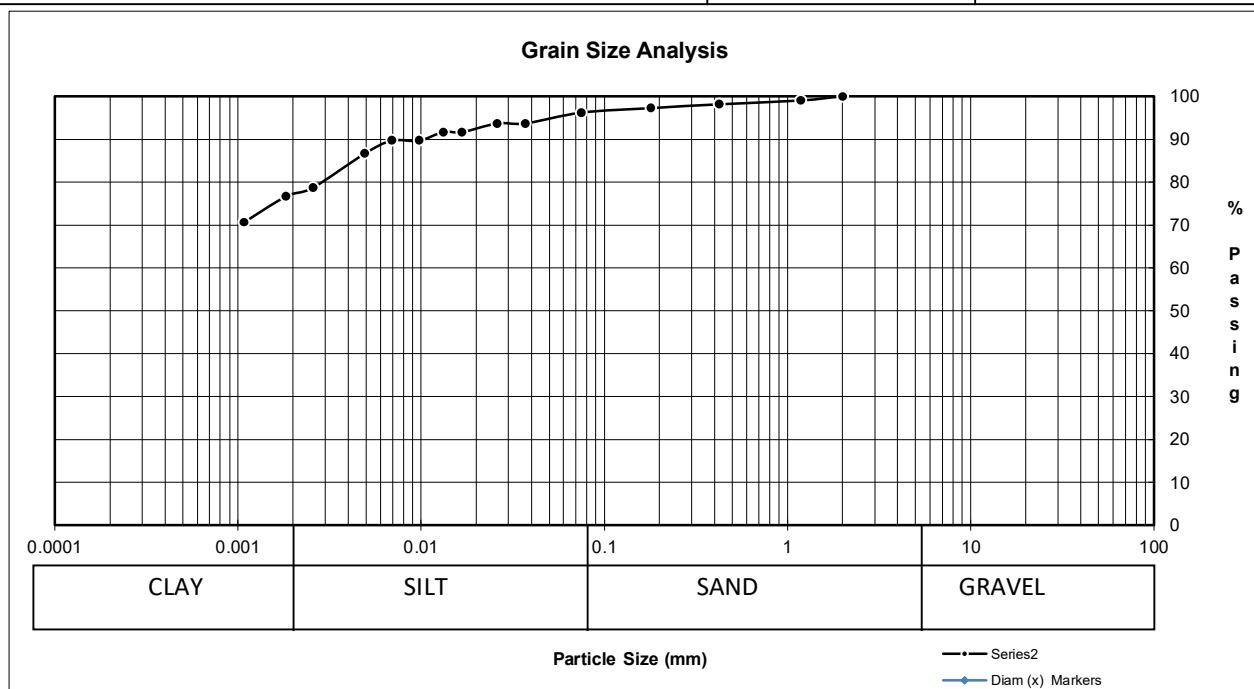
P. Bevel

Reviewed by: Paul Bevel

PARTICLE SIZE ANALYSIS OF SOILS TEST REPORT

CLIENT: AECOM Canada ULC Project No.: 112-2512
99 Commerce Drive, Winnipeg PSA Test No.: 3
MB R3P 0Y7 Lab No.: HM 799
ATTENTION: Ryan Cunningham
PROJECT: 2026 Local Street Renewal Program – 26-R-06
Goulding St., between Sargent Ave & Ellice Ave.

Date Sampled: 18-Dec-25	Date Received: 18-Dec-25	Sieve Analysis	Hydrometer Analysis
Sampled By: MK	Date Tested: 19-Dec-25	Sieve (mm) % Passing	Diameter % Finer
Material Identification B.H./T.H. No. TH 1 Depth 4-ft Sample Source GS 4 Specific Gravity of Material: 2.65	50.00	100.0	
	37.50	100.0	
	25.00	100.0	
	19.00	100.0	
	16.00	100.0	
	12.50	100.0	0.0370 93.7
	9.50	100.0	0.0262 93.7
	4.75	100.0	0.0167 91.7
	2.00	100.0	0.0132 91.7
	1.18	99.0	0.0097 89.7
	0.425	98.1	0.0069 89.7
	0.180	97.3	0.0049 86.7
	0.075	96.2	0.0011 70.7



% Composition		D10
3.78	Gravel	D30
18.13	Sand	D60
78.09	Silt	Cu
	Clay	Cc

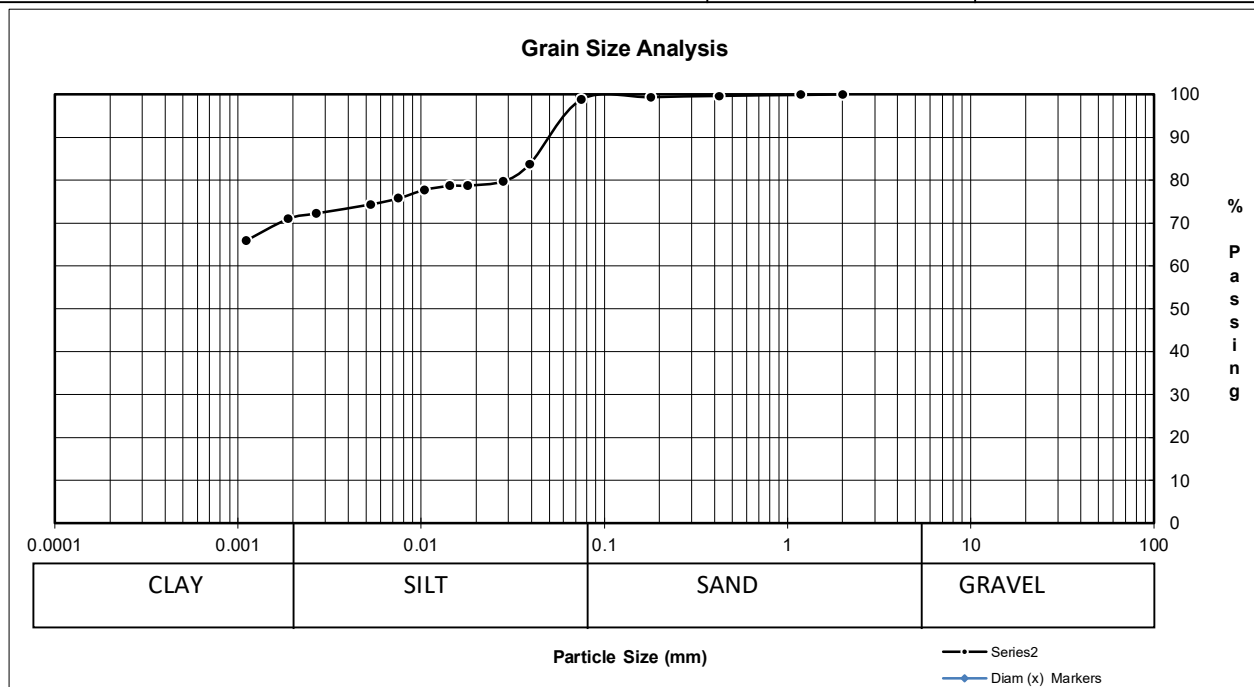
Remarks:

P. Bevel

PARTICLE SIZE ANALYSIS OF SOILS TEST REPORT

CLIENT: AECOM Canada ULC Project No.: 112-2512
99 Commerce Drive, Winnipeg PSA Test No.: 10
MB R3P 0Y7 Lab No.: HM 815
ATTENTION: Ryan Cunningham
PROJECT: 2026 Local Street Renewal Program – 26-R-06
Goulding St., between Sargent Ave & Ellice Ave.

Date Sampled: 26-Dec-25	Date Received: 26-Dec-25	Sieve Analysis	Hydrometer Analysis
Sampled By: HA	Date Tested: 30-Dec-25	Sieve (mm) % Passing	Diameter % Finer
Material Identification B.H./T.H. No. TH 3 Depth 4-ft Sample Source GS 4 Specific Gravity of Material: 2.65	50.00	100.0	
	37.50	100.0	
	25.00	100.0	
	19.00	100.0	
	16.00	100.0	
	12.50	100.0	0.0391 83.7
	9.50	100.0	0.0281 79.7
	4.75	100.0	0.0180 78.7
	2.00	100.0	0.0143 78.7
	1.18	99.9	0.0104 77.8
	0.425	99.6	0.0075 75.8
	0.180	99.3	0.0053 74.4
	0.075	98.8	0.0011 65.9



% Composition		D10
	Gravel	D30
1.16	Sand	D60
27.09	Silt	Cu
71.75	Clay	Cc

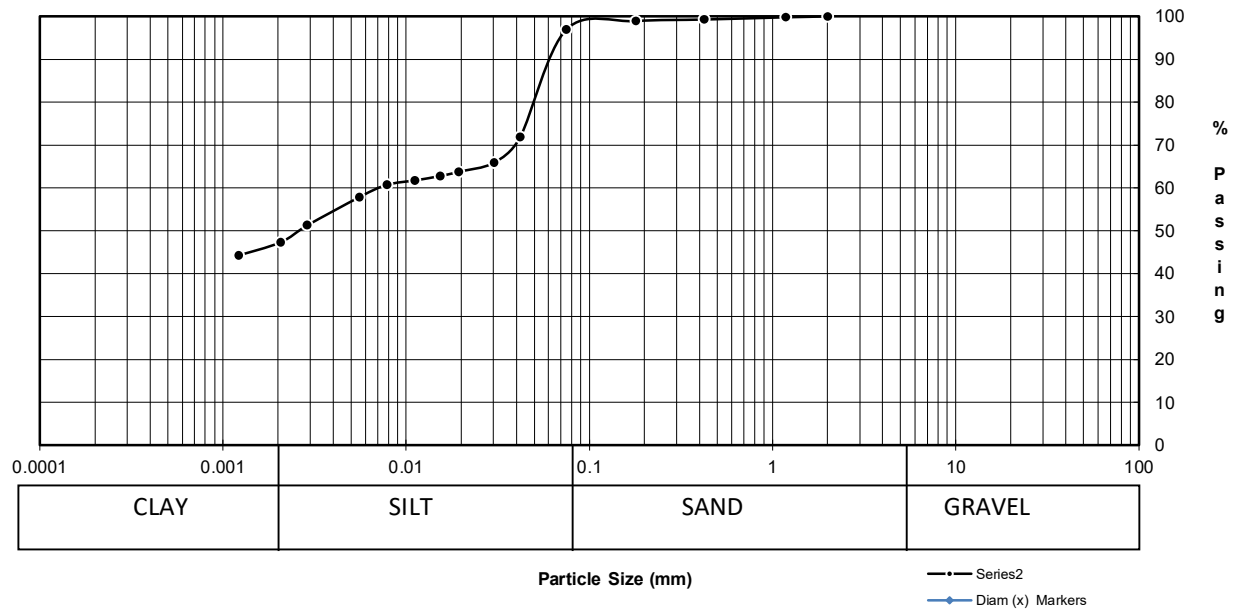
Remarks:

PARTICLE SIZE ANALYSIS OF SOILS TEST REPORT

CLIENT: AECOM Canada ULC Project No.: 112-2512
99 Commerce Drive, Winnipeg PSA Test No.: 11
MB R3P 0Y7 Lab No.: HM 816
ATTENTION: Ryan Cunningham
PROJECT: 2026 Local Street Renewal Program – 26-R-06
Goulding St., between Sargent Ave & Ellice Ave.

Date Sampled: 26-Dec-25	Date Received: 26-Dec-25	Sieve Analysis	Hydrometer Analysis
Sampled By: HA	Date Tested: 05-Jan-26	Sieve (mm) % Passing	Diameter % Finer
Material Identification B.H./T.H. No. TH 4 Depth 4-ft Sample Source GS 4 Specific Gravity of Material: 2.65	50.00	100.0	
	37.50	100.0	
	25.00	100.0	
	19.00	100.0	
	16.00	100.0	
	12.50	100.0	0.0418 71.9
	9.50	100.0	0.0303 65.9
	4.75	100.0	0.0193 63.8
	2.00	100.0	0.0153 62.8
	1.18	99.8	0.0112 61.8
	0.425	99.3	0.0079 60.7
	0.180	98.9	0.0056 57.9
	0.075	97.0	0.0012 44.3

Grain Size Analysis



% Composition		D10
3.04	Gravel	D30
49.88	Sand	D60
47.08	Silt	Cu
	Clay	Cc

Remarks:

P. Bevel

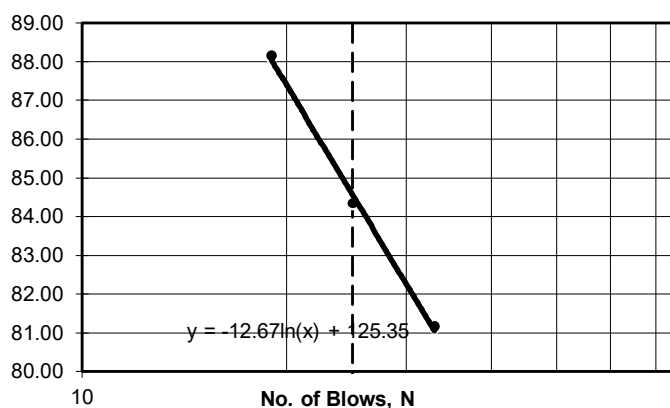
Atterberg Limits (ASTM D4318)

Client: AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7 Attention.: Ryan Cunningham Project: 2026 Local Street Renewal Program – 26-R-06 Goulding St., bet. Sargent Ave & Ellice Ave.	Project No.: 112-2512 PI Test No.: 3 Lab No.: HM 799 Date Sampled/By: 18-Dec-25 MK Date Received: 18-Dec-25 Date Tested / By: 19-Dec-25 GM
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Liquid Limit Determination

Dish No.:	1	2	3		Liquid Limit 25 Blows
Wet Soil + Dish:	12.19	10.19	11.62		
Dry Soil + Dish:	8.7	7.55	8.27		
Moisture:	3.49	2.64	3.35		
Dish:	4.4	4.42	4.47		
Dry Soil:	4.3	3.13	3.8		
% Moisture:	81.16	84.35	88.16		
No. of Blows:	33	25	19		
Liquid Limit:					85

Liquid Limit



Material Identification:

Test Hole: **TH 1**
 Grab Sample No: **GS 4**
 Depth: **4-ft**

Liquid Limit, %: **85**
 Plastic Limit, %: **31**
 Plasticity Index: **54**
 (LL-PL)

Plastic Limit Determination

Dish No.:	1	2	3	
Wet Soil + Dish:	9.88	10.48	10.21	
Dry Soil + Dish:	8.59	9.07	8.89	
Moisture:	1.29	1.41	1.32	
Dish:	4.41	4.49	4.47	
Dry Soil:	4.18	4.58	4.42	
% Moisture:	30.86	30.79	29.86	
				Average:
				31

Test Method : ASTM: D4318, D2216

Remarks:

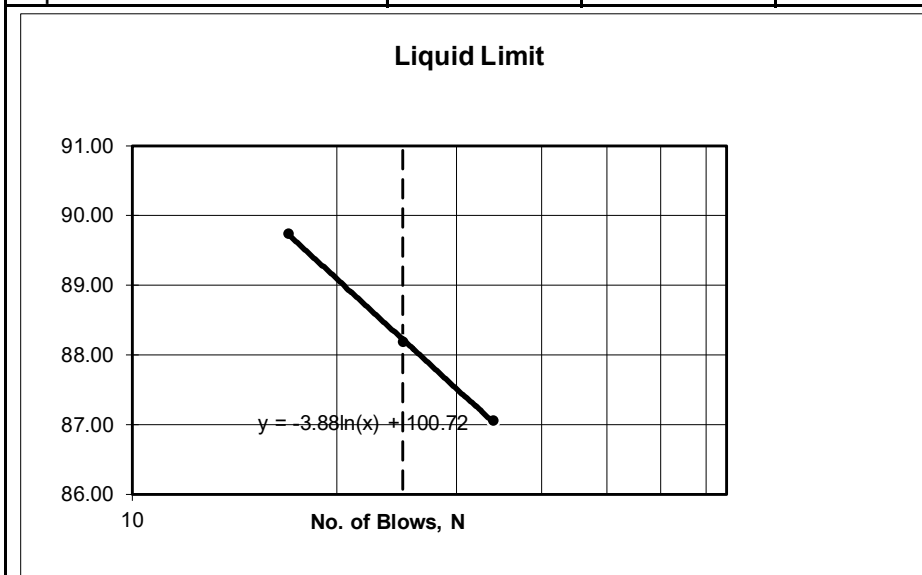
P. Bevel

Reviewed by: Paul Bevel

Atterberg Limits (ASTM D4318)

Client: AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7 Attention.: Ryan Cunningham Project: 2026 Local Street Renewal Program – 26-R-06 Goulding St., bet. Sargent Ave & Ellice Ave.	Project No.: 112-2512 PI Test No.: 10 Lab No.: HM 815 Date Sampled/By: 26-Dec-25 HA Date Received: 26-Dec-25 Date Tested / By: 05-Jan-26 GM
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Liquid Limit Determination					Liquid Limit 25 Blows
Dish No.:	1	2	3		
Wet Soil + Dish:	13.06	11.06	12.00		
Dry Soil + Dish:	9.36	8.00	8.85		
Moisture:	3.7	3.06	3.15		
Dish:	5.11	4.53	5.34		
Dry Soil:	4.25	3.47	3.51		
% Moisture:	87.06	88.18	89.74		
No. of Blows:	34	25	17		
Liquid Limit:					88


Material Identification:

Test Hole: **TH 3**
 Grab Sample No: **GS 4**
 Depth: **4-ft**

Liquid Limit, %: **88**
 Plastic Limit, %: **31**
 Plasticity Index: **57**
 (LL-PL)

Plastic Limit Determination					
Dish No.:	1	2	3		
Wet Soil + Dish:	9.67	10.16	10.36		
Dry Soil + Dish:	8.42	8.84	8.96		
Moisture:	1.25	1.32	1.4		
Dish:	4.45	4.48	4.46		
Dry Soil:	3.97	4.36	4.5		
% Moisture:	31.49	30.28	31.11		
				Average:	31

Test Method : ASTM: D4318, D2216

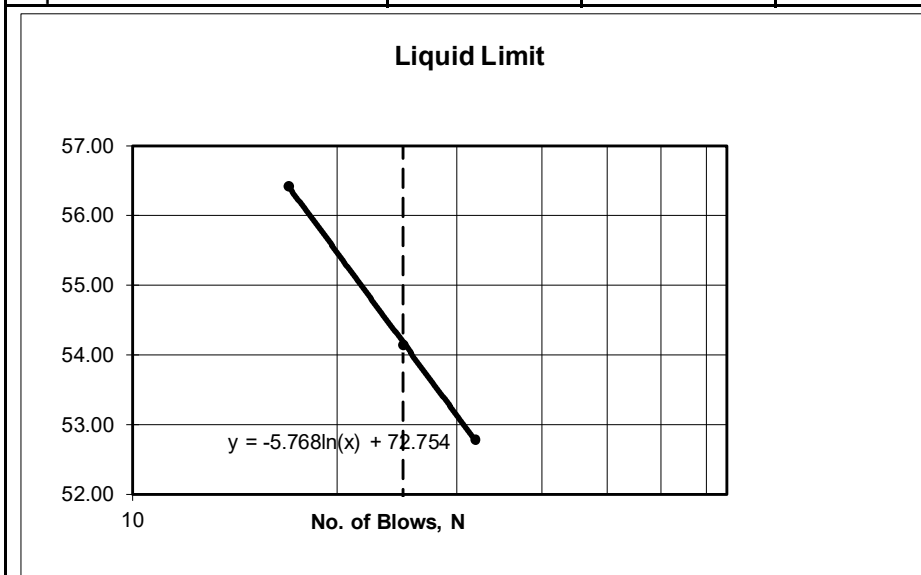
Remarks:

Reviewed by: Paul Bevel

Atterberg Limits (ASTM D4318)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No.:	112-2512
Attention.:	Ryan Cunningham	PI Test No.:	11
Project:	2026 Local Street Renewal Program – 26-R-06	Lab No.:	HM 816
	Goulding St., bet. Sargent Ave & Ellice Ave.	Date Sampled/By:	26-Dec-25 HA
		Date Received:	26-Dec-25
		Date Tested / By:	06-Jan-26 GM

Liquid Limit Determination					Liquid Limit 25 Blows
Dish No.:	1	2	3		
Wet Soil + Dish:	11.09	12.85	12.72		
Dry Soil + Dish:	8.63	9.91	9.56		
Moisture:	2.46	2.94	3.16		
Dish:	3.97	4.48	3.96		
Dry Soil:	4.66	5.43	5.6		
% Moisture:	52.79	54.14	56.43		
No. of Blows:	32	25	17		
Liquid Limit:					54


Material Identification:

Test Hole: **TH 4**
 Grab Sample No: **GS 4**
 Depth: **4-ft**

Liquid Limit, %: **54**
 Plastic Limit, %: **20**
 Plasticity Index: **34**
 (LL-PL)

Plastic Limit Determination					
Dish No.:	1	2	3		
Wet Soil + Dish:	9.5	10.08	10.35		
Dry Soil + Dish:	8.55	9.02	9.28		
Moisture:	0.95	1.06	1.07		
Dish:	3.89	3.95	3.95		
Dry Soil:	4.66	5.07	5.33		
% Moisture:	20.39	20.91	20.08		
				Average:	20

Test Method : ASTM: D4318, D2216

Remarks:

Reviewed by: Paul Bevel

MAXIMUM DRY DENSITY AND MOISTURE CONTENT - Proctor Method (ASTM D698)

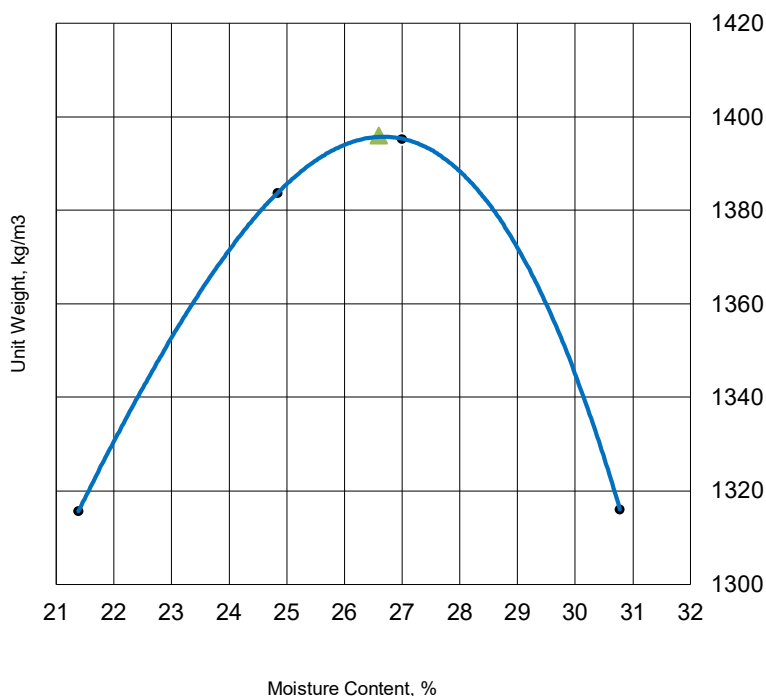
CLIENT	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No.:	112-2512
ATTENTION:	Ryan Cunningham	Lab No.:	HM 799
PROJECT:	2026 Local Street Renewal Program – 26-R-06 Goulding St., between Sargent Ave and Ellice Ave	Proctor Test No.:	3

Date Sampled:	18-Dec-25	Date Received:	18-Dec-25	PROCEDURE	A
Sampled By:	MK	Date Tested:	20-Dec-25	PREPARATION	Dry

MATERIAL INFORMATION				COMPACTION METHOD	Manual
Material Type:	CLAY - silty with trace sand			BLOWS PER LAYER	25
Material Use:	Soil Investigat	Material Supplier:	Not Applicable	NO. OF LAYERS	3
Maximum Size:	5mm	Material Source:	TH 1 - GS 4	MOLD SIZE	100
				MOLD VOLUME	943
				WEIGHT OF HAMMER	2.5 kg

Test No.	1	2	3	4	
Wet Density	1597	1727	1772	1721	
Moisture Content	21.4	24.8	27.0	30.8	
Dry Density	1316	1384	1395	1316	

Moisture - Density Relationship



Maximum Dry Density (MDD):
1396 kg/m³
Optimum Moisture Content
26.6 %

STONE CORRECTION (ASTM D 4718)

Retained on 4.75mm sieve:
%
Corrected Moisture:
26.6 %
Corrected Maximum Dry Density:
1396 kg/m³

Remarks:

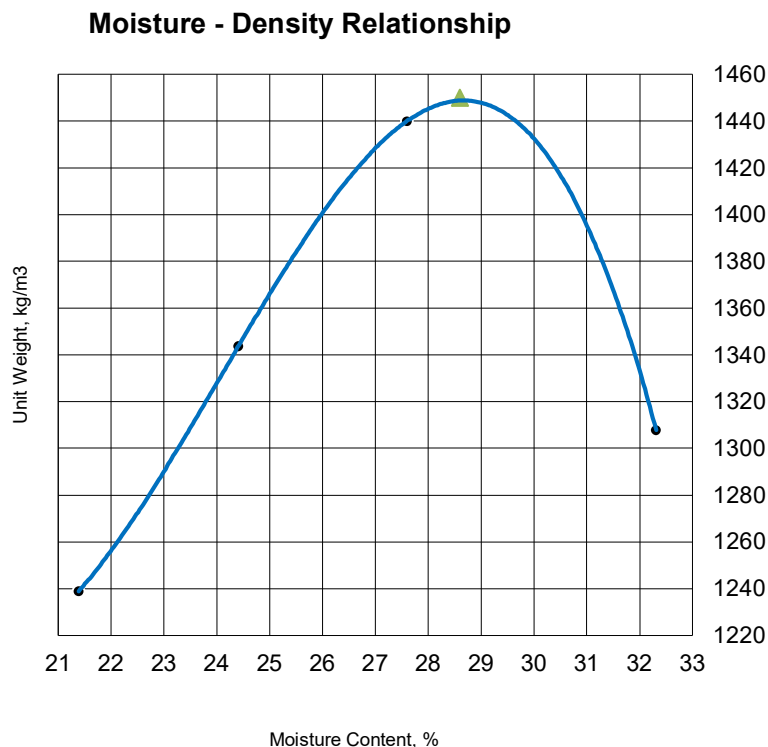
Tested by: Mehdi Abbasi

Reviewed by: Paul Bevel

P. Bevel

MAXIMUM DRY DENSITY AND MOISTURE CONTENT - Proctor Method (ASTM D698)

CLIENT	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7		Project No.:	112-2512	
ATTENTION:	Ryan Cunningham		Lab No.:	HM 815	
PROJECT:	2026 Local Street Renewal Program – 26-R-06 Goulding St., between Sargent Ave and Ellice Ave		Proctor Test No.:	10	
Date Sampled:	26-Dec-25	Date Received:	26-Dec-25	PROCEDURE	A
Sampled By:	HA	Date Tested:	29-Dec-25	PREPARATION	Dry
MATERIAL INFORMATION Material Type: CLAY - silty Material Use: Soil Investigat Material Supplier: Not Applicable Maximum Size: 5mm Material Source: TH 3 - GS 4				COMPACTION METHOD	Manual
				BLOWS PER LAYER	25
				NO. OF LAYERS	3
				MOLD SIZE	100
				MOLD VOLUME	935
				WEIGHT OF HAMMER	2.5 kg
		Test No.	1	2	3
		Wet Density	1504	1672	1837
		Moisture Content	21.4	24.4	27.6
		Dry Density	1239	1344	1440



Maximum Dry Density (MDD):
1450 kg/m³
Optimum Moisture Content
28.6 %

STONE CORRECTION (ASTM D 4718)

Retained on 4.75mm sieve:
 %
Corrected Moisture:
28.6 %
Corrected Maximum Dry Density:
1450 kg/m³

Remarks:

P. Bevel

Tested by: Dayo Aiyeru

Reviewed by: Paul Bevel

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MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	3
		Lab No.:	HM 799
Attention:	Ryan Cunningham	Date Sampled / By:	December 18, 2025 /MK
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 18, 2025
		Date Tested / By:	December 18, 2025/Mehdi A.

Goulding St., b/w Sargent Ave & Ellice Ave.

Test Hole No.	TH-1-GS1	TH-1-GS2	TH-1-GS3	TH-1-GS4	TH-1-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	84	M10	G-23	G4	C-04
Wt Wet Sample + Tare	167.2	166.1	180.8	178.7	155.0
Wt Dry Sample + Tare	119.9	123	141.3	138.8	125.5
Wt Water	47.3	43.1	39.5	39.9	29.5
Wt Tare	4.6	4.7	4.7	4.4	4.0
Wt Dry Sample	115.3	118.3	136.6	134.4	121.5
Moisture Content (%)	41.0	36.4	28.9	29.7	24.3
Test Hole No.	TH-1-GS6	TH-1-GS7	TH-1-GS8		
Depth	6-ft	7-ft	8-ft		
Tare No.	C-04	GM-1	A-1		
Wt Wet Sample + Tare	158.9	154.4	163.9		
Wt Dry Sample + Tare	123.8	112	113.7		
Wt Water	35.1	42.4	50.2		
Wt Tare	4.0	4.2	4.5		
Wt Dry Sample	119.8	107.8	109.2		
Moisture Content (%)	29.3	39.3	46.0		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	4
		Lab No.:	HM 800
Attention:	Ryan Cunningham	Date Sampled / By:	December 18, 2025/MK
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 18, 2025
		Date Tested / By:	December 19, 2025/Mehdi A.

Goulding St., between Sargent Ave and Ellice Ave.

Test Hole No.	TH-2 GS-1	TH-2 GS-2	TH-2 GS-3	TH-2 GS-4	TH-2 GS-5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	G19	GM2	A15	H11	A6
Wt Wet Sample + Tare	160.7	167.4	183.5	165.8	172.8
Wt Dry Sample + Tare	130.5	115.8	136.2	122	139.9
Wt Water	30.2	51.6	47.3	43.8	32.9
Wt Tare	4.6	4.0	3.9	4.6	4.0
Wt Dry Sample	125.9	111.8	132.3	117.4	135.9
Moisture Content (%)	24.0	46.2	35.8	37.3	24.2
Test Hole No.	TH2-GS6	TH2-GS7	TH2-GS8	TH2-GS9	
Depth	6-ft	7-ft	8-ft	9-ft	
Tare No.	2-8.	GM8	C9	H23	
Wt Wet Sample + Tare	186.1	165.1	159	157.5	
Wt Dry Sample + Tare	134.1	118.7	116.4	109.3	
Wt Water	52.0	46.4	42.6	48.2	
Wt Tare	4.6	4.0	4.5	4.5	
Wt Dry Sample	129.5	114.7	111.9	104.8	
Moisture Content (%)	40.2	40.5	38.1	46.0	
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	15
		Lab No.:	HM 815
Attention:	Ryan Cunningham	Date Sampled / By:	December 26, 2025 / HA
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 26, 2025
		Date Tested / By:	December 27, 2025 / Chris B.

Goulding St., between Sargent Ave and Ellice Ave.

Test Hole No.	TH3-GS1	TH3-GS2	TH3-GS3	TH3-GS4	TH3-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	M38	C7	MK-1	PM1	C0-2
Wt Wet Sample + Tare	198.1	178.8	170.9	177.9	222.2
Wt Dry Sample + Tare	165.2	135.9	128	139.4	169.2
Wt Water	32.9	42.9	42.9	38.5	53.0
Wt Tare	4.7	4.6	4.4	4.1	4.7
Wt Dry Sample	160.5	131.3	123.6	135.3	164.5
Moisture Content (%)	20.5	32.7	34.7	28.5	32.2
Test Hole No.	TH3-GS6	TH3-GS7	TH3-GS8		
Depth	6-ft	7-ft	8-ft		
Tare No.	A13	A18	GM7		
Wt Wet Sample + Tare	166.6	171.4	169.7		
Wt Dry Sample + Tare	123.2	127.3	117.7		
Wt Water	43.4	44.1	52.0		
Wt Tare	4.0	4.0	4.0		
Wt Dry Sample	119.2	123.3	113.7		
Moisture Content (%)	36.4	35.8	45.7		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipe MB R3P 0Y7	Project No:	112-2512
		Test No.:	16
		Lab No.:	HM 816
Attention:	Ryan Cunningham	Date Sampled / By:	December 26, 2025 / HA
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 26, 2025
		Date Tested / By:	December 27, 2025 /Chris B.
Goulding St., between Sargent Ave and Ellice Ave.			

Test Hole No.	TH4-GS1	TH4-GS2	TH4-GS3	TH4-GS4	TH4-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	P3	F-16	G15	60	H13
Wt Wet Sample + Tare	176.7	178.1	199	173.9	158.8
Wt Dry Sample + Tare	137.3	145.3	160.5	139.7	118.8
Wt Water	39.4	32.8	38.5	34.2	40.0
Wt Tare	4.0	3.9	5.1	4.9	4.5
Wt Dry Sample	133.3	141.4	155.4	134.8	114.3
Moisture Content (%)	29.6	23.2	24.8	25.4	35.0
Test Hole No.	TH4-GS6	TH4-GS7	TH4-GS8		
Depth	6-ft	7-ft	8-ft		
Tare No.	H19	G16	PS-1		
Wt Wet Sample + Tare	168.9	161.5	190.4		
Wt Dry Sample + Tare	123.1	112.1	126.2		
Wt Water	45.8	49.4	64.2		
Wt Tare	4.5	4.5	4.4		
Wt Dry Sample	118.6	107.6	121.8		
Moisture Content (%)	38.6	45.9	52.7		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

Reconstruction Sites

Picture of Cores

Goulding St - Sargent Av/Ellice Av



Core 1



Core 1 - Site Photo



Core 2



Core 2 - Site Photo

Reconstruction Sites

Picture of Cores

Goulding St - Sargent Av/Ellice Av



Core 3



Core 3 - Site Photo



Core 4



Core 4 - Site Photo

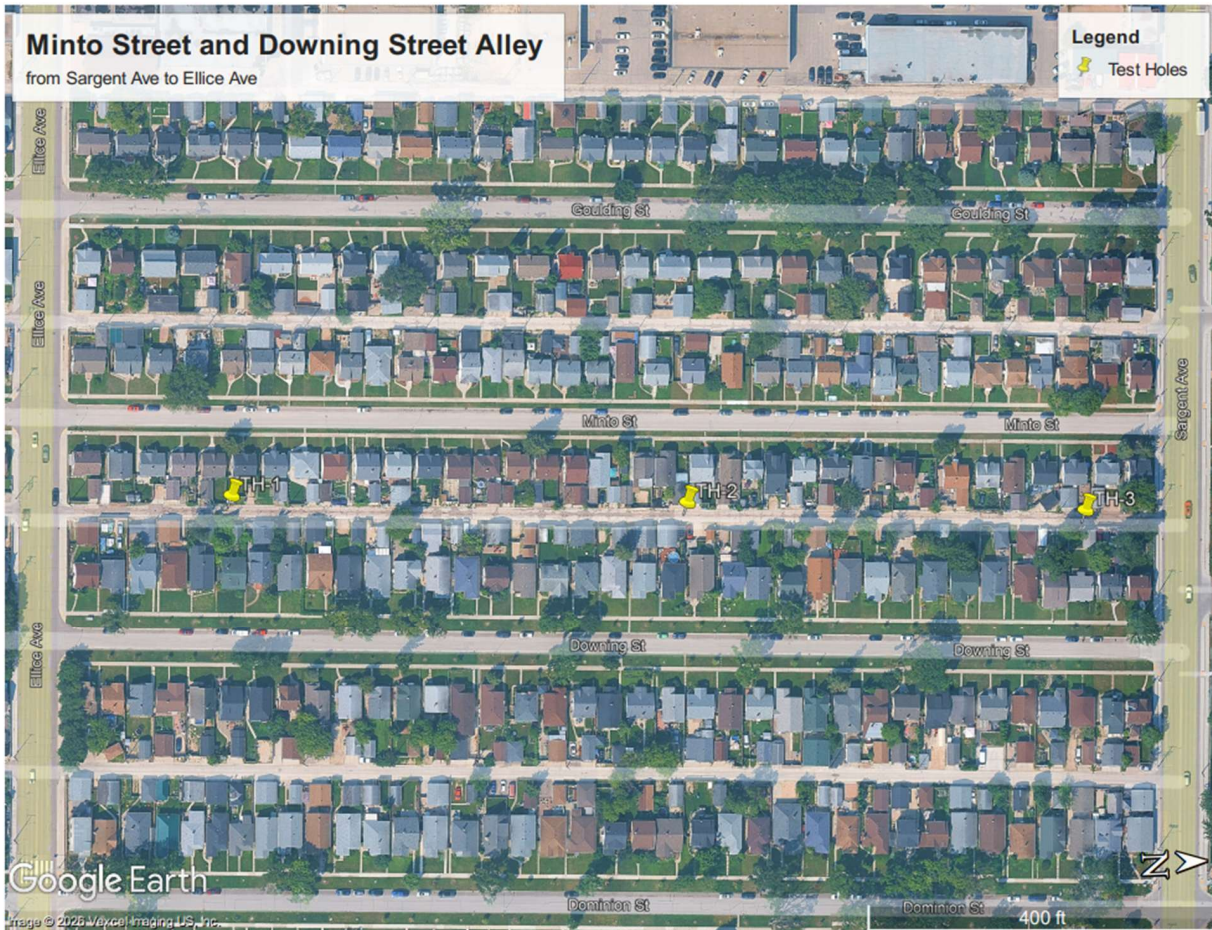
APPENDIX B.4.

MINTO STREET AND DOWNING STREET ALLEY

(SARGENT AVE TO ELLICE AVE)

Reconstruction Sites

Pavement Coring and Subsurface Drilling Locations

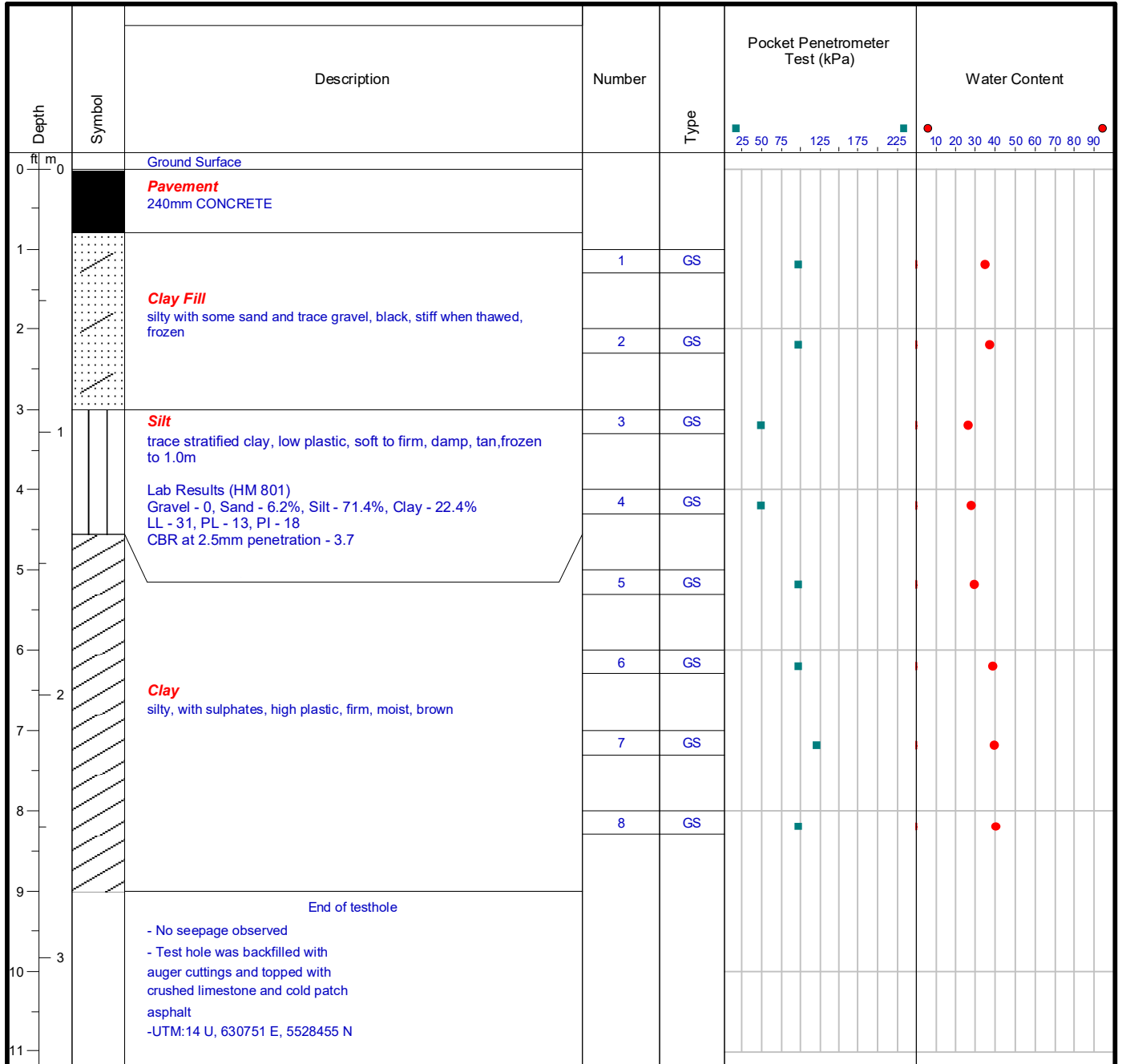


Reconstruction Sites

Pavement Structure Measurement

Test Hole No.	Test Hole Location	Asphalt Thickness (mm)	Concrete Thickness (mm)
Minto Street and Downing Street Alley (Sargent Ave to Ellice Ave)			
TH1	Back lane of House # 915 Minto St.; 1m away from the edge of the alley 14 U, 630751 E, 5528455 N	-	240 ^A
TH2	Back lane of House # 951 Minto St.; 1m away from the edge of the alley 14 U, 630757 E, 5528614 N	60 ^A	160 ^A
TH3	Back lane of House # 1098 Downing St.; 1m away from the edge of the alley 14 U, 630762 E, 5528753 N	30 ^A	200 ^A

Note: ^A - The exact concrete thickness could not be determined due to the deterioration of the concrete.



Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 16, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1

Depth ft m	Symbol	Description	Number	Type	Pocket Penetrometer Test (kPa)	Water Content
					25 50 75 125 175 225	10 20 30 40 50 60 70 80 90
0		Ground Surface				
		Pavement 60mm ASPHALT 160mm CONCRETE				
1			1	GS		
2		Clay Fill silty with some sand and trace gravel, black, stiff when thawed, frozen to 0.9m	2	GS		
3			3	GS		
4			4	GS		
5			5	GS		
6		Clay silty, trace silt inclusions, fissured, high plastic, firm, moist, grey light brown below 2.0m	6	GS		
7			7	GS		
8			8	GS		
9		End of testhole				
10		- No seepage observed - Test hole was backfilled with auger cuttings and topped with crushed limestone and cold patch asphalt -UTM:14 U, 630757 E, 5528614 N				
11						

Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 16, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1

Depth ft m	Symbol	Description	Number	Type	Pocket Penetrometer Test (kPa)	Water Content
					25 50 75 125 175 225	10 20 30 40 50 60 70 80 90
0		Ground Surface				
		Pavement 200mm CONCRETE 30mm ASPHALT				
1			1	GS		
2		Clay Fill silty with some sand and trace gravel, black, stiff when thawed, frozen to 0.9m	2	GS		
3			3	GS		
4		Silt clayey, low plastic, soft, wet	4	GS		
5			5	GS		
6			6	GS		
7		Clay silty, fissured, high plastic, firm, moist, grey	7	GS		
8			8	GS		
9		End of testhole				
10		- No seepage observed - Test hole was backfilled with auger cuttings and topped with crushed limestone and cold patch asphalt -UTM:14 U, 630762 E, 5528753 N				
11						

Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 16, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1

CALIFORNIA BEARING RATIO (CBR) TEST - ASTM D 1883

 Client: AECOM Canada ULC
 99 Commerce Drive, Winnipeg
 MB R3P 0Y7

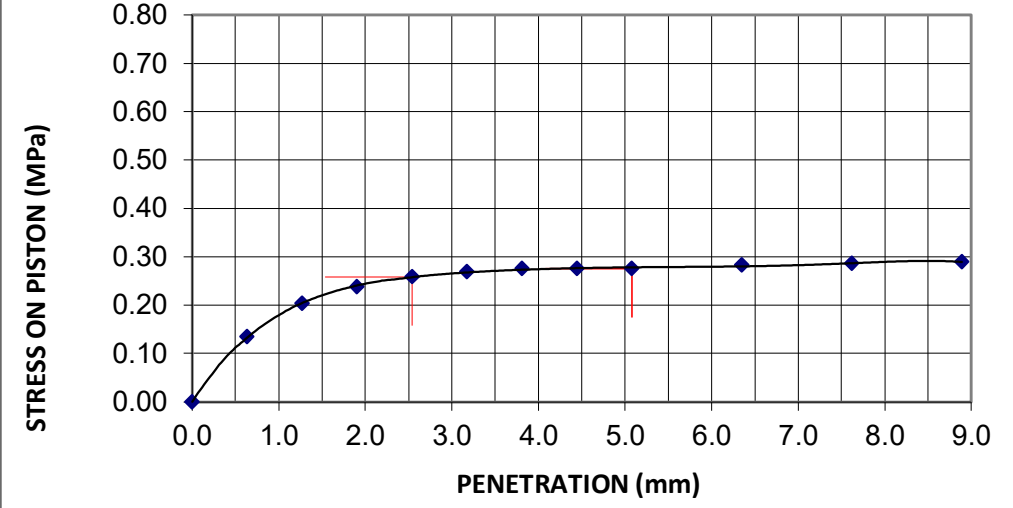
Attention: Ryan Cunningham

Project 2026 Local Street Renewal Program – 26-R-06

Location: Sargent Ave/Minto St Alley-Downing St/Ellice Ave.

 Project No: 112-2512
 Lab No: HM 801
 Date sampled/By: 18-Dec-25 MK
 Date Received: 18-Dec-25 MK
 Date Tested /By: 26-Dec-25 ECS

SAMPLE DATA		SPECIMEN DATA		
Sample Type:	SILT - silty trace stratified clay	DESCRIPTION	Before Soaking	After Testing
Source:	Minto St. Alley - TH-1 - GS 4	Moisture Content (MC), %	16.4	19.2
Sampled by:	MK	MC of top 25mm layer, %		
Optimum Moisture Content:	16.8 %	Dry Density, kg/m ³	1650	1635
Maximum Dry Density:	1737 kg/cm ³	Compaction, %	95%	
Method of Compaction:	Standard Proctor	CBR at 2.5mm penetration, %		3.7
Tested by:	MA	Swell, %		2.1
	Date Tested: 22-Dec-25			

LOAD DATA		LOAD PENETRATION CURVE	
PENETRATION mm	STRESS MPa		
0	0.00		
0.64	0.13		
1.27	0.20		
1.91	0.24		
2.54	0.26		
3.18	0.27		
3.81	0.28		
4.45	0.28		
5.08	0.28		
6.35	0.28		
7.62	0.29		
8.89	0.29		

PENETRATION mm	STANDARD LOAD MPa	TEST LOAD		BEARING RATIO (soaked)	
		ACTUAL MPa	CORRECTED MPa	at 2.5 mm penetration	at 5.1 mm penetration
2.54	6.9	0.26	0.26	3.7	-
5.08	10.3	0.28	0.28	-	2.7

Remarks:

P. Bevel

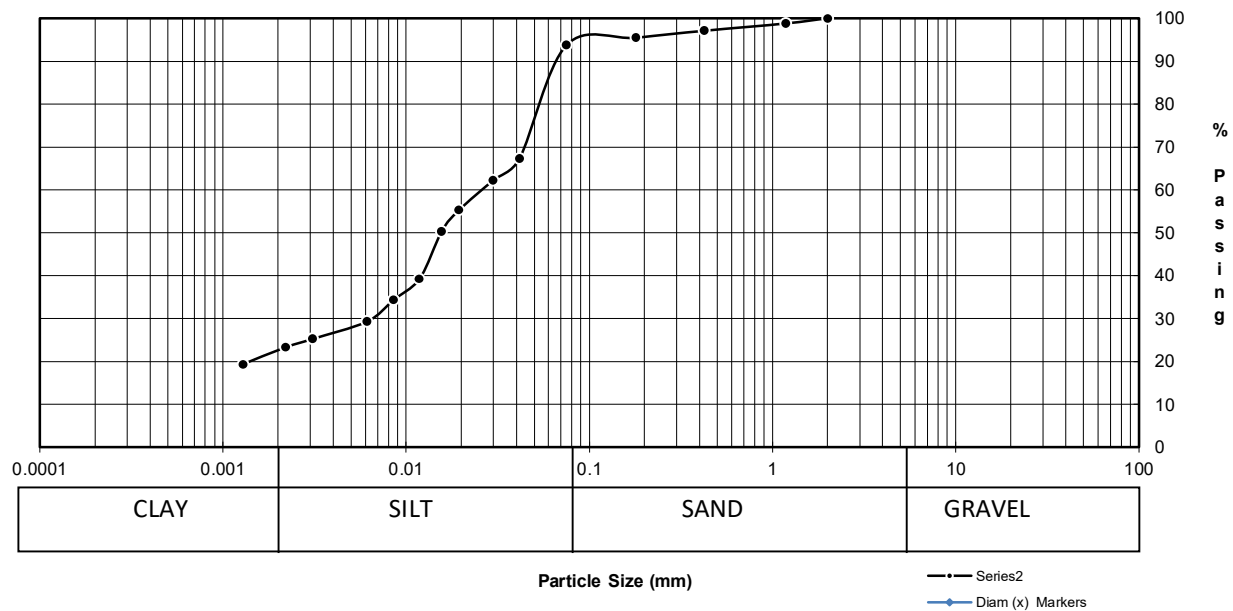
Reviewed by: Paul Bevel

PARTICLE SIZE ANALYSIS OF SOILS TEST REPORT

CLIENT: AECOM Canada ULC Project No.: 112-2512
99 Commerce Drive, Winnipeg PSA Test No.: 4
MB R3P 0Y7 Lab No.: HM 801
ATTENTION: Ryan Cunningham
PROJECT: 2026 Local Street Renewal Program – 26-R-06
Sargent Ave/Minto St Alley-Downing St/Ellice Ave.

Date Sampled: 18-Dec-25	Date Received: 18-Dec-25	Sieve Analysis	Hydrometer Analysis
Sampled By: MK	Date Tested: 19-Dec-25	Sieve (mm) % Passing	Diameter % Finer
Material Identification B.H./T.H. No. TH 1 Depth 4-ft Sample Source GS 4 Specific Gravity of Material: 2.65	50.00	100.0	
	37.50	100.0	
	25.00	100.0	
	19.00	100.0	
	16.00	100.0	
	12.50	100.0	0.0415 67.3
	9.50	100.0	0.0299 62.3
	4.75	100.0	0.0194 55.3
	2.00	100.0	0.0156 50.3
	1.18	98.8	0.0118 39.3
	0.425	97.1	0.0085 34.3
	0.180	95.5	0.0061 29.3
	0.075	93.8	0.0013 19.3

Grain Size Analysis



% Composition		D10
6.22	Gravel	D30
71.36	Sand	D60
22.42	Silt	Cu
	Clay	Cc

Remarks:

P. Bevel

Technician: B. Yung

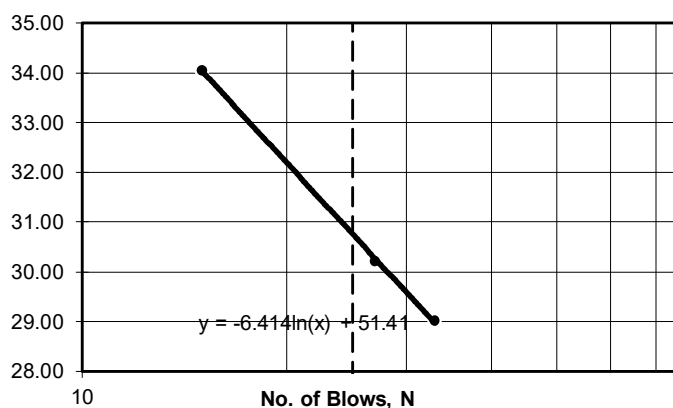
Reviewed by Paul Bevel

Atterberg Limits (ASTM D4318)

Client: AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7 Attention.: Ryan Cunningham Project: 2026 Local Street Renewal Program – 26-R-06 Sargent Ave/Minto St Alley-Downing St/Ellice Ave.	Project No.: 112-2512 PI Test No.: 4 Lab No.: HM 801 Date Sampled/By: 18-Dec-25 MK Date Received: 18-Dec-25 Date Tested / By: 19-Dec-25 GM
---	---

Liquid Limit Determination					Liquid Limit 25 Blows
Dish No.:	1	2	3		
Wet Soil + Dish:	10.13	10.5	10.18		
Dry Soil + Dish:	8.74	8.98	8.6		
Moisture:	1.39	1.52	1.58		
Dish:	3.95	3.95	3.96		
Dry Soil:	4.79	5.03	4.64		
% Moisture:	29.02	30.22	34.05		
No. of Blows:	33	27	15		
Liquid Limit:					31

Liquid Limit



Material Identification:

Test Hole: **TH 1**
 Grab Sample No: **GS 4**
 Depth: **4-ft**

Liquid Limit, %: **31**
 Plastic Limit, %: **13**
 Plasticity Index: **18**
 (LL-PL)

Plastic Limit Determination					
Dish No.:	1	2	3		
Wet Soil + Dish:	10.8	10.8	10.77		
Dry Soil + Dish:	10	10.04	9.96		
Moisture:	0.8	0.76	0.81		
Dish:	3.95	3.91	3.91		
Dry Soil:	6.05	6.13	6.05		
% Moisture:	13.22	12.40	13.39		
				Average:	13

Test Method : ASTM: D4318, D2216

Remarks:

P. Bevel

Reviewed by: Paul Bevel

MAXIMUM DRY DENSITY AND MOISTURE CONTENT - Proctor Method (ASTM D698)

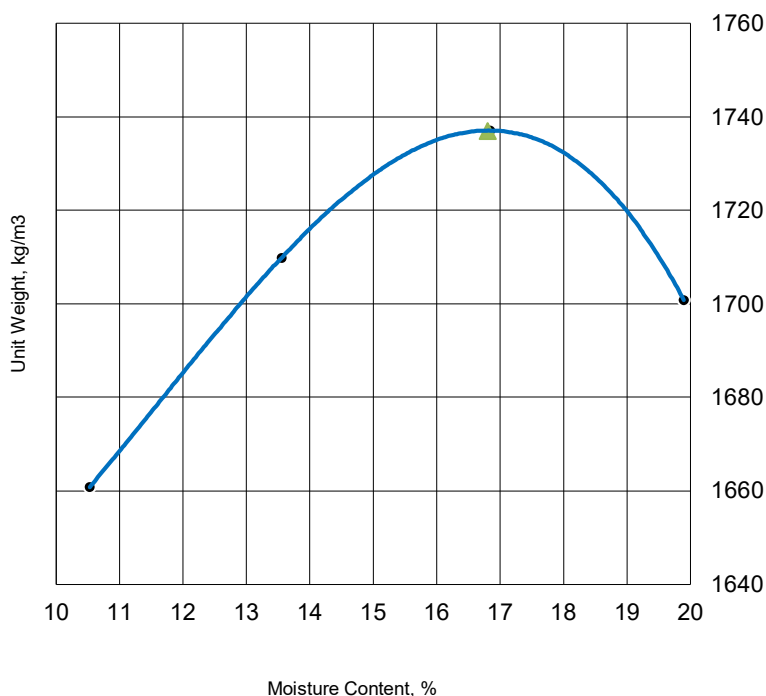
CLIENT	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No.:	112-2512
ATTENTION:	Ryan Cunningham	Lab No.:	HM 801
PROJECT:	2026 Local Street Renewal Program – 26-R-06 Sargent Ave/Minto St Alley-Downing St/Ellice Ave.	Proctor Test No.:	4

Date Sampled:	18-Dec-25	Date Received:	18-Dec-25	PROCEDURE	A
Sampled By:	MK	Date Tested:	22-Dec-25	PREPARATION	Dry

MATERIAL INFORMATION				COMPACTION METHOD	Manual
Material Type:	SILT - trace stratified clay			BLOWS PER LAYER	25
Material Use:	Soil Investigat	Material Supplier:	Not Applicable	NO. OF LAYERS	3
Maximum Size:	5mm	Material Source:	TH 1 - GS 4	MOLD SIZE	100
				MOLD VOLUME	943
				WEIGHT OF HAMMER	2.5 kg

Test No.	1	2	3	4	
Wet Density	1836	1942	2030	2039	
Moisture Content	10.5	13.6	16.8	19.9	
Dry Density	1661	1710	1737	1701	

Moisture - Density Relationship



Maximum Dry Density (MDD):
1737 kg/m³
Optimum Moisture Content
16.8 %

STONE CORRECTION (ASTM D 4718)

Retained on 4.75mm sieve:
%
Corrected Moisture:
16.8 %
Corrected Maximum Dry Density:
1737 kg/m³

Remarks:

Tested by: Mehdi Abbasi

Reviewed by: Paul Bevel

P. Bevel

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	5
		Lab No.:	HM 801
Attention:	Ryan Cunningham	Date Sampled / By:	December 18, 2025/MK
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 18, 2025
		Date Tested / By:	December 19, 2025/Mehdi A.
Sargent Ave/Minto St Alley-Downing St/Ellice Ave.			

Test Hole No.	TH1-GS1	TH1-GS2	TH1-GS3	TH1-GS4	TH1-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	PNL	A23	T125	B2	P2
Wt Wet Sample + Tare	139.6	173.6	192.7	190	165
Wt Dry Sample + Tare	104.5	127.3	152.4	149	128.1
Wt Water	35.1	46.3	40.3	41.0	36.9
Wt Tare	4.5	4.7	4.2	3.9	4.0
Wt Dry Sample	100.0	122.6	148.2	145.1	124.1
Moisture Content (%)	35.1	37.8	27.2	28.3	29.7
Test Hole No.	TH1-GS6	TH1-GS7	TH1-GS8		
Depth	6-ft	7-ft	8-ft		
Tare No.	H1	C03	T107		
Wt Wet Sample + Tare	166.9	164.3	164.3		
Wt Dry Sample + Tare	121.4	118.6	118.2		
Wt Water	45.5	45.7	46.1		
Wt Tare	4.5	4.1	4.5		
Wt Dry Sample	116.9	114.5	113.7		
Moisture Content (%)	38.9	39.9	40.5		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	6
		Lab No.:	HM 802
Attention:	Ryan Cunningham	Date Sampled / By:	December 18, 2025/MK
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 18, 2025
		Date Tested / By:	December 19, 2025/Chris B.
Sargent Ave/Minto St Alley-Downing St/Ellice Ave.			

Test Hole No.	TH 2-GS1	TH 2-GS2	TH 2-GS3	TH 2-GS4	TH 2-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	M47	C0-2	H15	G16	H26
Wt Wet Sample + Tare	167.8	191.6	203.8	174.9	174.8
Wt Dry Sample + Tare	117.3	128.9	145.2	129.2	128.5
Wt Water	50.5	62.7	58.6	45.7	46.3
Wt Tare	4.9	4.6	4.8	4.6	4.5
Wt Dry Sample	112.4	124.3	140.4	124.6	124.0
Moisture Content (%)	44.9	50.4	41.7	36.7	37.3
Test Hole No.	TH 2-GS6	TH 2-GS7	TH 2-GS8		
Depth	6-ft	7-ft	8-ft		
Tare No.	PS 2	H 16	KMC		
Wt Wet Sample + Tare	205.6	171.2	184.3		
Wt Dry Sample + Tare	149.6	120.6	127.7		
Wt Water	56.0	50.6	56.6		
Wt Tare	4.7	4.6	4.6		
Wt Dry Sample	144.9	116.0	123.1		
Moisture Content (%)	38.6	43.6	46.0		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	7
		Lab No.:	HM 803
Attention:	Ryan Cunningham	Date Sampled / By:	December 18, 2025/MK
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 18, 2025
		Date Tested / By:	December 18, 2025/Chris B.
Sargent Ave/Minto St Alley-Downing St/Ellice Ave.			

Test Hole No.	TH 3-GS1	TH 3-GS2	TH 3-GS3	TH 3-GS4	TH 3-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	A-2	MK1	H24	C7	H25
Wt Wet Sample + Tare	166.8	196.9	150.8	167.1	172.5
Wt Dry Sample + Tare	115.2	146.9	110.5	135.7	135.6
Wt Water	51.6	50.0	40.3	31.4	36.9
Wt Tare	4.0	4.5	4.6	4.7	4.8
Wt Dry Sample	111.2	142.4	105.9	131.0	130.8
Moisture Content (%)	46.4	35.1	38.1	24.0	28.2
Test Hole No.	TH 3-GS5	TH 3-GS6	TH 3-GS7		
Depth	6-ft	7-ft	8-ft		
Tare No.	H10	A1	A25		
Wt Wet Sample + Tare	156.7	179.4	207.3		
Wt Dry Sample + Tare	120.1	129.3	152.0		
Wt Water	36.6	50.1	55.3		
Wt Tare	4.9	4.0	4.2		
Wt Dry Sample	115.2	125.3	147.8		
Moisture Content (%)	31.8	40.0	37.4		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

Reconstruction Sites

Picture of Cores

Sargent Av/Minto St Alley - Downing St/Ellice Av



Core 1



Core 1 - Site Photo



Core 2

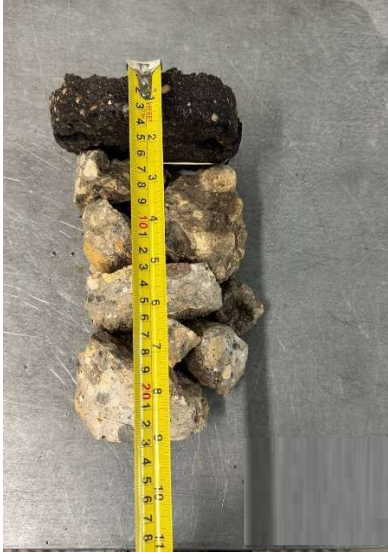


Core 2 - Site Photo

Reconstruction Sites

Picture of Cores

Sargent Av/Minto St Alley - Downing St/Ellice Av



Core 3



Core 3 - Site Photo

APPENDIX B.5.

PORTAGE AVENUE AND PICARDY PLACE ALLEY

(CANORA ST TO BROADWAY)

Reconstruction Sites

Pavement Coring and Subsurface Drilling Locations



Reconstruction Sites

Pavement Structure Measurement

Test Hole No.	Test Hole Location	Asphalt Thickness (mm)	Concrete Thickness (mm)
Portage Avenue and Picardy Place Alley (Canora St to Broadway)			
TH1	Back lane of First Presbyterian Church; 1m away from the edge of the alley 14 U, 631759 E, 5527575 N	-	150 ^A
TH2	Back lane of House # 31 Picardy Pl; 1m away from the edge of the alley 14 U. 631845 E, 5527613 N	-	200

Note: ^A - The exact concrete thickness could not be determined due to the deterioration of the concrete.

Depth ft m	Symbol	Description	Number	Type	Pocket Penetrometer Test (kPa)	Water Content
					25 50 75 125 175 225	10 20 30 40 50 60 70 80 90
0		Ground Surface				
		Pavement 150mm CONCRETE				
1		Granular Fill 10mm granular material, sandy, and trace silt and clay, brown black mixed, frozen	1	GS		
2			2	GS		
3		Clay and Silt trace sand, low plastic, very soft, wet, tan	3	GS		
4		Frozen to 0.8m				
5		Lab Result (HM 819) Gravel - 0, Sand - 2.9, Silt - 46.7, Clay - 50.5 LL-70, PL-26, PI-44 CBR at 2.5mm penetration - 2.5	4	GS		
6		oxidation mottles below 1.8m	5	GS		
7			6	GS		
8		Clay silty, oxidation mottles, trace silt pockets, high plastic, soft to firm, moist, light brown	7	GS		
9		firm, brown below 2.4m	8	GS		
10		End of testhole				
11		- No seepage observed - Test hole was backfilled with auger cuttings and topped with crushed limestone and cold patch asphalt -UTM:14 U, 631759 E, 5527575 N				

Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 26, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1



Project No: 112-2512

Project: 2026 Local Streets (26-R-06)

Client: AECOM Canada Ltd

Location: Portage Ave and Picardy Pl Alley (Back lane of House # 31 Picardy Pl)

TH2

Logged By: MK

Depth ft m	Symbol	Description	Number	Type	Pocket Penetrometer Test (kPa)	Water Content
					25 50 75 125 175 225	10 20 30 40 50 60 70 80 90
0		Ground Surface				
		Pavement 200mm CONCRETE				
1		Clay Fill silty, trace sand, organic, black and grey mixed, soft when thawed, frozen to 0.9m	1	GS		
2			2	GS		
3			3	GS		
4		Clay silty and trace sand, low plastic, firm to stiff, moist, brown Lab Result (HM 820) Gravel - 0, Sand - 4.1, Silt - 36.9, Clay - 59.1 LL-77, PL-31, PI- 46 CBR at 2.5mm penetration - 1.8	4	GS		
5			5	GS		
6			6	GS		
7			7	GS		
8			8	GS		
9		End of testhole				
10		- No seepage observed - Test hole was backfilled with auger cuttings and topped with crushed limestone and cold patch asphalt -UTM:14 U. 631845 E, 5527613 N				
11						

Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 26, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

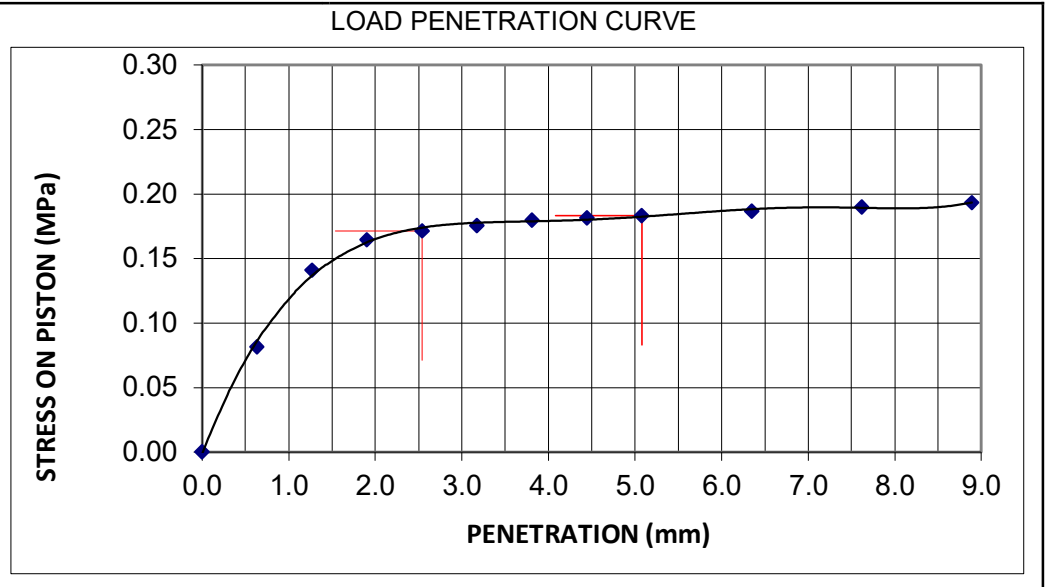
Sheet: 1 of 1

CALIFORNIA BEARING RATIO (CBR) TEST - ASTM D 1883

Client: AECOM Canada ULC	Project No: 112-2512
99 Commerce Drive, Winnipeg	Lab No: HM 819
MB R3P 0Y7	Date sampled/By: 26-Dec-25 HA
Attention: Ryan Cunningham	Date Received: 26-Dec-25 HA
Project 2026 Local Street Renewal Program – 26-R-06	Date Tested /By: 02-Jan-26 MA
Location: Canora St/ Portage Ave. Alley - Picardy Pl/Broadway	

SAMPLE DATA		SPECIMEN DATA		
Sample Type:	CLAY and silt, trace sand	DESCRIPTION	Before Soaking	After Testing
Source:	Canora St. Alley - TH-1 - GS 4	Moisture Content (MC), %	28.0	32.1
Sampled by:	HA	MC of top 25mm layer, %		
Optimum Moisture Content:	28.4 %	Dry Density, kg/m ³	1389	1361
Maximum Dry Density:	1462 kg/cm ³	Compaction, %	95%	
Method of Compaction:	Standard Proctor	CBR at 2.5mm penetration, %		2.5
Tested by:	MA	Swell, %		6.8
	Date Tested: 30-Dec-25			

LOAD DATA	
PENETRATION mm	STRESS MPa
0	0.00
0.64	0.08
1.27	0.14
1.91	0.16
2.54	0.17
3.18	0.18
3.81	0.18
4.45	0.18
5.08	0.18
6.35	0.19
7.62	0.19
8.89	0.19



PENETRATION mm	STANDARD LOAD MPa	TEST LOAD		BEARING RATIO (soaked)	
		ACTUAL MPa	CORRECTED MPa	at 2.5 mm penetration	at 5.1 mm penetration
2.54	6.9	0.17	0.17	2.5	-
5.08	10.3	0.18	0.18	-	1.8

Remarks:

P. Bevel

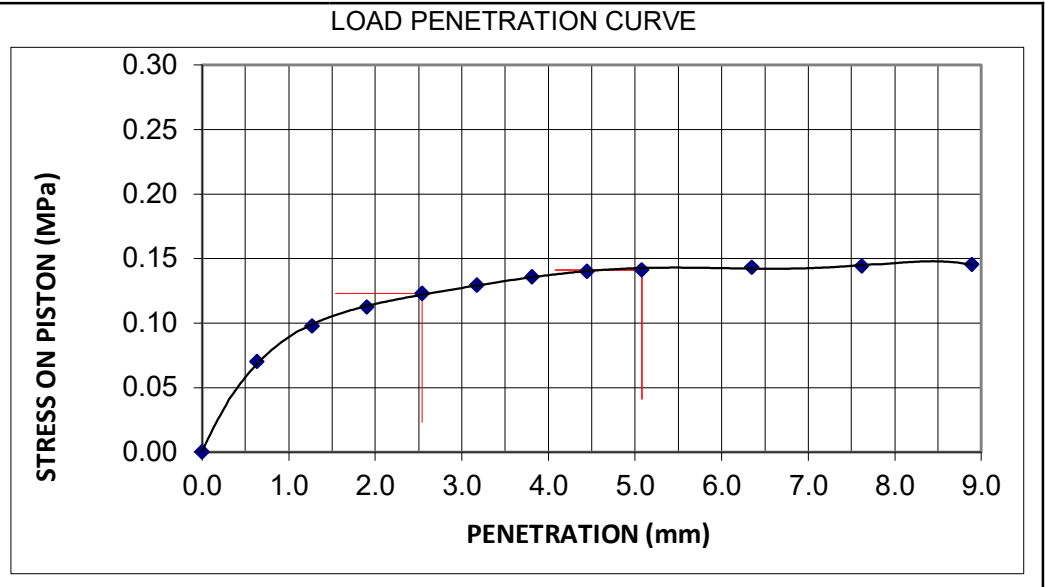
Reviewed by: Paul Bevel

CALIFORNIA BEARING RATIO (CBR) TEST - ASTM D 1883

Client: AECOM Canada ULC	Project No: 112-2512
99 Commerce Drive, Winnipeg	Lab No: HM 820
MB R3P 0Y7	Date sampled/By: 26-Dec-25 HA
Attention: Ryan Cunningham	Date Received: 26-Dec-25 HA
Project 2026 Local Street Renewal Program – 26-R-06	Date Tested /By: 02-Jan-26 HA
Location: Canora St/ Portage Ave. Alley - Picardy Pl/Broadway	

SAMPLE DATA		SPECIMEN DATA		
Sample Type:	CLAY - Silty with trace sand	DESCRIPTION	Before Soaking	After Testing
Source:	Canora St. Alley - TH-2 - GS 5	Moisture Content (MC), %	28.0	32.1
Sampled by:	HA	MC of top 25mm layer, %		
Optimum Moisture Content:	28.2 %	Dry Density, kg/m ³	1371	1364
Maximum Dry Density:	1436 kg/cm ³	Compaction, %	95%	
Method of Compaction:	Standard Proctor	CBR at 2.5mm penetration, %		1.8
Tested by:	MA	Swell, %		6.8
	Date Tested: 29-Dec-25			

LOAD DATA	
PENETRATION mm	STRESS MPa
0	0.00
0.64	0.07
1.27	0.10
1.91	0.11
2.54	0.12
3.18	0.13
3.81	0.14
4.45	0.14
5.08	0.14
6.35	0.14
7.62	0.14
8.89	0.15



PENETRATION mm	STANDARD LOAD MPa	TEST LOAD		BEARING RATIO (soaked)	
		ACTUAL MPa	CORRECTED MPa	at 2.5 mm penetration	at 5.1 mm penetration
2.54	6.9	0.12	0.12	1.8	-
5.08	10.3	0.14	0.14	-	1.4

Remarks:

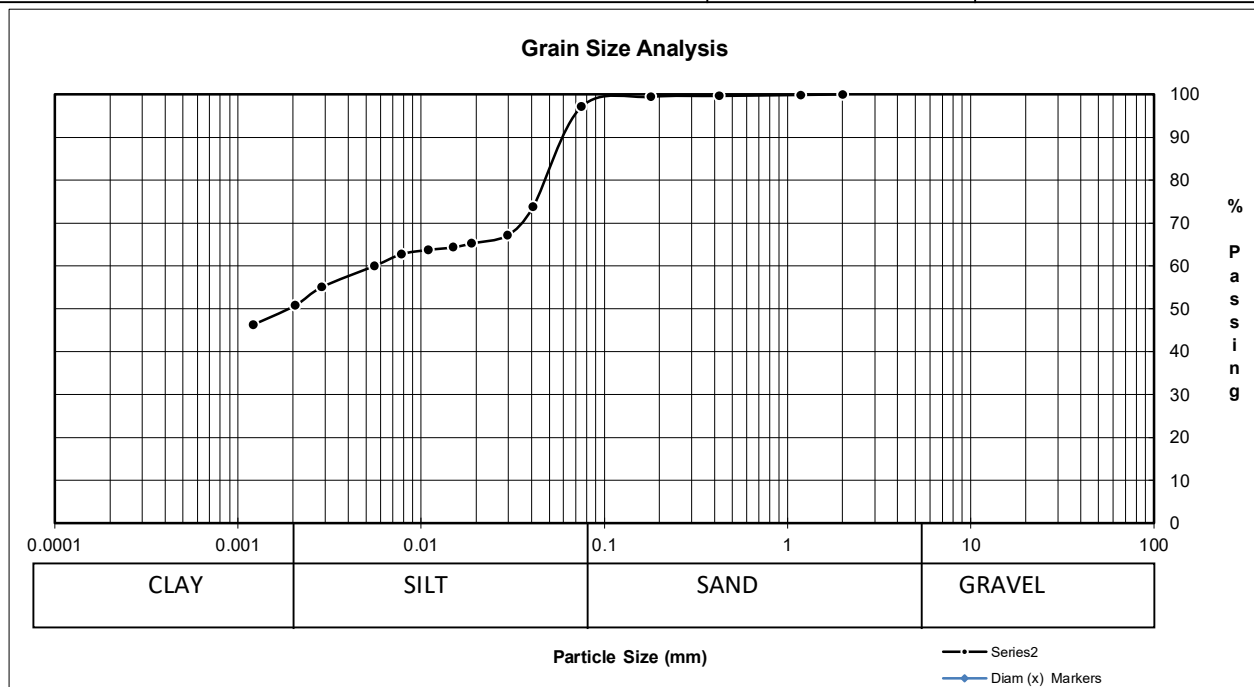
P. Bevel

Reviewed by: Paul Bevel

PARTICLE SIZE ANALYSIS OF SOILS TEST REPORT

CLIENT: AECOM Canada ULC Project No.: 112-2512
99 Commerce Drive, Winnipeg PSA Test No.: 12
MB R3P 0Y7 Lab No.: HM 819
ATTENTION: Ryan Cunningham
PROJECT: 2026 Local Street Renewal Program – 26-R-06
Canora St/ Portage Ave. Alley - Picardy Pl/Broadway

Date Sampled:	26-Dec-25	Date Received:	26-Dec-25	Sieve Analysis		Hydrometer Analysis	
Sampled By:	HA	Date Tested:	05-Jan-26	Sieve (mm) % Passing		Diameter	% Finer
<div>Material Identification</div> <div>B.H./T.H. No. TH 1</div> <div>Depth 4-ft</div> <div>Sample Source GS 4</div> <div>Specific Gravity of Material: 2.65</div>				50.00	100.0		
				37.50	100.0		
				25.00	100.0		
				19.00	100.0		
				16.00	100.0		
				12.50	100.0	0.0409	73.8
				9.50	100.0	0.0297	67.1
				4.75	100.0	0.0188	65.2
				2.00	100.0	0.0150	64.3
				1.18	99.9	0.0110	63.7
				0.425	99.6	0.0078	62.7
				0.180	99.4	0.0056	60.0
				0.075	97.1	0.0012	46.3



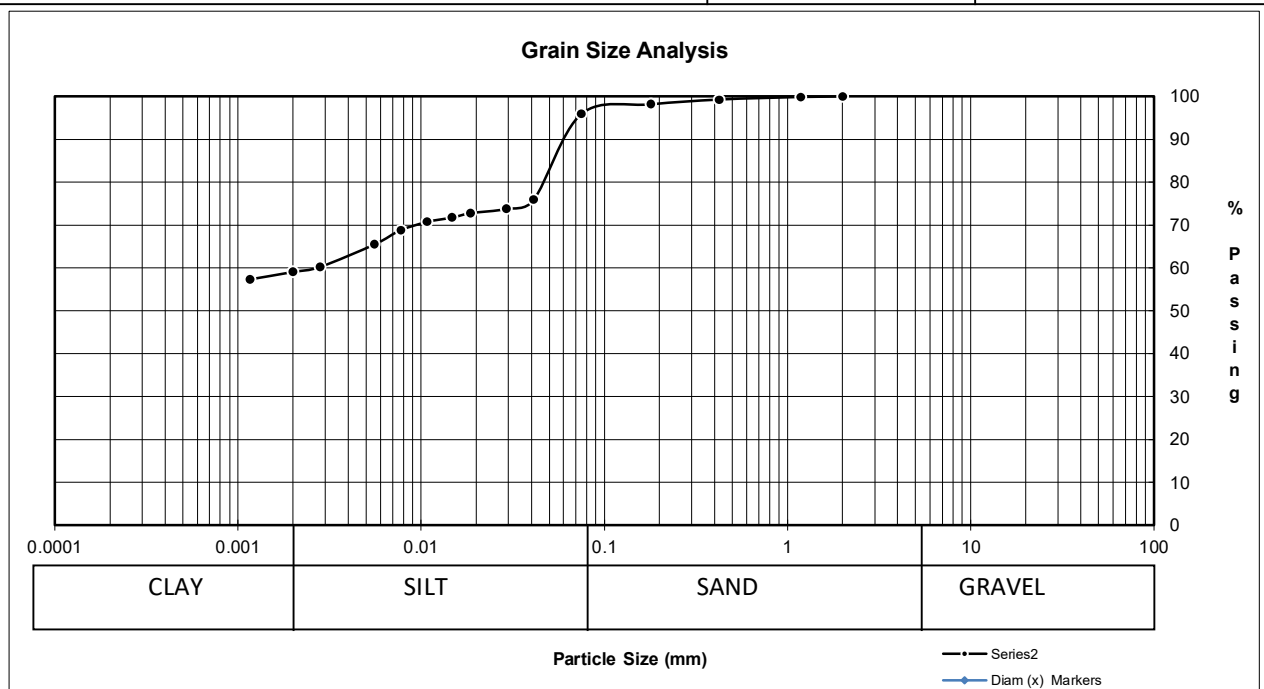
		% Composition	D10
		Gravel	D30
		2.86 Sand	D60
		46.68 Silt	Cu
		50.46 Clay	Cc

Remarks:

PARTICLE SIZE ANALYSIS OF SOILS TEST REPORT

CLIENT: AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7 ATTENTION: Ryan Cunningham PROJECT: 2026 Local Street Renewal Program – 26-R-06 Canora St/ Portage Ave. Alley - Picardy Pl/Broadway	Project No.: 112-2512 PSA Test No.: 13 Lab No.: HM 820
---	---

Date Sampled:	26-Dec-25	Date Received:	26-Dec-25	Sieve Analysis		Hydrometer Analysis	
Sampled By:	HA	Date Tested:	05-Jan-26	Sieve (mm) % Passing		Diameter	% Finer
<div>Material Identification</div> <div>B.H./T.H. No. TH 2</div> <div>Depth 5-ft</div> <div>Sample Source GS 5</div> <div>Specific Gravity of Material: 2.65</div>				50.00	100.0		
				37.50	100.0		
				25.00	100.0		
				19.00	100.0		
				16.00	100.0		
				12.50	100.0	0.0411	75.9
				9.50	100.0	0.0293	73.8
				4.75	100.0	0.0186	72.8
				2.00	100.0	0.0148	71.8
				1.18	99.8	0.0108	70.8
				0.425	99.2	0.0077	68.8
				0.180	98.1	0.0056	65.5
				0.075	95.9	0.0012	57.4



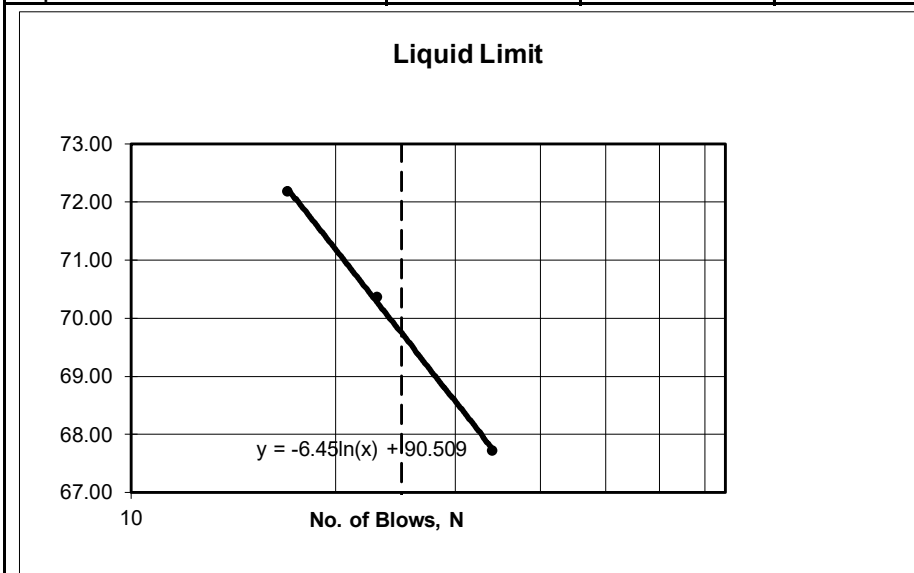
0	% Composition	
	0.00 Gravel	D10
	4.10 Sand	D30
	36.85 Silt	D60
	59.05 Clay	Cu
		Cc

Remarks:

Atterberg Limits (ASTM D4318)

Client: AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7 Attention.: Ryan Cunningham Project: 2026 Local Street Renewal Program – 26-R-06 Canora St/ Portage Av Alley - Picardy Pl/Broadway	Project No.: 112-2512 PI Test No.: 12 Lab No.: HM 819 Date Sampled/By: 26-Dec-25 HA Date Received: 26-Dec-25 Date Tested / By: 07-Jan-26 GM
---	--

Liquid Limit Determination					Liquid Limit 25 Blows
Dish No.:	1	2	3		
Wet Soil + Dish:	12.43	11.46	10.31		
Dry Soil + Dish:	9.24	8.35	7.87		
Moisture:	3.19	3.11	2.44		
Dish:	4.53	3.93	4.49		
Dry Soil:	4.71	4.42	3.38		
% Moisture:	67.73	70.36	72.19		
No. of Blows:	34	23	17		
Liquid Limit:					70


Material Identification:

Test Hole: **TH 1**
 Grab Sample No: **GS 4**
 Depth: **4-ft**

Liquid Limit, %: **70**
 Plastic Limit, %: **26**
 Plasticity Index: **44**
 (LL-PL)

Plastic Limit Determination					
Dish No.:	1	2	3		
Wet Soil + Dish:	10.27	10.94	10.15		
Dry Soil + Dish:	9.08	9.67	8.88		
Moisture:	1.19	1.27	1.27		
Dish:	4.42	4.69	3.93		
Dry Soil:	4.66	4.98	4.95		
% Moisture:	25.54	25.50	25.66		
				Average:	26

Test Method : ASTM: D4318, D2216

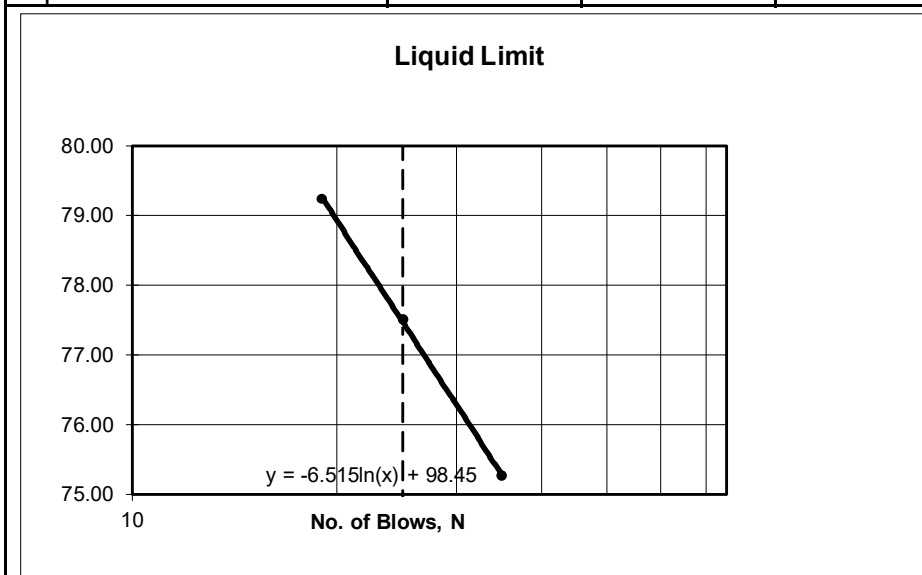
Remarks:

Reviewed by: Paul Bevel

Atterberg Limits (ASTM D4318)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No.:	112-2512
		PI Test No.:	13
		Lab No.:	HM 820
Attention.:	Ryan Cunningham	Date Sampled/By:	26-Dec-25 HA
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	26-Dec-25
	Canora St/ Portage Av Alley - Picardy Pl/Broadway	Date Tested / By:	07-Jan-26 GM

Liquid Limit Determination					Liquid Limit 25 Blows
Dish No.:	1	2	3		
Wet Soil + Dish:	10.98	9.95	10.62		
Dry Soil + Dish:	8.18	7.33	7.68		
Moisture:	2.8	2.62	2.94		
Dish:	4.46	3.95	3.97		
Dry Soil:	3.72	3.38	3.71		
% Moisture:	75.27	77.51	79.25		
No. of Blows:	35	25	19		
Liquid Limit:					77


Material Identification:

Test Hole: **TH 2**
 Grab Sample No: **GS 5**
 Depth: **5-ft**

Liquid Limit, %: **77**
 Plastic Limit, %: **31**
 Plasticity Index: **46**
 (LL-PL)

Plastic Limit Determination					
Dish No.:	1	2	3		
Wet Soil + Dish:	9.73	10.19	10.5		
Dry Soil + Dish:	8.34	8.71	9.06		
Moisture:	1.39	1.48	1.44		
Dish:	3.88	3.95	4.45		
Dry Soil:	4.46	4.76	4.61		
% Moisture:	31.17	31.09	31.24		
				Average:	31

Test Method : ASTM: D4318, D2216

Remarks:

Reviewed by: Paul Bevel

MAXIMUM DRY DENSITY AND MOISTURE CONTENT - Proctor Method (ASTM D698)

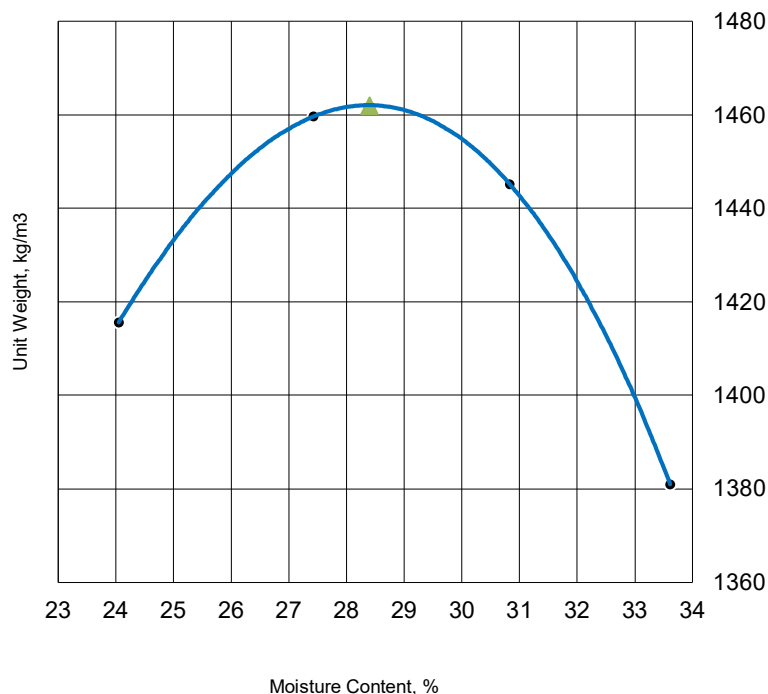
CLIENT	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No.:	112-2512
ATTENTION:	Ryan Cunningham	Lab No.:	HM 819
PROJECT:	2026 Local Street Renewal Program – 26-R-06 Canora St/ Portage Ave. Alley - Picardy Pl/Broadway	Proctor Test No.:	12

Date Sampled:	26-Dec-25	Date Received:	26-Dec-25	PROCEDURE	A
Sampled By:	HA	Date Tested:	30-Dec-25	PREPARATION	Dry

MATERIAL INFORMATION				COMPACTION METHOD	Manual
Material Type:	CLAY and silt, trace sand			BLOWS PER LAYER	25
Material Use:	Soil Investigat	Material Supplier:	Not Applicable	NO. OF LAYERS	3
Maximum Size:	5mm	Material Source:	TH 1 - GS 4	MOLD SIZE	100
				MOLD VOLUME	943
				WEIGHT OF HAMMER	2.5 kg

Test No.	1	2	3	4	
Wet Density	1756	1860	1891	1845	
Moisture Content	24.1	27.4	30.8	33.6	
Dry Density	1416	1460	1445	1381	

Moisture - Density Relationship



Maximum Dry Density (MDD):
1462 kg/m³
Optimum Moisture Content
28.4 %

STONE CORRECTION (ASTM D 4718)

Retained on 4.75mm sieve:
_____%
Corrected Moisture:
28.4 %
Corrected Maximum Dry Density:
1462 kg/m³

Remarks:

P. Bevel

Tested by: Mehdi Abbasi

Reviewed by: Paul Bevel

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MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No:	112-2512
		Test No.:	19
		Lab No.:	HM 819
Attention:	Ryan Cunningham	Date Sampled / By:	December 26, 2025/ HA
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 26, 2025
		Date Tested / By:	December 27, 2025/Chris B.
Canora St/ Portage Ave. Alley - Picardy Pl/Broadway			

Test Hole No.	TH1-GS1	TH1-GS2	TH1-GS3	TH1-GS4	TH1-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	C-01	Z-5	G-18	H-17	C4
Wt Wet Sample + Tare	173.6	208.6	192.4	272.1	172.5
Wt Dry Sample + Tare	149	162.2	142.4	226.9	140.2
Wt Water	24.6	46.4	50.0	45.2	32.3
Wt Tare	4.0	4.5	4.6	4.4	4.6
Wt Dry Sample	145.0	157.7	137.8	222.5	135.6
Moisture Content (%)	17.0	29.4	36.3	20.3	23.8
Test Hole No.	TH1-GS6	TH1-GS7	TH1-GS8		
Depth	6-ft	7-ft	8-ft		
Tare No.	P6	M50	C2		
Wt Wet Sample + Tare	170.4	230.8	166.9		
Wt Dry Sample + Tare	139.9	169.7	114.1		
Wt Water	30.5	61.1	52.8		
Wt Tare	4.0	4.8	4.8		
Wt Dry Sample	135.9	164.9	109.3		
Moisture Content (%)	22.4	37.1	48.3		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC 99 Commerce Drive, Winnipe MB R3P 0Y7	Project No:	112-2512
		Test No.:	
		Lab No.:	HM 820
Attention:	Ryan Cunningham	Date Sampled / By:	December 26, 2025/HA
Project:	2026 Local Street Renewal Program – 26-R-06	Date Received:	December 26, 2025
		Date Tested / By:	December 27, 2025/Chris B.
	Canora St/ Portage Ave. Alley - Picardy Pl/Broadway		

Test Hole No.	TH2-GS1	TH2-GS2	TH2-GS3	TH2-GS4	TH2-GS5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	M49	C10	M9	G3	A-23
Wt Wet Sample + Tare	174.4	189.6	213.5	225.3	181.4
Wt Dry Sample + Tare	135.5	137.9	153.7	170.4	137.2
Wt Water	38.9	51.7	59.8	54.9	44.2
Wt Tare	4.8	4.7	4.8	4.7	4.7
Wt Dry Sample	130.7	133.2	148.9	165.7	132.5
Moisture Content (%)	29.8	38.8	40.2	33.1	33.4
Test Hole No.	TH2-GS6	TH2-GS7	TH2-GS8		
Depth	6-ft	7-ft	8-ft		
Tare No.	B2	T125	Z-6		
Wt Wet Sample + Tare	179.2	169	219.9		
Wt Dry Sample + Tare	133.5	123.2	150.8		
Wt Water	45.7	45.8	69.1		
Wt Tare	4.0	4.3	4.5		
Wt Dry Sample	129.5	118.9	146.3		
Moisture Content (%)	35.3	38.5	47.2		
Test Hole No.					
Depth					
Tare No.					
Wt Wet Sample + Tare					
Wt Dry Sample + Tare					
Wt Water					
Wt Tare					
Wt Dry Sample					
Moisture Content (%)					

Reconstruction Sites

Picture of Cores

Canora St/Portage Av Alley - Picardy Pl/Broadway



Core 1



Core 2

APPENDIX C.1.

GOULDING STREET **(WOLEVER AVE TO PORTAGE AVE)**

Rehabilitation Sites

Pavement Coring Locations



Rehabilitation Sites

Pavement Structure Measurement

Core Hole No.	Core Hole Location	Asphalt Thickness (mm)	Concrete Thickness (mm)
Goulding Street (Wolever Ave to Portage Ave)			
CH1	Mid Slab; Side of Commercial Bldg. 1151 Portage Ave, NBL; 1.5m away from the curb 14 U, 630618 E, 5527334 N	-	160
CH2	Mid Slab; Front of House # 647 Goulding St., NBL; 1.5m away from the curb 14 U, 630625 E, 5527579 N	-	107

Note: ^A - The exact concrete thickness could not be determined due to the deterioration of the concrete.

CONCRETE CORE COMPRESSIVE STRENGTH TEST REPORT (CSA A23.2 14C)

CLIENT:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	DATE:	9-Jan-26
ATTENTION:	Ryan Cunningham	FILE NO:	112-2512
PROJECT:	2026 Local Street Renewal Program – 26-R-06 Various Locations	REPORT NO:	26-001
STRUCTURE:		TECHNOLOGIST:	M.V, S. D.G, D.A
		DATE CORES TAKEN:	15-Dec-25 to 29-Dec-25
		DOCUMENT NO:	25-4865
		DATE RECEIVED IN LAB:	15-Dec-25 to 29-Dec-25

Core Location	Length as Drilled (mm)	Core Diameter (mm)	Tested Core Length (mm)	Length / Diameter (mm)	Correction Factor	Mass (kg)	Age at Break (days)	Date of Break	Type of Fracture	Comp. Strength as Calculated (MPa)	Comp. Strength as Corrected (MPa)
Core 1 - Goulding St - Wolever Av/Portage Av	168	95	146	1.5	0.960	2.5	-	9-Jan-26	1	63.61	61.07
Core 2 - Goulding St - Wolever Av/Portage Av	107	95	107	1.1	0.894	1.7	-	13-Jan-26	1	52.39	46.84

Remarks:

The cores were tested in wet condition in accordance with CSA A23.2-14C.

Reviewed by:



Mayumi Kawano, Supervisor
Field & Lab Testing Services

Approved by:



Paul Bevel, Manager
Field & Lab Testing Services

Rehabilitation Sites

Picture of Cores

Goulding St - Wolever Av/Portage Av



Core 1



Core 1 - Site Photo



Core 2



Core 2 - Site Photo

APPENDIX C.2.

MADISON STREET AND KENSINGTON STREET ALLEY

(SILVER AVE TO 480 MADISON ST)

Rehabilitation Sites

Pavement Coring Locations



Rehabilitation Sites

Pavement Structure Measurement

Core Hole No.	Core Hole Location	Asphalt Thickness (mm)	Concrete Thickness (mm)
Madison Street and Kensington Street Alley (Silver Ave to 480 Madison St)			
CH1	Mid Slab; Back lane of Commercial Bldg. 1601 Silver Ave; 1.5m away from the edge of the alley 14 U, 628986 E, 5527701	-	142

Note: ^A - The exact concrete thickness could not be determined due to the deterioration of the concrete.



1402 Notre Dame Avenue, Winnipeg, MB R3E 3G5
Phone: 204-697-3854 Cell: 204-997-1355 Email: hermie@hmanalo.ca

CONCRETE CORE COMPRESSIVE STRENGTH TEST REPORT (CSA A23.2 14C)

CLIENT:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	DATE:	9-Jan-26
ATTENTION:	Ryan Cunningham	FILE NO:	112-2512
PROJECT:	2026 Local Street Renewal Program – 26-R-06 Various Locations	REPORT NO:	26-001
STRUCTURE:		TECHNOLOGIST:	M.V, S. D.G, D.A
		DATE CORES TAKEN:	15-Dec-25 to 29-Dec-25
		DOCUMENT NO:	25-4865
		DATE RECEIVED IN LAB:	15-Dec-25 to 29-Dec-25

Core Location	Length as Drilled (mm)	Core Diameter (mm)	Tested Core Length (mm)	Length / Diameter (mm)	Correction Factor	Mass (kg)	Age at Break (days)	Date of Break	Type of Fracture	Comp. Strength as Calculated (MPa)	Comp. Strength as Corrected (MPa)
Core 1 - 480 Madison St/Madison St Alley - Silver Av/Keningston St	140	95	134	1.4	0.948	2.2	-	9-Jan-26	1	39.20	37.16

Remarks:

The cores were tested in wet condition in accordance with CSA A23.2-14C.

Reviewed by:

Mayumi Kawano, Supervisor
Field & Lab Testing Services

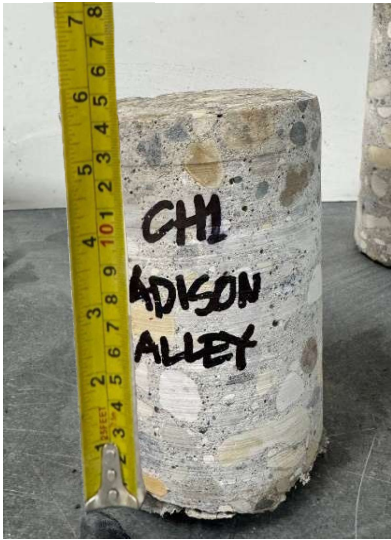
Approved by:

Paul Bevel, Manager
Field & Lab Testing Services

Rehabilitation Sites

Picture of Cores

480 Madison St/Madison St Alley - Silver Av/Keningston St



Core 1



Core 1 - Site Photo

APPENDIX C.3.

STRATHCONA STREET ALLEY (ST MATTHEWS AVE TO WOLEVER AVE)

Rehabilitation Sites

Pavement Coring Locations



Rehabilitation Sites

Pavement Structure Measurement

Core Hole No.	Core Hole Location	Asphalt Thickness (mm)	Concrete Thickness (mm)
Strathcona Street Alley (St Matthews Ave to Wolever Ave)			
CH1	Mid Slab; Back lane of House # 810 Strathcona St.; 1m away from the edge of the alley 14 U, 629897 E, 5527701 N	-	167
CH2	Joint; Back lane of House # 830 Strathcona St.; 1m away from the edge of the alley 14 U, 629898 E, 5527745 N	-	140 ^A
CH3	Joint; Back lane of House # 900 Strathcona St.; 1m away from the edge of the alley 14 U, 629902 E, 5527963 N	-	145 ^A
CH4	Mid Slab; Back lane of House # 910 Strathcona St.; 1m away from the edge of the alley 14 U, 629904 E, 5527999 N	-	188

Note: ^A - The exact concrete thickness could not be determined due to the deterioration of the concrete.

CONCRETE CORE COMPRESSIVE STRENGTH TEST REPORT (CSA A23.2 14C)

CLIENT:	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	DATE:	9-Jan-26
ATTENTION:	Ryan Cunningham	FILE NO:	112-2512
PROJECT:	2026 Local Street Renewal Program – 26-R-06 Various Locations	REPORT NO:	26-001
STRUCTURE:		TECHNOLOGIST:	M.V, S. D.G, D.A
		DATE CORES TAKEN:	15-Dec-25 to 29-Dec-25
		DOCUMENT NO:	25-4865
		DATE RECEIVED IN LAB:	15-Dec-25 to 29-Dec-25

Core Location	Length as Drilled (mm)	Core Diameter (mm)	Tested Core Length (mm)	Length / Diameter (mm)	Correction Factor	Mass (kg)	Age at Break (days)	Date of Break	Type of Fracture	Comp. Strength as Calculated (MPa)	Comp. Strength as Corrected (MPa)
Core 1 - St Matthews Av/Alley - Strathcona St/Wolever Av	167	95	140	1.5	0.960	2.2	-	9-Jan-26	1	45.30	43.49
Core 4 - St Matthews Av/Alley - Strathcona St/Wolever Av	188	95	153	1.6	0.968	2.5	-	9-Jan-26	1	41.10	39.78

Remarks:

The cores were tested in wet condition in accordance with CSA A23.2-14C.

Reviewed by:



Mayumi Kawano, Supervisor
Field & Lab Testing Services

Approved by:

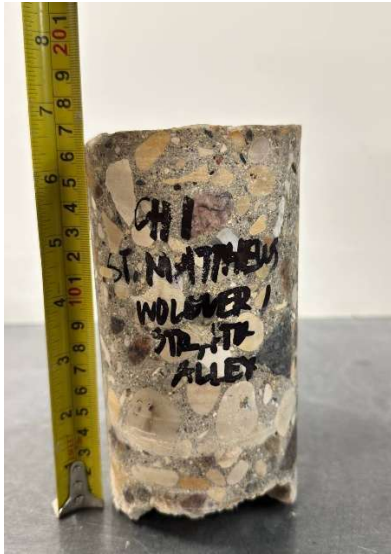


Paul Bevel, Manager
Field & Lab Testing Services

Rehabilitation Sites

Picture of Cores

St Matthews Av/Alley - Strathcona St/Wolever Av



Core 1



Core 1 - Site Photo



Core 2 - Top



Core 2



Core 2 - Site Photo

Rehabilitation Sites

Picture of Cores

St Matthews Av/Alley - Strathcona St/Wolever Av



Core 3 - Top



Core 3



Core 3 - Site Photo



Core 4



Core 4 - Site Photo

APPENDIX D.1.

WESTVIEW PARK (GARBAGE HILL) **(WELLINGTON AVE TO END)**

Reconstruction Sites

Pavement Structure Measurement

Test Hole No.	Test Hole Location	Asphalt Thickness (mm)	Concrete Thickness (mm)
Westview Park (Garbage Hill) (Wellington Ave to end of Westview Park)			
TH1	SBL; 2m away from the edge of pavement line 14 U, 629659 E, 5529213 N	52.5	-
TH2	NBL; 1m away from the edge of pavement line 14 U, 629675 E, 5529229 N	50	-

Core Hole No.	Core Hole Location	Asphalt Thickness (mm)	Concrete Thickness (mm)
Westview Park (Garbage Hill) (Wellington Ave to end of Westview Park)			
CH1	SBL; 3.5m away from the edge of pavement line 14 U, 629665 E, 5529224 N	86	-
CH2	SBL; 3.5m away from the edge of pavement line 14 U, 629771 E, 5529284 N	28	-
CH3	NBL; 3m away from the edge of pavement line 14 U, 629785 E, 5529372 N	37	-
CH4	SBL; 35m away from the edge of pavement line 14 U, 629796 E, 5529450 N	22	-
CH4	SBL; 4m away from the edge of pavement line 14 U, 629786 E, 5529529 N	55	-

D.1 Summary of Laboratory Testing

Reconstruction Site

TH	Sample ID	PSA				PI			PR		CBR	
		Gravel (%)	Sand (%)	Silt (%)	Clay (%)	LL (%)	PL (%)	PI (%)	MDD (kg/m³)	OMC (%)	at 2.5mm penetration	at 5.1mm penetration
WESTVIEW PARK ROADS – GARBAGE HILL (WELLINGTON AVE TO END)												
TH 1	HM 804 GS 4	-	29	34.1	37.9	36	20	16	1708	17.7	2.7	2.6
TH 2	HM 805 GS 5	-	8.8	70.8	20.4	24	15	9	1837	14.8	2.9	2.7

Reconstruction Sites

Pavement Coring and Subsurface Drilling Locations



Depth	Symbol	Description	Number	Type	Pocket Penetrometer Test (kPa)	Water Content
0		Ground Surface			25 50 75 125 175 225	10 20 30 40 50 60 70 80 90
0		Pavement				
0		62.5mm ASPHALT				
1		Sand Fill	1	GS		
1		Some gravel, trace silt, brown, moist, frozen				
2		Clay Fill	2	GS		
2		Silty with some sand, trace gravel, trace broken glass fragments (smaller than 5mm), black, loose, wet, frozen to 1.0m				
3		Lab Result (HM 804)	3	GS		
3		Gravel - 0%, Sand - 29%, Silt - 34%, Clay - 37%				
3		LL - 36, PL - 20, PI - 16				
3		CBR at 2.5mm penetration - 2.7				
4		Silt	4	GS		
4		some clay, low plastic, soft to firm, damp, tan				
5			5	GS		
6			6	GS		
6		End of testhole				
7						
8						
9						
10		- No seepage observed				
10		- Test hole was backfilled with				
10		auger cuttings and topped with				
10		crushed limestone and cold patch				
10		asphalt				
10		- UTM: 14 U 629664.70 m E, 5529220.36 m N				
11						

Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 16, 2025

Checked by: Paul Bevel

Hole Size: 5 Inches

Sheet: 1 of 1

Depth ft m	Symbol	Description	Number	Type	Pocket Penetrometer Test (kPa)	Water Content
					25 50 75 125 175 225	10 20 30 40 50 60 70 80 90
0		Ground Surface				
		Pavement				
		50mm ASPHALT				
		Sand Fill				
1		Some gravel, trace silt, brown, moist, frozen	1	GS		
2		Clay Fill	2	GS		
		silty with some sand, trace gravel, trace broken glass fragments (smaller than 5mm), black, loose, wet, frozen to 1.0m				
3			3	GS		
4		Silt				
		some clay trace sand, low plastic, soft, moist, tan	4	GS		
		Lab Result (HM 805)				
		Gravel - 0%, Sand - 9%, Silt - 71%, Clay - 20%				
		LL - 24, PL - 15, PI - 9				
		CBR at 2.5mm penetration - 2.9				
5		Clay	5	GS		
		some silt, high plastic, stiff, grey, below 1.2m				
6		dark brown below 2.1m	6	GS		
7						
8		End of testhole				
9						
10		- No seepage observed				
		- Test hole was backfilled with				
		auger cuttings and topped with				
		crushed limestone and cold patch				
		asphalt				
11		- UTM: 14 U 629677.97 m E, 5529231.48 m N				

Drill Method: Auger Drilling

Datum: Existing surface

Drill Date: December 16, 2025

Checked by: Paul Bevel

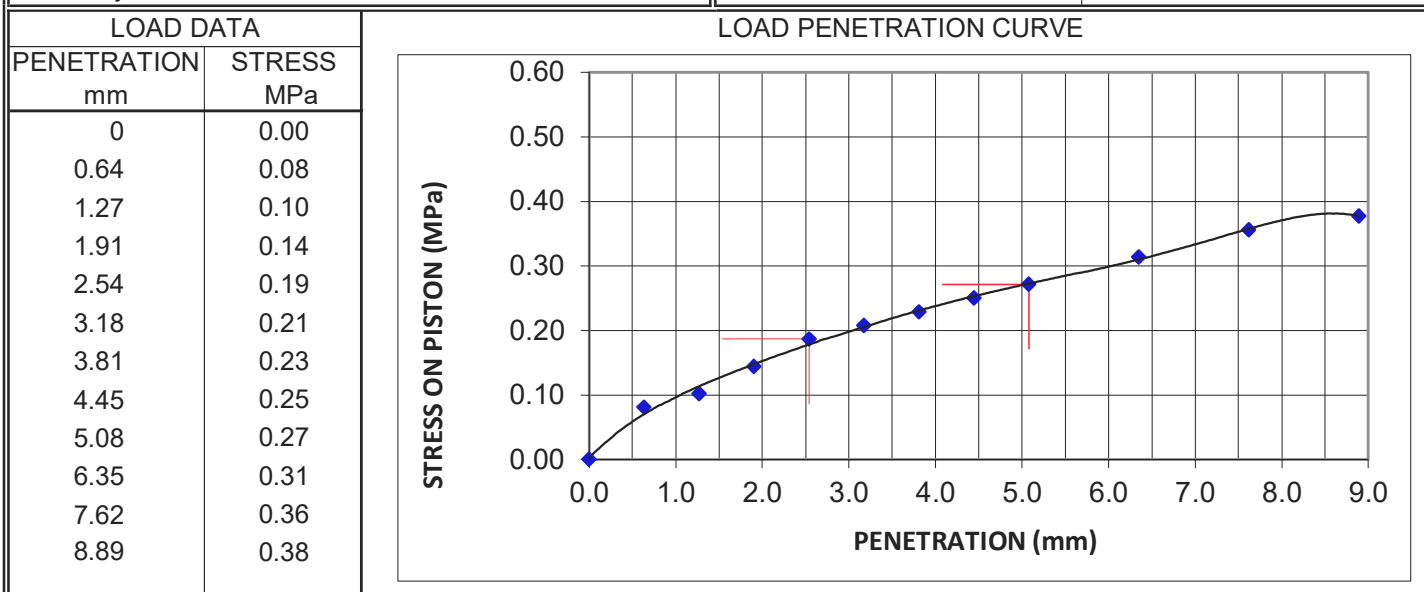
Hole Size: 5 Inches

Sheet: 1 of 1

CALIFORNIA BEARING RATIO (CBR) TEST - ASTM D 1883

Client: AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7 Attention: Ryan Cunningham Project 2026 Local Street Renewal Program – 26-R-06 Location: Westview Park, Winnipeg, MB	Project No: 112-2512 Lab No: HM 804 Date sampled/By: 08-Dec-26 MK Date Received: 12-Dec-26 Date Tested /By: 26-Dec-26 Edel Santiago
---	---

SAMPLE DATA		SPECIMEN DATA	
Sample Type: CLAY FILL		DESCRIPTION	Before Soaking After Testing
Source: TH 1 - GS 4		Moisture Content (MC), %	17.8 19.8
Sampled by: MK		MC of top 25mm layer, %	
Optimum Moisture Content: 17.7 %		Dry Density, kg/m ³	1623 1588
Maximum Dry Density: 1708 kg/cm ³		Compaction, %	95%
Method of Compaction: Standard Proctor		CBR, %	2.7
Tested by: MA	Date Tested: 26-Feb-26	Swell, %	4.0



PENETRATION mm	STANDARD LOAD MPa	TEST LOAD		BEARING RATIO (soaked)	
		ACTUAL MPa	CORRECTED MPa	at 2.5 mm penetration	at 5.1 mm penetration
2.54	6.9	0.19	0.19	2.7	-
5.08	10.3	0.27	0.27	-	2.6

Remarks:

Reviewed by: Paul Bevel

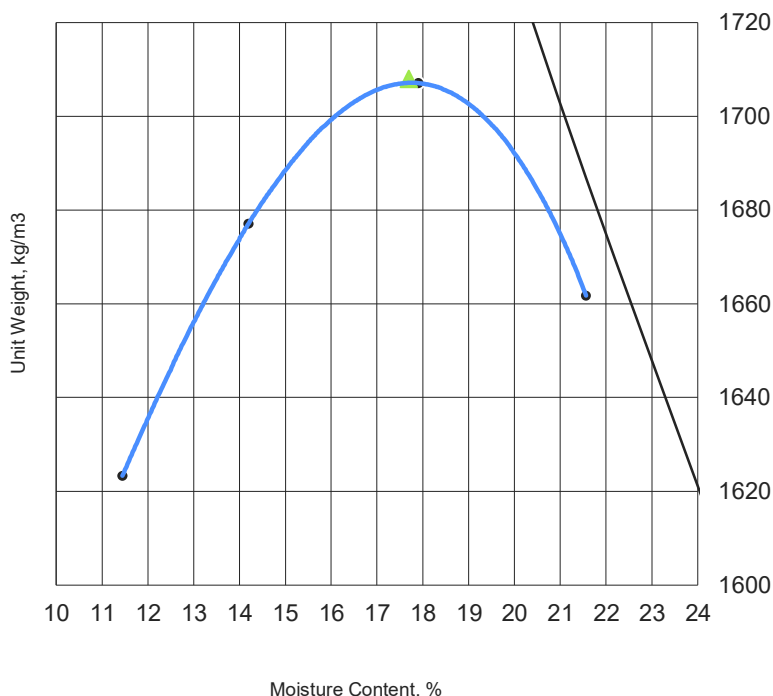
MAXIMUM DRY DENSITY AND MOISTURE CONTENT - Proctor Method (ASTM D698)

CLIENT	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No.:	112-2512
ATTENTION:	Ryan Cunningham	Lab No.:	HM 804
PROJECT:	2026 Local Street Renewal Program – 26-R-06	Proctor Test No.:	1

Date Sampled:	December 18,	Date Received:	December 18, 2025	PROCEDURE	A
Sampled By:	MK	Date Tested:	December 22, 2025	PREPARATION	Dry
MATERIAL INFORMATION Material Type: CLAY FILL Material Use: Soil Inv Material Supplier: Not Application Maximum Size: 5mm Material Source: TH 1 - GS 4				COMPACTION METHOD	Manual
				BLOWS PER LAYER	25
				NO. OF LAYERS	3
				MOLD SIZE	100
				MOLD VOLUME	943
				WEIGHT OF HAMMER	2.5 kg

Test No.	1	2	3	4	
Wet Density	1809	1915	2013	2020	
Moisture Content	11.4	14.2	17.9	21.6	
Dry Density	1623	1677	1707	1662	

Moisture - Density Relationship



Maximum Dry Density (MDD):
1708 kg/m³
Optimum Moisture Content
17.7 %

STONE CORRECTION (ASTM D 4718)

Retained on 4.75mm sieve:
0 %
Corrected Moisture:
17.7 %
Corrected Maximum Dry Density:
1708 kg/m³

Remarks:

Tested by: Mehdi Abbasi

Reviewed by: Paul Bevel

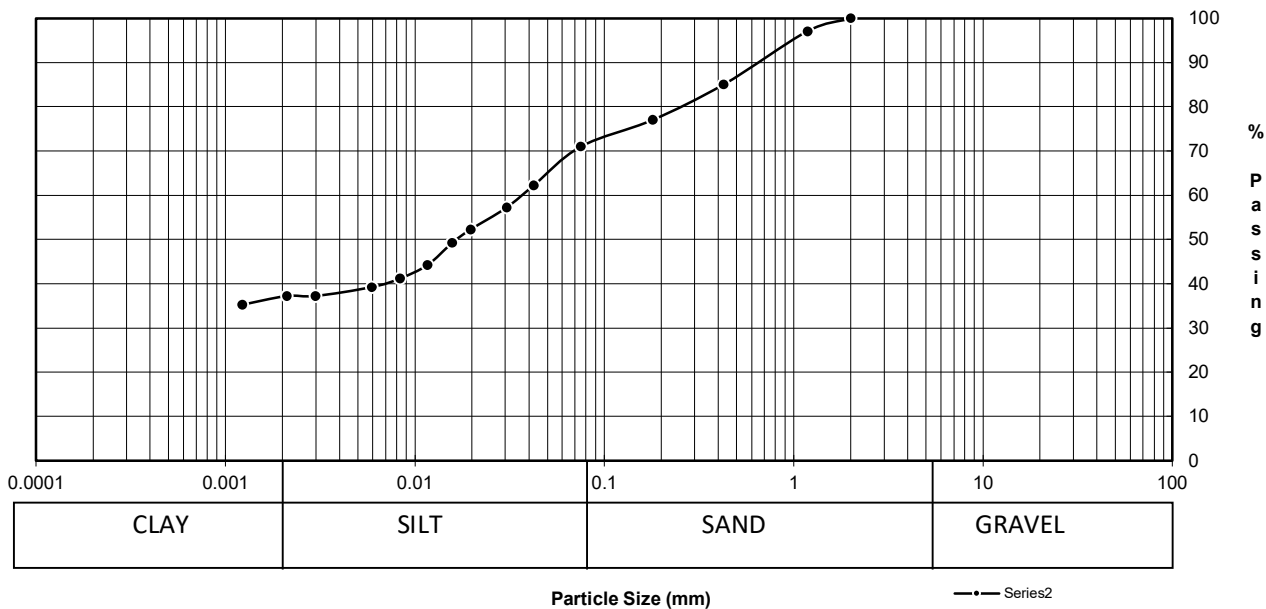
P. Bevel

PARTICLE SIZE ANALYSIS OF SOILS TEST REPORT

CLIENT: AECOM Canada ULC Project No.: 112-2512
99 Commerce Drive, Winnipeg PSA Test No.: 5
MB R3P 0Y7 Lab No.: HM 804
ATTENTION: Ryan Cunningham
PROJECT: 2026 Local Street Renewal Program – 26-R-06

Date Sampled:	December 18, 2022	Date Received:	December 18, 2022	Sieve Analysis		Hydrometer Analysis	
Sampled By:	MK	Date Tested:	December 29, 2022	Sieve (mm)	% Passing	Diameter	% Finer
Material Identification B.H./T.H. No. Depth Sample Source Specific Gravity of Material:				50.00	100.0		
				37.50	100.0		
				25.00	100.0		
				19.00	100.0		
				16.00	100.0		
				12.50	100.0	0.0423	62.2
				9.50	100.0	0.0305	57.2
				4.75	100.0	0.0196	52.2
				2.00	100.0	0.0157	49.2
				1.18	97.0	0.0116	44.2
Material Identification B.H./T.H. No. Depth Sample Source Specific Gravity of Material:				0.425	85.0	0.0083	41.2
				0.180	77.0	0.0059	39.2
				0.075	71.0	0.0012	35.2

Grain Size Analysis



% Composition		D10
0.00	Gravel	D30
29.00	Sand	D60
34.05	Silt	Cu
36.95	Clay	Cc

Remarks:

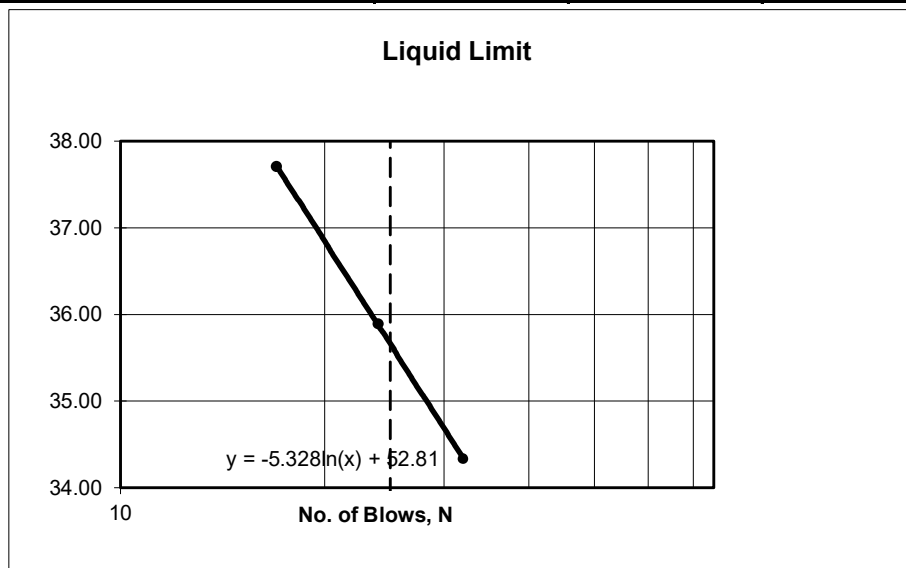
Technician: ECS

Reviewed by: Paul Bevel

Atterberg Limits (ASTM D4318)

Client:	AECOM Canada ULC	Project No.:	112-2512
	99 Commerce Drive, Winnipeg	PI Test No.:	7
	MB R3P 0Y7	Lab No.:	HM 804
Attention.:	Ryan Cunningham	Date Sampled/By:	18-Dec MK
Project:	2026 Local Street Renewal Program – 26-Road	Date Received:	18-Dec
		Date Tested / By:	19-Dec G. Manalo

Liquid Limit Determination					Liquid Limit 25 Blows
Dish No.:	1	2	3		
Wet Soil + Dish:	12.52	13.63	14.33		
Dry Soil + Dish:	10.47	11.20	11.63		
Moisture:	2.05	2.43	2.7		
Dish:	4.5	4.43	4.47		
Dry Soil:	5.97	6.77	7.16		
% Moisture:	34.34	35.89	37.71		
No. of Blows:	32	24	17		
Liquid Limit:					36



Material Identification:

Test Hole: **TH 1 - GS 4**
 Depth: **4-ft**

Liquid Limit, %: **36**
 Plastic Limit, %: **20**
 Plasticity Index: **16**
 (LL-PL)

Plastic Limit Determination					
Dish No.:	1	2	3		
Wet Soil + Dish:	11.33	11.35	11.61		
Dry Soil + Dish:	10.18	10.18	10.42		
Moisture:	1.15	1.17	1.19		
Dish:	4.56	4.4	4.42		
Dry Soil:	5.62	5.78	6		
% Moisture:	20.46	20.24	19.83		
				Average:	20

Test Method : ASTM: D4318, D2216

Remarks:

HM 804, Garbage Hill 1

P Bevel

Reviewed by: Paul Bevel

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC	Project No:	112-2512
	99 Commerce Drive, Winnipeg	Test No.:	1
	MB R3P 0Y7	Lab No.:	HM 804
Attention:	Ryan Cunningham	Date Sampled / By:	18-Dec-25 MK
Project:	2026 Local Street Renewal P	Date Received:	18-Dec-25
		Date Tested / By:	19-Dec-25 CB

Test Hole No.	TH 1-1	TH 1-2	TH 1-3	TH 1-4	TH 1-5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	P3	GM 5	G11	60	P4
Wt Wet Sample + Tare	181	161.8	223.2	221.1	258
Wt Dry Sample + Tare	165.8	131.4	173.2	174.4	213.5
Wt Water	15.2	30.4	50.0	46.7	44.5
Wt Tare	4.0	4.0	4.5	4.6	4.2
Wt Dry Sample	161.8	127.4	168.7	169.8	209.3
Moisture Content (%)	9.4	23.9	29.6	27.5	21.3
Test Hole No.	TH 1-6				
Depth	6-ft				
Tare No.	C3				
Wt Wet Sample + Tare	202.6				
Wt Dry Sample + Tare	166.8				
Wt Water	35.8				
Wt Tare	4.9				
Wt Dry Sample	161.9				
Moisture Content (%)	22.1				

CALIFORNIA BEARING RATIO (CBR) TEST - ASTM D 1883

 Client: AECOM Canada ULC
 99 Commerce Drive, Winnipeg
 MB R3P 0Y7

Attention: Ryan Cunningham

Project 2026 Local Street Renewal Program – 26-R-06

Location: Westview, Winnipeg, MB

Project No: 112-2512

Lab No: HM 805

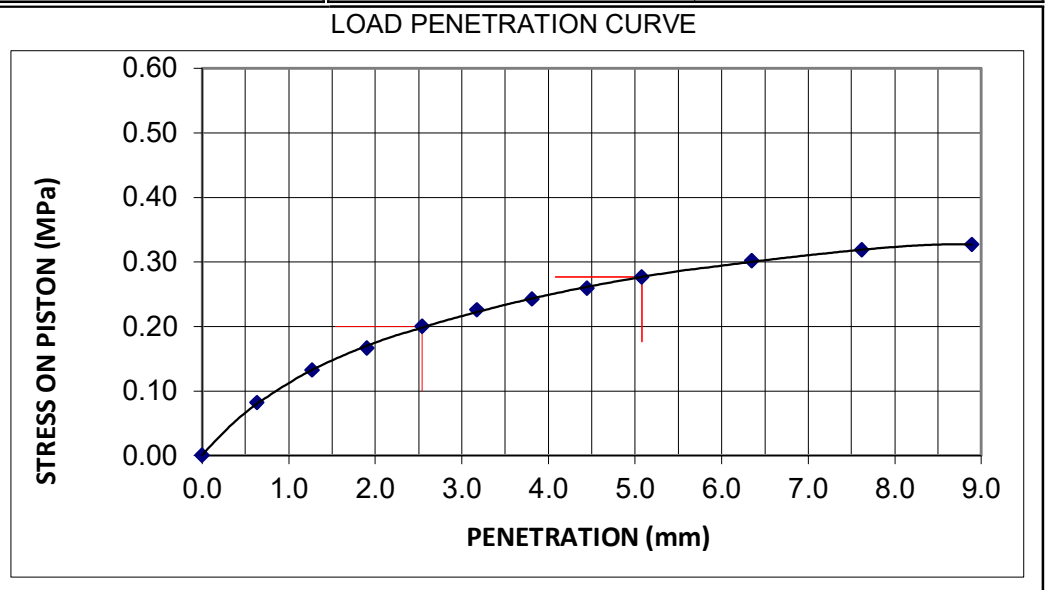
Date sampled/By: 18-Dec-25 MK

Date Received: 18-Dec-25

Date Tested /By: 26-Dec-25 ECS

SAMPLE DATA		SPECIMEN DATA		
Sample Type:	SILT - some clay trace sand	DESCRIPTION	Before Soaking	After Testing
Source:	TH 2 - GS 5	Moisture Content (MC), %	15.3	17.7
Sampled by:	MK	MC of top 25mm layer, %		
Optimum Moisture Content:	14.8 %	Dry Density, kg/m ³	1745	1708
Maximum Dry Density:	1837 kg/cm ³	Compaction, %	95%	
Method of Compaction:	Standard Proctor	CBR at 2.5mm penetration, %	2.9	
Tested by:	HA	Swell, %	3.4	
	Date Tested: 18-Dec-25			

LOAD DATA	
PENETRATION mm	STRESS MPa
0	0.00
0.64	0.08
1.27	0.13
1.91	0.17
2.54	0.20
3.18	0.23
3.81	0.24
4.45	0.26
5.08	0.28
6.35	0.30
7.62	0.32
8.89	0.33



PENETRATION mm	STANDARD LOAD MPa	TEST LOAD		BEARING RATIO (soaked)	
		ACTUAL MPa	CORRECTED MPa	at 2.5 mm penetration	at 5.1 mm penetration
2.54	6.9	0.20	0.20	2.9	-
5.08	10.3	0.28	0.28	-	2.7

Remarks:

Reviewed by: Paul Bevel

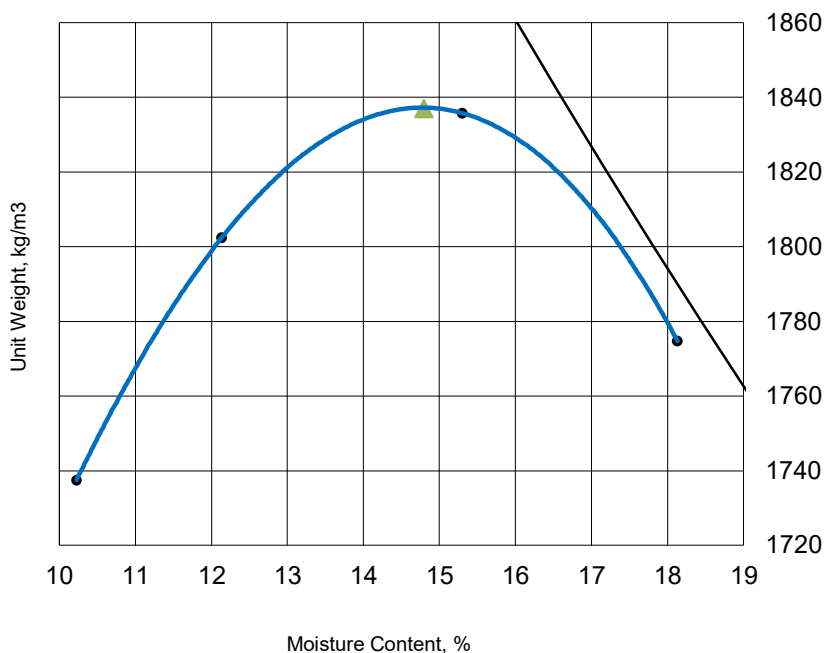
MAXIMUM DRY DENSITY AND MOISTURE CONTENT - Proctor Method (ASTM D698)

CLIENT	AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7	Project No.:	112-2512
ATTENTION:	Ryan Cunningham	Lab No.:	HM 805
PROJECT:	2026 Local Street Renewal Program – 26-R-06	Proctor Test No.:	2

Date Sampled:	December 18,	Date Received:	December 18, 2025	PROCEDURE	A
Sampled By:	MK	Date Tested:	December 22, 2025	PREPARATION	Dry
MATERIAL INFORMATION Material Type: SILT - some clay trace sand Material Use: Soil Inv Material Supplier: Not Applicable Maximum Size: 5mm Material Source: TH 2 GS 5				COMPACTION METHOD	Manual
				BLOWS PER LAYER	25
				NO. OF LAYERS	3
				MOLD SIZE	100
				MOLD VOLUME	943
				WEIGHT OF HAMMER	2.5 kg

Test No.	1	2	3	4
Wet Density	1915	2021	2117	2097
Moisture Content	10.2	12.1	15.3	18.1
Dry Density	1737	1802	1836	1775

Moisture - Density Relationship




Maximum Dry Density (MDD):
1837 kg/m³
Optimum Moisture Content
14.8 %

STONE CORRECTION (ASTM D 4718)

Retained on 4.75mm sieve:
%
Corrected Moisture:
14.8 %
Corrected Maximum Dry Density:
1837 kg/m³

Remarks:

Tested by: HA


Reviewed by: Paul Bevel

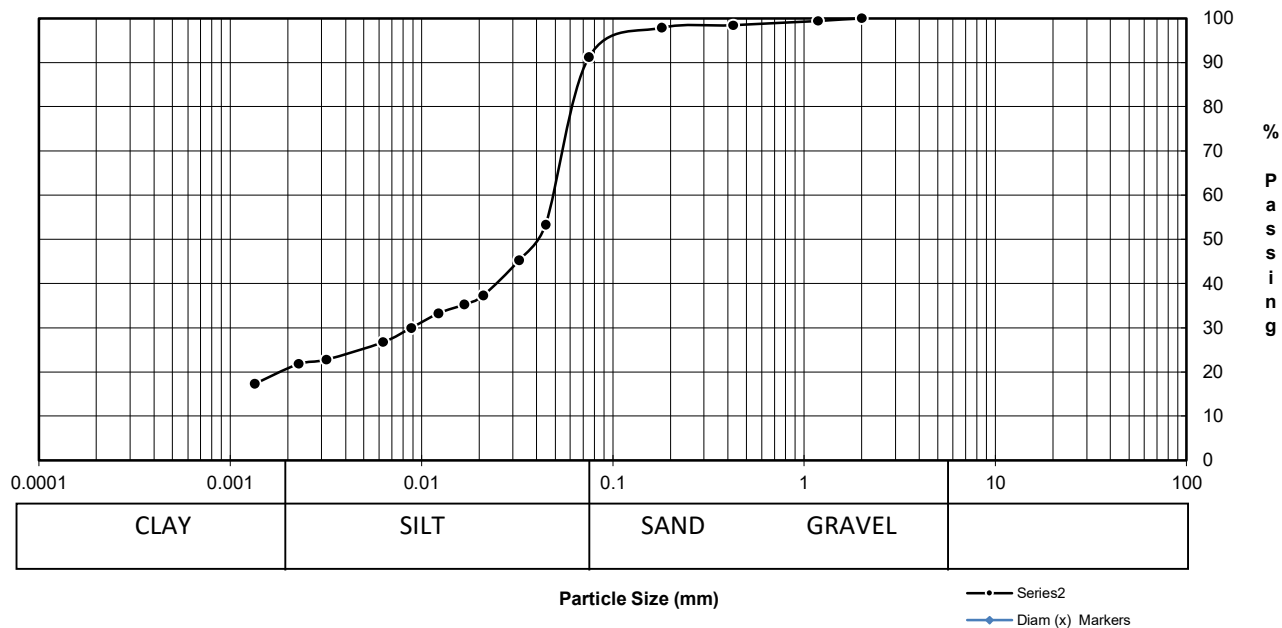
PARTICLE SIZE ANALYSIS OF SOILS TEST REPORT

CLIENT: AECOM Canada ULC
99 Commerce Drive, Winnipeg
MB R3P 0Y7
ATTENTION: Ryan Cunningham
PROJECT: 2026 Local Street Renewal Program – 26-R-06

Project No.: 112-2512
PSA Test No.: 2
Lab No.: HM 805

Date Sampled:	18-Dec-25	Date Received:	18-Dec-25	Sieve Analysis		Hydrometer Analysis	
Sampled By:	MK	Date Tested:	29-Dec-25	Sieve (mm)	% Passing	Diameter	% Finer
<div>Material Identification</div> <div>B.H./T.H. No.</div> <div>Depth</div> <div>Sample Source</div> <div>Specific Gravity of Material:</div> <div>SILT - some clay trace sand</div> <div>TH 2</div> <div>5-ft</div> <div>GS 5</div> <div>2.65</div>				50.00	100.0		
				37.50	100.0		
				25.00	100.0		
				19.00	100.0		
				16.00	100.0		
				12.50	100.0	0.0444	53.2
				9.50	100.0	0.0323	45.2
				4.75	100.0	0.0210	37.2
				2.00	100.0	0.0167	35.2
				1.18	99.4	0.0123	33.2
				0.425	98.4	0.0088	29.9
				0.180	97.8	0.0063	26.8
				0.075	91.2	0.0013	17.3

Grain Size Analysis



% Composition		D10	
	Gravel	D30	0.00884
8.80	Sand	D60	0.04538
70.75	Silt	Cu	
20.45	Clay	Cc	

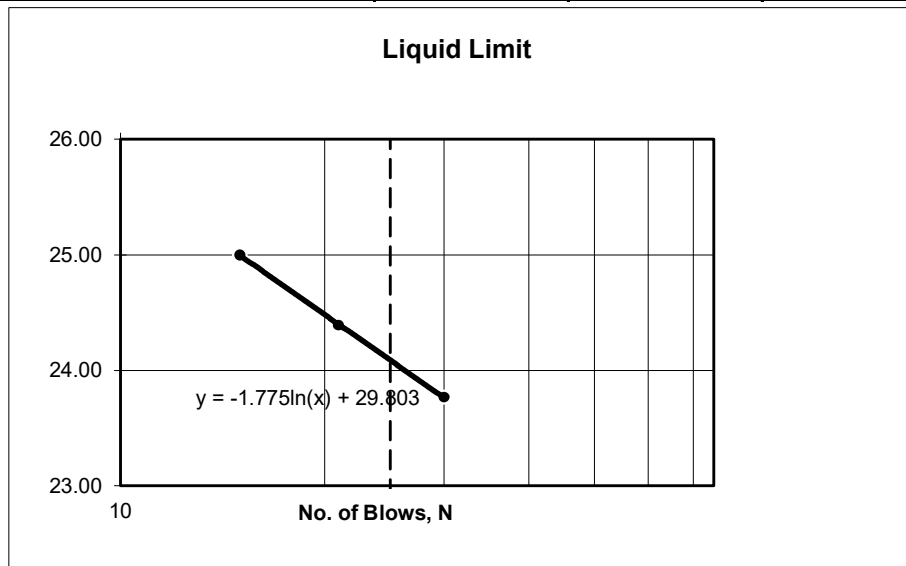
Remarks:
HM 805, Garbage Hill, TH 2

P Bevel

Atterberg Limits (ASTM D4318)

Client: AECOM Canada ULC 99 Commerce Drive, Winnipeg MB R3P 0Y7 Attention.: Ryan Cunningham Project: 2026 Local Street Renewal Program – 26-Road Westview, Winnipeg, MB	Project No.: 112-2512 PI Test No.: 8 Lab No.: HM 805 Date Sampled/By: 18-Dec MK Date Received: 18-Dec Date Tested / By: 31-Dec GM
--	--

Liquid Limit Determination					Liquid Limit 25 Blows
Dish No.:	1	2	3		
Wet Soil + Dish:	12.75	14.12	12.76		
Dry Soil + Dish:	11.06	12.12	11		
Moisture:	1.69	2	1.76		
Dish:	3.95	3.92	3.96		
Dry Soil:	7.11	8.2	7.04		
% Moisture:	23.77	24.39	25.00		
No. of Blows:	30	21	15		
Liquid Limit:					24



Material Identification:

 Test Hole: **TH 2 - GS 5**

 Depth: **5-ft**

 Liquid Limit, %: **24**

 Plastic Limit, %: **15**

 Plasticity Index: **9**
 (LL-PL)

Plastic Limit Determination					
Dish No.:	1	2	3		
Wet Soil + Dish:	10.63	10.84	10.74		
Dry Soil + Dish:	9.76	9.94	9.85		
Moisture:	0.87	0.90	0.89		
Dish:	3.96	3.91	3.88		
Dry Soil:	5.8	6.03	5.97		
% Moisture:	15.00	14.93	14.91		
				Average:	15

Test Method : ASTM: D4318, D2216

Remarks:

HM 805, Garbage Hill, TH 2

Reviewed by: Paul Bevel

MOISTURE CONTENT OF SOIL (ASTM D2216)

Client:	AECOM Canada ULC	Project No:	112-2512
	99 Commerce Drive, Winnipeg	Test No.:	2
	MB R3P 0Y7	Lab No.:	HM 805
Attention:	Ryan Cunningham	Date Sampled / By:	18-Dec-25 MK
Project:	2026 Local Street Renewal Program – 26th Rd	Date Received:	18-Dec-25
	Westview, Winnipeg, MB	Date Tested / By:	19-Dec-25 CB

Test Hole No.	TH2-1	TH2-2	TH2-3	TH2-4	TH2-5
Depth	1-ft	2-ft	3-ft	4-ft	5-ft
Tare No.	F16	PM1	M28	GM6	PS1
Wt Wet Sample + Tare	176.8	169	200.6	204.3	184.7
Wt Dry Sample + Tare	167.8	140.8	164.3	165.5	140.9
Wt Water	9.0	28.2	36.3	38.8	43.8
Wt Tare	4.0	4.2	4.9	4.4	4.6
Wt Dry Sample	163.8	136.6	159.4	161.1	136.3
Moisture Content (%)	5.5	20.6	22.8	24.1	32.1
Test Hole No.	TH2-6				
Depth	6-ft				
Tare No.	A14				
Wt Wet Sample + Tare	175.8				
Wt Dry Sample + Tare	130.6				
Wt Water	45.2				
Wt Tare	4.2				
Wt Dry Sample	126.4				
Moisture Content (%)	35.8				

Reconstruction Site

Picture of Cores

Westview Park Roads - (Garbage Hill) Wellington Ave to End



Core 1 - Core Photo



Core 1 - Site Photo



Core 2 - Core Photo



Core 2 - Site Photo

Reconstruction Site

Picture of Cores

Westview Park Roads - (Garbage Hill) Wellington Ave to End



Core 3 - Core Photo



Core 3 - Site Photo



Core 4 - Core Photo



Core 4 - Site Photo

Reconstruction Site

Picture of Cores

Westview Park Roads - (Garbage Hill) Wellington Ave to End



Core 5 - Core Photo



Core 5 - Site Photo