APPENDIX 'A'

GEOTECHNICAL REPORT

Quality Engineering | Valued Relationships

Morrison Hershfield

RFP 547-2023 McGregor-Inkster Geotech. Investigation

Prepared for:
Ron Bruce, P. Eng.
Morrison Hershfield
Suite 1, 59 Scurfield Blvd
Winnipeg, MB.
R3Y 1V2

Project Number: 1000-001-33

Date: January 22, 2024

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TREK GEOTECHNICAL

Quality Engineering | Valued Relationships

January 22, 2024

Our File No. 1000-001-33

Ron Bruce, P. Eng.
Morrison Hershfield
Suite 1, 59 Scurfield Blvd
Winnipeg, MB.
R3Y 1V2

RE: RFP 547-2023 McGregor-Inkster Geotech. Investigation

TREK Geotechnical Inc. is pleased to submit our Final Report for the geotechnical investigation for RFP 547-2023 McGregor-Inkster Geotech. Investigation project.

Please contact the undersigned should you have any questions.

Sincerely,

TREK Geotechnical Inc.
Per:

Nelson John Ferreira, Ph.D., P.Eng.
Senior Geotechnical Engineer

Encl.

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Revision History

Revision No.	Author	Issue Date	Description
0	AD	January 22, 2024	Final Report

Authorization Signatures

Prepared By: _____

Kate Franklin M.Sc. (Geotechnical Engineering)
Technical Support Specialist

PROVINCE OF MANITOBA
N.J. FERREIRA
Member
22892
REGISTERED PROFESSIONAL ENGINEER

Reviewed By: _____

Nelson John Ferreira, Ph.D., P.Eng.
Senior Geotechnical Engineer

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
TREK GEOTECHNICAL INC.
No. 4877

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1.0 Introduction

This report summarizes the results of the road investigation completed for the RFP 547-2023 McGregor-Inkster Geotech. Investigation project. The project included collecting pavement cores and drilling test holes McGregor Street (Church Avenue to McAdam Avenue) and Inkster Boulevard (Main Street to Milner Street). The test hole information collected describes the pavement structure of the existing road as well as the soil stratigraphy beneath the pavement structure. The investigation was carried out following the City of Winnipeg RFP No. 547-2023.

2.0 Road Investigation

The investigation included coring of pavement at 61 locations with drilling of test holes at 24 of the cored locations. Morrison Hershfield selected the investigation locations as shown on Figures 01 to 11 (attached) and the table below summarizes the investigation program per street.

Table 1: Road Investigation Program

Street	# of Locations	Investigation
McGregor Street – Recon (Church Av to McAdam Av)	10	Pavement Cores and Test Holes
Inkster Blvd EB - Recon (Main St to Sinclair St)	10	Pavement Cores and Test Holes
Inkster Blvd WB - Recon (McPhillips St to Wiginton St)	4	Pavement Cores and Test Holes
Inkster Blvd EB - Rehab (Sheppard St to Milner St)	3	Pavement Cores
Inkster Blvd EB – Mill/Fill (Fife St to McPhillips St)	9	Pavement Cores
Inkster Blvd WB - Rehab (Lansdowne Av to McPhillips St)	4	Pavement Cores
Inkster Blvd WB - Rehab (Airles St to CPR Tracks)	6	Pavement Cores
Inkster Blvd WB – Mill/Fill (Arlington St to Parr St)	3	Pavement Cores
Inkster Blvd WB - Rehab (Parr St to Andrews St)	8	Pavement Cores
Inkster Blvd EB - Rehab (Salter St to Aikins St)	3	Pavement Cores

The road investigation was conducted between December 14th and December 21st, 2022. The pavement structure (asphalt/concrete) was cored by Tyler Green of TREK Geotechnical Inc. (TREK) using a portable coring press equipped with a hollow 150 mm or 220 mm diameter diamond core drill bits. The test holes were drilled by Kate Franklin to a depth of 2.0 m below road surface by Maple Leaf Drilling Ltd. using a truck mounted drill rig equipped with 125 mm and 200 mm diameter solid stem augers. The sub-surface conditions were observed during drilling and visually classified by Kate Franklin of

TREK. Other pertinent information such as groundwater and drilling conditions were also recorded during the drilling investigation. Disturbed (auger cuttings) samples and bulk samples retrieved during the sub-surface investigation were transported to TREK's material testing laboratory for further testing. Pavement core samples were also retrieved and logged at TREK's material testing laboratory.

Core and test hole logs noted on the summary tables and test hole locations are based on UTM coordinates obtained using a hand-held GPS, and their location relative to the nearest address or intersection, measured distance from the edge of pavement, or other permanent features.

The laboratory testing program consisted of moisture content determination on all samples, as well as Atterberg limits, and grain size analysis (hydrometer methods) on select samples between 0.6 and 0.9 m below pavement as well as Standard Proctor and CBR testing. Information gathered for each street package is included in separate appendices (Appendices A to D). The information provided in the Appendices includes test hole logs, laboratory testing summary tables and results, photos of the concrete cores, and summary of pavement compressive strength.

Thirteen CBR's were completed on bulk samples of the soil units present below the pavement. Tests were performed on clay and silt materials encountered within the prescribed sample depth for CBR testing and the results are shown in the table below.

Table 2: CBR Testing Summary

Sample Description	Street	Depth (m)	SPMDD (kg/m^3)	Opt. Moisture (%)	Percent Proctor (%)	Moisture Content (%)	CBR Value at 2.54 mm	CBR Value at 5.08 mm
Silt	McGregor Street (TH23-02)	0.9-2.1	1866	13.9	95.2	13.8	6.8%	5.7%
Silt	McGregor Street (TH23-04)	0.9-1.8	1680	19.4	95.2	19.3	2.1%	2.1%
Clay	McGregor Street (TH23-07)	0.9-1.8	1594	23.2	95.0	23.5	2.3%	1.9%
Clay	McGregor Street (TH23-09)	1.5-2.1	1565	24.1	95.1	24.1	3.4%	2.8%
Clay	McGregor Street (TH23-09, TH23-10)	0.9-1.5	1507	26.1	95.0	26.2	2.0%	1.64%
Clay	Inkster Boulevard (TH23-11)	1.5-2.1	1535	26.1	95.5	26.5	2.6%	1.9%
Clay	Inkster Boulevard (TH23-13)	1.5-2.1	1606	23.0	95.0	23.2	2.8%	2.3%
Clay	Inkster Boulevard (TH23-13, TH23-14, TH23-15)	0.9-1.5 0.9-2.1 1.5-2.1	1507	25.1	95.0	25.4	1.7%	1.4%

Sample Description	Street	Depth (m)	SPMDD (kg/m^3)	Opt. Moisture (%)	Percent Proctor (%)	Moisture Content (%)	CBR Value at 2.54 mm	CBR Value at 5.08 mm
Clay	Inkster Boulevard (TH23-16, TH23-17)	0.9-2.1 0.9-1.5	1514	24.8	95.2	24.8	1.6%	1.4%
Silt	Inkster Boulevard (TH23-19, TH23-11)	0.9-1.5	1907	12.6	95.3	12.6	7.4%	4.5%
Clay	Inkster Boulevard (TH23-19, TH23-20)	1.5-2.1 0.9-2.1	1522	25.8	95.3	25.7	1.5%	1.3%
Silt	Inkster Boulevard (TH23-21, TH23-22, TH23-24, TH23-25)	0.9-1.5 0.9-1.2	1860	13.8	94.9	14.0	10.5%	9.0%
Clay	Inkster Boulevard (TH23-23, TH23-24)	1.2-2.1	1464	28.2	95.1	28.5	1.8%	1.5%

The test hole logs include a description of the soil units encountered during drilling and other pertinent information such as groundwater conditions and a summary of the laboratory testing results. The soils were classified in general accordance with the Unified Soil Classification System (USCS) and the AASHTO soil classification system (American Association of state highway and transportation officials). The AASHTO system classifies soils based on laboratory testing results from Atterberg Limits and grain size testing methods (hydrometer and mechanical sieve method). Where laboratory testing was not conducted, the AASHTO classification of the soils were interpreted based on a visual assessment as indicated with a (I) on the test hole logs and attached tables. For cohesive soils, the AASHTO system uses a combination of testing results to determine the Group Index of the soils and thus, were only determined where sufficient laboratory test data was available.

3.0 Closure

The information provided in this report is in accordance with current engineering principles and practices (Standard of Practice). The findings of this report were based on information provided (field investigation, laboratory testing, geometries). Soil conditions are natural deposits that can be highly variable across a site. If sub-surface conditions are different than the conditions previously encountered on-site or those presented here, we should be notified to adjust our findings if necessary.

All information provided in this report is subject to our standard terms and conditions for engineering services, a copy of which is provided to each of our clients with the original scope of work, or a mutually executed standard engineering services agreement. If these conditions are not attached, and you are not already in possession of such terms and conditions, contact our office and you will be promptly provided with a copy.

This report has been prepared by TREK Geotechnical Inc. (the Consultant) for the exclusive use of Morrison Hershfield (the Client) and their agents for the work product presented in the report. Any findings or recommendations provided in this report are not to be used or relied upon by any third parties, except as agreed to in writing by the Client and Consultant prior to use.

Figures

1000 001 33
Morrison Hershfield
RFP 547-2023 McGregor-Inkster

KEY PLAN
SCALE: N.T.S.

0 50 100 150 m
SCALE = 1 : 3 000 (279 mm x 432 mm)

LEGEND:
- PAVEMENT CORE (TREK, 2023)
- TEST HOLE (TREK, 2023)

NOTES:
1. AERIAL IMAGERY FROM CITY OF WINNIPEG (2021) .

Figure 02
Test Hole and Pavement Core
Location Plan

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TREK GEOTECHNICAL

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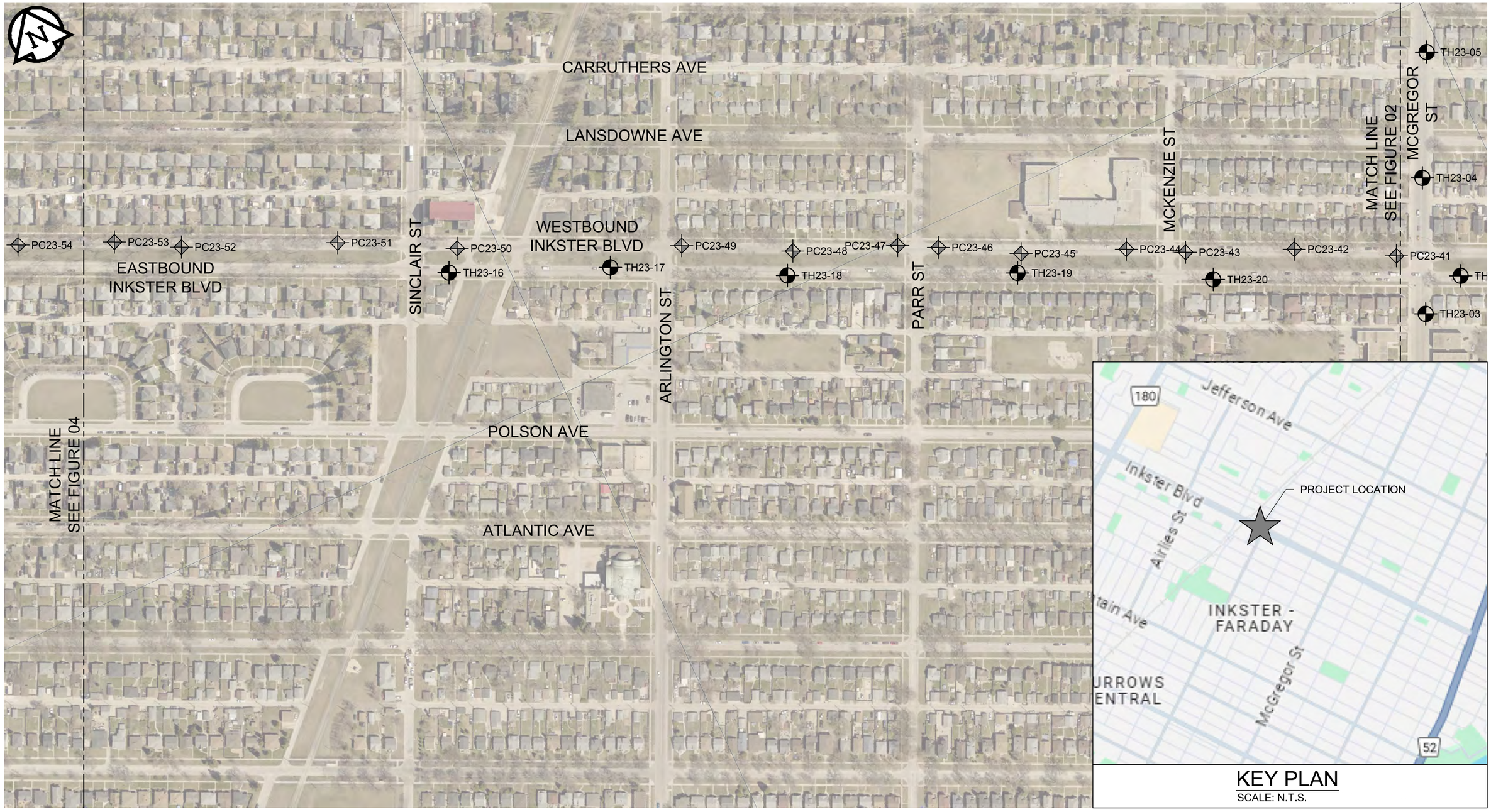
Morrison Hershfield
RFP 547-2023 McGregor-Inkster



KEY PLAN
SCALE: N.T.S.

0 50 100 150 m
SCALE = 1 : 3 000 (279 mm x 432 mm)

LEGEND:
- PAVEMENT CORE (TREK, 2023)
- TEST HOLE (TREK, 2023)

NOTES:
1. AERIAL IMAGERY FROM CITY OF WINNIPEG (2021) .

Figure 03
Test Hole and Pavement Core Location Plan

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TREK GEOTECHNICAL

1000 001 33
Morrison Hershfield
RFP 547-2023 McGregor-Inkster

KEY PLAN
SCALE: N.T.S.

0 50 100 150 m
SCALE = 1 : 3 000 (279 mm x 432 mm)

LEGEND:
- PAVEMENT CORE (TREK, 2023)
- TEST HOLE (TREK, 2023)

NOTES:
1. AERIAL IMAGERY FROM CITY OF WINNIPEG (2021) .

Figure 04
Test Hole and Pavement Core Location Plan

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Appendix C

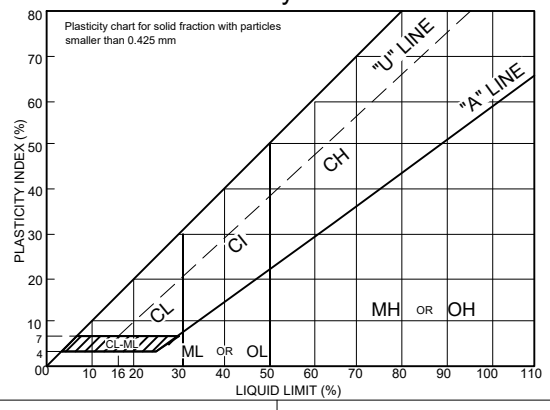
Test Hole Logs, Summary Table, Lab Testing Results and Photographs of Pavement Core Samples
Inkster Boulevard Westbound– McPhillips Street to Winginton Street

EXPLANATION OF FIELD AND LABORATORY TESTING

GENERAL NOTES

1. Classifications are based on the Unified Soil Classification System and include consistency, moisture, and color. Field descriptions have been modified to reflect results of laboratory tests where deemed appropriate.
2. Descriptions on these test hole logs apply only at the specific test hole locations and at the time the test holes were drilled. Variability of soil and groundwater conditions may exist between test hole locations.
3. When the following classification terms are used in this report or test hole logs, the primary and secondary soil fractions may be visually estimated.

Major Divisions			USCS Classi-fication	Symbols	Typical Names	Laboratory Classification Criteria
Coarse-Grained soils (More than half the material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than 4.75 mm)	Clean gravel (Little or no fines)	GW		Well-graded gravels, gravel-sand mixtures, little or no fines	Determine percentages of sand and gravel from grain size curve, depending on percentage of fines (fraction smaller than No. 200 sieve) coarse-grained soils are classified as follows: Less than 5 percent..... GW, GP, SW, SP; More than 12 percent..... GM, GC, SM, SC; 6 to 12 percent..... Borderline case4s requiring dual symbols* — $C_U = \frac{D_{60}}{D_{10}}$ greater than 4; $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3
			GP		Poorly-graded gravels, gravel-sand mixtures, little or no fines	Not meeting all gradation requirements for GW
		Gravel with fines (Appreciable amount of fines)	GM		Silty gravels, gravel-sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4 — Above "A" line with P.I. between 4 and 7 are border-line cases requiring use of dual symbols
			GC		Clayey gravels, gravel-sand-silt mixtures	Atterberg limits above "A" line or P.I. greater than 7
	Sands (More than half of coarse fraction is smaller than 4.75 mm)	Clean sands (Little or no fines)	SW		Well-graded sands, gravelly sands, little or no fines	$C_U = \frac{D_{60}}{D_{10}}$ greater than 6; $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3
			SP		Poorly-graded sands, gravelly sands, little or no fines	Not meeting all gradation requirements for SW
		Sands with fines (Appreciable amount of fines)	SM		Silty sands, sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4 — Above "A" line with P.I. between 4 and 7 are border-line cases requiring use of dual symbols
			SC		Clayey sands, sand-clay mixtures	Atterberg limits above "A" line or P.I. greater than 7
Fine-Grained soils (More than half the material is smaller than No. 200 sieve size)	Silts and Clays (Liquid limit less than 50)		ML		Inorganic silts and very fine sands, rock floor, silty or clayey fine sands or clayey silts with slight plasticity	Plasticity Chart
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
			OL		Organic silts and organic silty clays of low plasticity	
	Silts and Clays (Liquid limit greater than 50)		MH		Inorganic silts, micaceous or distomaceous fine sandy or silty soils, organic silts	
			CH		Inorganic clays of high plasticity, fat clays	
			OH		Organic clays of medium to high plasticity, organic silts	
	Highly Organic Soils		Pt		Peat and other highly organic soils	Von Post Classification Limit — Strong colour or odour, and often fibrous texture



Particle Size	ASTM Sieve sizes	mm	Material
	#10 to #4	2.00 to 4.75	Sand
	#40 to #10	0.425 to 2.00	Coarse
	#200 to #40	0.075 to 0.425	Medium
	< #200	< 0.075	Fine
			Silt or Clay

Particle Size	ASTM Sieve Sizes	mm	Material
	> 12 in.	> 300	Boulders
	3 in. to 12 in.	75 to 300	Cobbles
	3/4 in. to 3 in.	19 to 75	Gravel
	#4 to 3/4 in.	4.75 to 19	Coarse
			Fine

* Borderline classifications used for soils possessing characteristics of two groups are designated by combinations of groups symbols. For example; GW-GC, well-graded gravel-sand mixture with clay binder.

Other Symbol Types

	Asphalt		Bedrock (undifferentiated)		Cobbles
	Concrete		Limestone Bedrock		Boulders and Cobbles
	Fill		Cemented Shale		Silt Till
			Non-Cemented Shale		Clay Till

EXPLANATION OF FIELD AND LABORATORY TESTING

LEGEND OF ABBREVIATIONS AND SYMBOLS

LL - Liquid Limit (%)
PL - Plastic Limit (%)
PI - Plasticity Index (%)
MC - Moisture Content (%)
SPT - Standard Penetration Test
RQD - Rock Quality Designation
Qu - Unconfined Compression
Su - Undrained Shear Strength

VW - Vibrating Wire Piezometer
SI - Slope Inclinometer

▽ Water Level at Time of Drilling

▼ Water Level at End of Drilling

▼ Water Level After Drilling as Indicated on Test Hole Logs

FRACTION OF SECONDARY SOIL CONSTITUENTS ARE BASED ON THE FOLLOWING TERMINOLOGY

TERM	EXAMPLES	PERCENTAGE
and	and CLAY	35 to 50 percent
"y" or "ey"	clayey, silty	20 to 35 percent
some	some silt	10 to 20 percent
trace	trace gravel	1 to 10 percent
with *	with silt, with sand	> 35 percent

* Used when the material is classified based on behaviour as a cohesive material

TERMS DESCRIBING CONSISTENCY OR COMPACTION CONDITION

The Standard Penetration Test blow count (N) of a non-cohesive soil can be related to compactness condition as follows:

Descriptive Terms	SPT (N) (Blows/300 mm)
Very loose	< 4
Loose	4 to 10
Compact	10 to 30
Dense	30 to 50
Very dense	> 50

The Standard Penetration Test blow count (N) of a cohesive soil can be related to its consistency as follows:

Descriptive Terms	SPT (N) (Blows/300 mm)
Very soft	< 2
Soft	2 to 4
Firm	4 to 8
Stiff	8 to 15
Very stiff	15 to 30
Hard	> 30

The undrained shear strength (Su) of a cohesive soil can be related to its consistency as follows:

Descriptive Terms	Undrained Shear Strength (kPa)
Very soft	< 12
Soft	12 to 25
Firm	25 to 50
Stiff	50 to 100
Very stiff	100 to 200
Hard	> 200

Sub-Surface Log

Test Hole TH23-21

Client:	Morrison Hershfield	**Project Number:**	1000-001-33
Project Name:	RFP 547-2023 McGregor-Inkster Geotech. Investigation	**Location:**	UTM N-5533410, E-632193
Contractor:	Maple Leaf Drilling	**Ground Elevation:**	Top of Pavement m
Method:	125mm Solid Stem Auger, B40 Mobile Truck Mount	**Date Drilled:**	December 21, 2023

Sample Type: Grab (G) | Shelby Tube (T) | Split Spoon (SS) / SPT | Split Barrel (SB) / LPT | Core (C)

Particle Size Legend: Fines | Clay | Silt | Sand | Gravel | Cobbles | Boulders

Depth (m)	Soil Symbol	MATERIAL DESCRIPTION	Sample Type	Sample Number	Bulk Unit Wt (kN/m³) 16 17 18 19 20 21 / Particle Size (%) 0 20 40 60 80 100 / PL MC LL	Undrained Shear Strength (kPa) 0 50 100 150 200 250
		ASPHALT - 80 mm thick				
		CONCRETE - 215 mm thick		PC23-32		
		CLAY - silty, trace gravel (<20 mm diam.) - dark grey, moist, very stiff - high plasticity - AASHTO: A-7-6 (I)		G196		
0.5						
		SILT - clayey - brown - moist, soft - low to intermediate plasticity - AASHTO: A-6 (I)		G197		
1.0						
		CLAY - silty - grey - moist, stiff - high plasticity - AASHTO: A-7-6 (50)		G198		
				G199		
1.5						
				G200		
		- trace silt inclusions (<20 mm diam.) between 1.8 and 2.1 m				
2.0				G201		
		- firm below 2.3 m		G202		
2.5						
				G203		
3.0				G204		

END TEST HOLE AT 3.0 m IN CLAY.

Notes:
1. Seepage or sloughing not observed.
2. Test Hole open to 3.0 m depth immediately after drilling.
3. Test Hole backfilled with cuttings, granular fill and cold patch asphalt.
4. Bulk samples were collected between 0.9 m and 2.1 m depth (B205).
5. Test Hole located in front of #1049 Inkster Blvd, Westbound lane, 0.7 m South of North curb.

Logged By: Kate Franklin **Reviewed By:** N.J Ferreira **Project Engineer:** Nelson Ferreira

Sub-Surface Log

Test Hole TH23-22

Client:	Morrison Hershfield	**Project Number:**	1000-001-33
Project Name:	RFP 547-2023 McGregor-Inkster Geotech. Investigation	**Location:**	UTM N-5533437, E-632125
Contractor:	Maple Leaf Drilling	**Ground Elevation:**	Top of Pavement m
Method:	125mm Solid Stem Auger, B40 Mobile Truck Mount	**Date Drilled:**	December 21, 2023

Sample Type: Grab (G) | Shelby Tube (T) | Split Spoon (SS) / SPT | Split Barrel (SB) / LPT | Core (C)

Particle Size Legend: Fines | Clay | Silt | Sand | Gravel | Cobbles | Boulders

Depth (m)	Soil Symbol	MATERIAL DESCRIPTION	Sample Type	Sample Number
		ASPHALT - 95 mm thick		
		CONCRETE - 230 mm thick		PC23-33
		CLAY - silty, trace gravel (<20 mm diam.) - dark grey - moist, very stiff - high plasticity - AASHTO: A-7-6 (I)		
0.5				G206
				G207
1.0		SILT - clayey - brown - moist, soft - low to intermediate plasticity - AASHTO: A-6 (I)		G208
				G209
1.5		CLAY - silty - grey and brown mottled - moist, very stiff - high plasticity - AASHTO: A-7-6 (I)		G210
2.0		- trace silt inclusions (<20 mm diam.), stiff between 1.8 and 2.1 m		G211
		- firm below 2.2 m		G212
2.5		- trace silt inclusions (<5 mm diam.) below 2.4 m		G213
				G214
3.0		END TEST HOLE AT 3.0 m IN CLAY.		

Bulk Unit Wt (kN/m³): 16 17 18 19 20 21

Particle Size (%): 0 20 40 60 80 100

PL MC LL: 0 20 40 60 80 100

Undrained Shear Strength (kPa): 0 50 100 150 200 250

Test Type: △ Torvane △ | ✤ Pocket Pen. ✤ | ☒ Qu ☒ | ○ Field Vane ○

Notes:
1. Seepage or sloughing not observed.
2. Test Hole open to 3.0 m depth immediately after drilling.
3. Test Hole backfilled with cuttings, granular fill and cold patch asphalt.
4. Bulk samples were collected between 0.9 m and 1.5 m depth (B215A), and 1.5 and 2.1 m depth (B215B).
5. Test Hole located in front of #1069 Inkster Blvd, Westbound lane, 1.2 m North of South curb.

Logged By: Kate Franklin **Reviewed By:** N.J Ferreira **Project Engineer:** Nelson Ferreira

Sub-Surface Log

Test Hole TH23-23

Client: Morrison Hershfield
Project Number: 1000-001-33
Project Name: RFP 547-2023 McGregor-Inkster Geotech. Investigation
Location: UTM N-5533472, E-632059
Contractor: Maple Leaf Drilling
Ground Elevation: Top of Pavement m
Method: 125mm Solid Stem Auger, B40 Mobile Truck Mount
Date Drilled: December 21, 2023

Sample Type: Grab (G) | Shelby Tube (T) | Split Spoon (SS) / SPT | Split Barrel (SB) / LPT | Core (C)

Particle Size Legend: Fines | Clay | Silt | Sand | Gravel | Cobbles | Boulders

Depth (m)	Soil Symbol	MATERIAL DESCRIPTION	Sample Type	Sample Number
		ASPHALT - 50 mm thick		
		CONCRETE - 190 mm thick		PC23-34
		CLAY - silty, trace gravel (<20 mm diam.) - black - moist, very stiff - intermediate plasticity - AASHTO: A-7-6 (I)		G216
0.5		SILT - some clay - brown - moist, soft - low plasticity - AASHTO: A-4 (I)		G217
1.0				G218
				G219
1.5		CLAY - silty - brown - moist, stiff - high plasticity - AASHTO: A-7-6 (I)		G220
2.0				G221
		- trace silt inclusions (<20 mm diam.) between 1.9 and 2.4 m		G222
2.5		- grey, firm below 2.4m		G223
				G224
3.0		END TEST HOLE AT 3.0 m IN CLAY.		

Bulk Unit Wt (kN/m³): 16 17 18 19 20 21
Particle Size (%): 0 20 40 60 80 100
PL MC LL
Undrained Shear Strength (kPa): 0 50 100 150 200 250
Test Type: △ Torvane △ | ✤ Pocket Pen. ✤ | ☒ Qu ☒ | ○ Field Vane ○

Notes:
1. Seepage or sloughing not observed.
2. Test Hole open to 3.0 m depth immediately after drilling.
3. Test Hole backfilled with cuttings, granular fill and cold patch asphalt.
4. Bulk samples were collected between 0.9 m and 1.5 m depth (B225A), and 1.5 and 2.1 m depth (B225B).
5. Test Hole located South side of #943 McPhillips St, Westbound land, 1.2 m South of North curb.

Logged By: Kate Franklin **Reviewed By:** N.J Ferreira **Project Engineer:** Nelson Ferreira

SUB-SURFACE LOG LOGS 2024-01-22 MCGREGOR INKSTER 0_B_KF 1000-001-33.GPJ TREK.GDT 1/22/24

Sub-Surface Log

Test Hole TH23-24
1 of 1

Client:	Morrison Hershfield	**Project Number:**	1000-001-33
Project Name:	RFP 547-2023 McGregor-Inkster Geotech. Investigation	**Location:**	UTM N-5533472, E-632043
Contractor:	Maple Leaf Drilling	**Ground Elevation:**	Top of Pavement m
Method:	125mm Solid Stem Auger, B40 Mobile Truck Mount	**Date Drilled:**	December 21, 2023

Sample Type: Grab (G) | Shelby Tube (T) | Split Spoon (SS) / SPT | Split Barrel (SB) / LPT | Core (C)

Particle Size Legend: Fines | Clay | Silt | Sand | Gravel | Cobbles | Boulders

Depth (m)	Soil Symbol	MATERIAL DESCRIPTION	Sample Type	Sample Number	Bulk Unit Wt (kN/m³) 16 17 18 19 20 21 / Particle Size (%) 0 20 40 60 80 100 / PL MC LL 0 20 40 60 80 100	Undrained Shear Strength (kPa) Test Type: △ Torvane △ ✤ Pocket Pen. ✤ ☒ Qu ☒ ○ Field Vane ○ 0 50 100 150 200 250
		ASPHALT - 100 mm thick				
		CONCRETE - 200 mm thick		PC23-35		
		SAND - and GRAVEL (< 30 mm diam.), light brown, moist, rounded				
0.5		CLAY - silty, trace sand - dark grey - moist, very stiff - high plasticity - AASHTO: A-7-6 (I)		G226		
		CLAY - and SILT, trace sand - brown - moist, firm to stiff - intermediate to high plasticity - AASHTO: A-7-6 (36)		G227		
1.0				G228		
		CLAY - silty - grey/brown - moist, very stiff - high plasticity - AASHTO: A-7-6 (I)		G229		
1.5				G230		
		- stiff below 1.7 m				
2.0				G231		
		- trace silt inclusions (<20 mm diam.) between 1.9 and 2.4 m		G232		
2.5		- grey, firm below 2.4 m		G233		
				G234		
3.0						

END TEST HOLE AT 3.0 m IN CLAY.

Notes:
1. Seepage or sloughing not observed.
2. Test Hole open to 3.0 m depth immediately after drilling.
3. Test Hole backfilled with cuttings, granular fill and cold patch asphalt.
4. Bulk samples were collected between 0.9 m and 2.1 m depth (B235).
5. Test Hole located South side of #943 McPhillips St, Westbound lane, 1.3 m North of median curb.

Logged By: Kate Franklin **Reviewed By:** N.J Ferreira **Project Engineer:** Nelson Ferreira

SUB-SURFACE LOG LOGS 2024-01-22 MCGREGOR INKSTER 0_B_KF 1000-001-33.GPJ TREK.GDT 1/22/24

RFP 547-2023 McGregor - Inkster Geotech. Investigation
Sub-Surface Investigation

Test Hole No.	Test Hole Location	Pavement Surface		Pavement Structure Material		Subgrade Description	Sample Depth (m)		Moisture Content (%)	Grain Size Analysis				Atterberg Limits		
		Type	Thickness (mm)	Type	Thickness (mm)		Top (m)	Bottom (m)		Clay (%)	Silt (%)	Sand (%)	Gravel (%)	Plastic	Liquid	Plasticity Index
TH23-21	UTM : 5533410 N, 632193 E Located in front of #1049 Inkster Blvdt, Westbound lane, 0.7 m South of North curb	Asphalt	80	Concrete	215	Clay, AASHTO: A-7-6 (I)	0.5	0.6	24							
						Silt, AASHTO: A-6 (I)	0.8	0.9	23							
						Clay, AASHTO: A-7-6 (50)	1.1	1.2	30	79	20	1	0	22	67	44
						Clay, AASHTO: A-7-6 (50)	1.4	1.5	32							
						Clay, AASHTO: A-7-6 (50)	1.7	1.8	45							
						Clay, AASHTO: A-7-6 (50)	2.0	2.1	48							
						Clay, AASHTO: A-7-6 (50)	2.3	2.4	52							
						Clay, AASHTO: A-7-6 (50)	2.6	2.7	54							
						Clay, AASHTO: A-7-6 (50)	2.9	3.0	57							
TH23-22	UTM : 5533437 N, 632125 E Located in front of #1069 Inkster Blvdt, Westbound lane, 1.2 m North of South curb	Asphalt	95	Concrete	135	Clay, AASHTO: A-7-6 (I)	0.5	0.6	32							
						Clay, AASHTO: A-7-6 (I)	0.8	0.9	31							
						Silt, AASHTO: A-6 (I)	1.1	1.2	21							
						Silt, AASHTO: A-6 (I)	1.4	1.5	22							
						Clay, AASHTO: A-7-6 (I)	1.7	1.8	38							
						Clay, AASHTO: A-7-6 (I)	2.0	2.1	44							
						Clay, AASHTO: A-7-6 (I)	2.3	2.4	48							
						Clay, AASHTO: A-7-6 (I)	2.6	2.7	52							
						Clay, AASHTO: A-7-6 (I)	2.9	3.0	54							
TH23-23	UTM : 5533472 N, 632059 E Located South side of #943 McPhillips Stt, Westbound lane, 1.2 m South of North curb	Asphalt	50	Concrete	190	Clay, AASHTO: A-7-6 (I)	0.5	0.6	24							
						Silt, AASHTO: A-4 (I)	0.8	0.9	14							
						Silt, AASHTO: A-4 (I)	1.1	1.2	22							
						Silt, AASHTO: A-4 (I)	1.4	1.5	24							
						Clay, AASHTO: A-7-6 (I)	1.7	1.8	41							
						Clay, AASHTO: A-7-6 (I)	2.0	2.1	41							
						Clay, AASHTO: A-7-6 (I)	2.3	2.4	50							
						Clay, AASHTO: A-7-6 (I)	2.6	2.7	53							
						Clay, AASHTO: A-7-6 (I)	2.9	3.0	54							

RFP 547-2023 McGregor - Inkster Geotech. Investigation
Sub-Surface Investigation

Test Hole No.	Test Hole Location	Pavement Surface		Pavement Structure Material		Subgrade Description	Sample Depth (m)		Moisture Content (%)	Grain Size Analysis				Atterberg Limits		
		Type	Thickness (mm)	Type	Thickness (mm)		Top (m)	Bottom (m)		Clay (%)	Silt (%)	Sand (%)	Gravel (%)	Plastic	Liquid	Plasticity Index
TH23-24	UTM : 5533472 N, 632043 E Located side South of #943 McPhillips St, Westbound lane, 1.3 m North of median curb	Asphalt	100	Concrete	200	Clay, AASHTO: A-7-6 (I)	0.5	0.6	30							
						Silt, AASHTO: A-6 (36)	0.8	0.9	16							
						Silt, AASHTO: A-6 (36)	1.1	1.2	24	54	43	2	0	18	52	34
						Clay, AASHTO: A-7-6 (I)	1.4	1.5	29							
						Clay, AASHTO: A-7-6 (I)	1.7	1.8	43							
						Clay, AASHTO: A-7-6 (I)	2.0	2.1	40							
						Clay, AASHTO: A-7-6 (I)	2.3	2.4	48							
						Clay, AASHTO: A-7-6 (I)	2.6	2.7	52							
						Clay, AASHTO: A-7-6 (I)	2.9	3.0	51							

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Moisture Content Report
ASTM D2216-98

Project No. 1000-001-33
Client Morrison Hershfield
Project RFP 547-2023 McGregor-Inkster Geotech. Investigation

Sample Date 19-Dec-23
Test Date 08-Jan-24
Technician KF

Test Hole	TH23-21	TH23-21	TH23-21	TH23-21	TH23-21	TH23-21
Depth (m)	0.5 - 0.6	0.8 - 0.9	1.1 - 1.2	1.4 - 1.5	1.7 - 1.8	2.0 - 2.1
Sample #	G196	G197	G198	G199	G200	G201
Tare ID	N54	N22	M17	Z99	AB75	W105
Mass of tare	8.6	8.6	6.9	8.5	6.8	8.5
Mass wet + tare	230.7	241.2	438.3	214.2	233.2	231.5
Mass dry + tare	187.4	197.6	338.7	164.4	163.0	159.2
Mass water	43.3	43.6	99.6	49.8	70.2	72.3
Mass dry soil	178.8	189.0	331.8	155.9	156.2	150.7
Moisture %	24.2%	23.1%	30.0%	31.9%	44.9%	48.0%

Test Hole	TH23-21	TH23-21	TH23-21	TH23-22	TH23-22	TH23-22
Depth (m)	2.3 - 2.4	2.6 - 2.7	2.9 - 3.0	0.5 - 0.6	0.8 - 0.9	1.1 - 1.2
Sample #	G202	G203	G204	G206	G207	G208
Tare ID	Z08	F87	F50	Z74	F89	W87
Mass of tare	8.4	8.5	8.9	8.5	8.5	8.6
Mass wet + tare	213.8	226.5	255.9	241.2	239.6	232.9
Mass dry + tare	143.8	149.8	166.2	184.6	185.4	194.7
Mass water	70.0	76.7	89.7	56.6	54.2	38.2
Mass dry soil	135.4	141.3	157.3	176.1	176.9	186.1
Moisture %	51.7%	54.3%	57.0%	32.1%	30.6%	20.5%

Test Hole	TH23-22	TH23-22	TH23-22	TH23-22	TH23-22	TH23-22
Depth (m)	1.4 - 1.5	1.7 - 1.8	2.0 - 2.1	2.3 - 2.4	2.6 - 2.7	2.9 - 3.0
Sample #	G209	G210	G211	G212	G213	G214
Tare ID	M59	M97	AB64	E29	E10	M12
Mass of tare	6.9	6.9	6.9	8.7	6.9	6.8
Mass wet + tare	258.5	235.5	252.9	231.9	220.6	225.7
Mass dry + tare	212.6	172.8	178.2	159.8	147.4	149.4
Mass water	45.9	62.7	74.7	72.1	73.2	76.3
Mass dry soil	205.7	165.9	171.3	151.1	140.5	142.6
Moisture %	22.3%	37.8%	43.6%	47.7%	52.1%	53.5%

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Moisture Content Report
ASTM D2216-98

Project No. 1000-001-33
Client Morrison Hershfield
Project RFP 547-2023 McGregor-Inkster Geotech. Investigation

Sample Date 19-Dec-23
Test Date 08-Jan-24
Technician KF

Test Hole	TH23-23	TH23-23	TH23-23	TH23-23	TH23-23	TH23-23
Depth (m)	0.5 - 0.6	0.8 - 0.9	1.1 - 1.2	1.4 - 1.5	1.7 - 1.8	2.0 - 2.1
Sample #	G216	G217	G218	G219	G220	G221
Tare ID	E64	E85	M15	M38	C3	AC08
Mass of tare	6.9	8.6	6.9	6.8	8.7	6.8
Mass wet + tare	249.5	219.5	257.2	223.7	224.9	249.7
Mass dry + tare	202.4	192.8	212.0	182.0	162.2	179.6
Mass water	47.1	26.7	45.2	41.7	62.7	70.1
Mass dry soil	195.5	184.2	205.1	175.2	153.5	172.8
Moisture %	24.1%	14.5%	22.0%	23.8%	40.8%	40.6%

Test Hole	TH23-23	TH23-23	TH23-23	TH23-24	TH23-24	TH23-24
Depth (m)	2.3 - 2.4	2.6 - 2.7	2.9 - 3.0	0.5 - 0.6	0.8 - 0.9	1.1 - 1.2
Sample #	G222	G223	G224	G226	G227	G228
Tare ID	W111	W06	K39	Z105	AC38	M02
Mass of tare	8.5	8.8	8.5	8.5	6.8	6.9
Mass wet + tare	226.4	238.3	228.3	221.0	252.3	442.4
Mass dry + tare	154.2	158.8	150.8	172.5	217.7	359.3
Mass water	72.2	79.5	77.5	48.5	34.6	83.1
Mass dry soil	145.7	150.0	142.3	164.0	210.9	352.4
Moisture %	49.6%	53.0%	54.5%	29.6%	16.4%	23.6%

Test Hole	TH23-24	TH23-24	TH23-24	TH23-24	TH23-24	TH23-24
Depth (m)	1.4 - 1.5	1.7 - 1.8	2.0 - 2.1	2.3 - 2.4	2.6 - 2.7	2.9 - 3.0
Sample #	G229	G230	G231	G232	G233	G234
Tare ID	E41	P33	N16	E36	W79	I67
Mass of tare	8.5	8.6	8.7	6.8	8.7	6.8
Mass wet + tare	223.9	235.9	230.6	259.6	248.1	244.6
Mass dry + tare	175.5	167.8	167.0	177.1	166.7	164.1
Mass water	48.4	68.1	63.6	82.5	81.4	80.5
Mass dry soil	167.0	159.2	158.3	170.3	158.0	157.3
Moisture %	29.0%	42.8%	40.2%	48.4%	51.5%	51.2%

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Atterberg Limits
ASTM D4318-10e1

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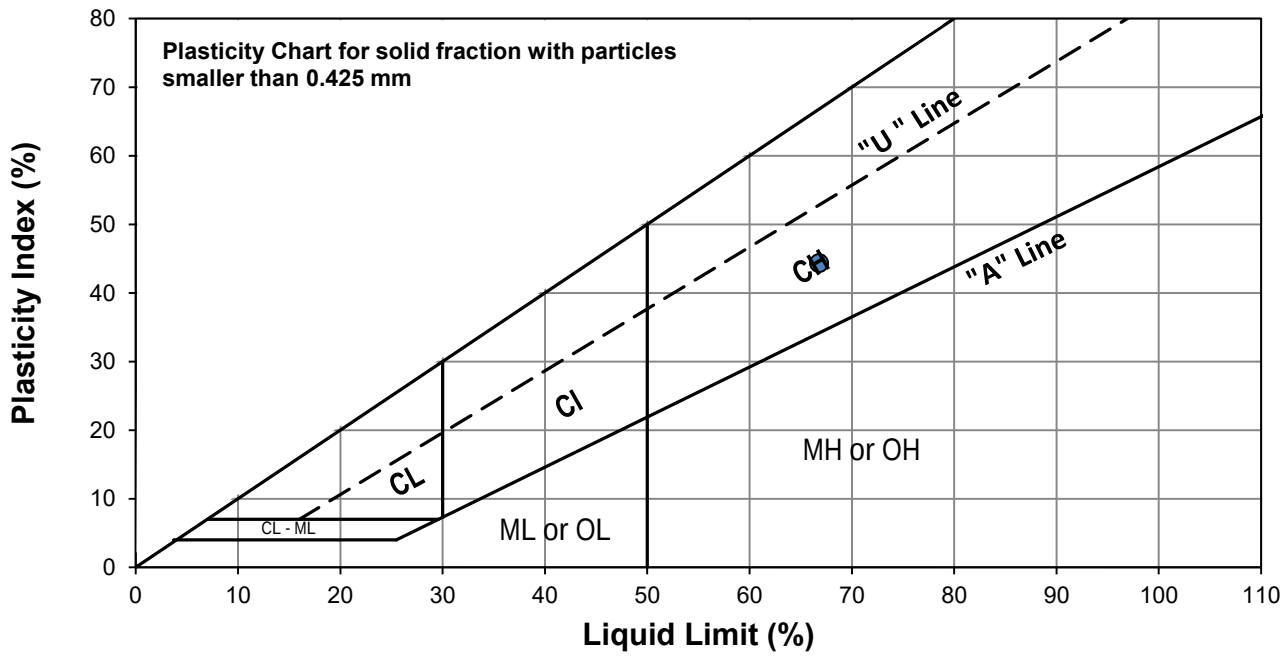
Project No.	1000-001-33
Client	Morrison Hershfield
Project	RFP 547-2023 McGregor-Inkster Geotech. Investigation
Test Hole	TH23-21
Sample #	G198
Depth (m)	1.1 - 1.2
Sample Date	19-Dec-23
Test Date	15-Jan-24
Technician	DS

Liquid Limit	67
Plastic Limit	22
Plasticity Index	44

Liquid Limit

Trial #	1	2	3		
Number of Blows (N)	16	22	27		
Mass Tare (g)	14.166	14.088	14.185		
Mass Wet Soil + Tare (g)	22.143	20.708	20.499		
Mass Dry Soil + Tare (g)	18.839	18.029	17.987		
Mass Water (g)	3.304	2.679	2.512		
Mass Dry Soil (g)	4.673	3.941	3.802		
Moisture Content (%)	70.704	67.978	66.070		



Plastic Limit

Trial #	1	2	3	4	5
Mass Tare (g)	13.804	14.181			
Mass Wet Soil + Tare (g)	22.317	21.690			
Mass Dry Soil + Tare (g)	20.746	20.320			
Mass Water (g)	1.571	1.370			
Mass Dry Soil (g)	6.942	6.139			
Moisture Content (%)	22.630	22.316			

Note: Additional information recorded/measured for this test is available upon request.

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Grain Size Analysis (Hydrometer Method)
AASHTO T 88

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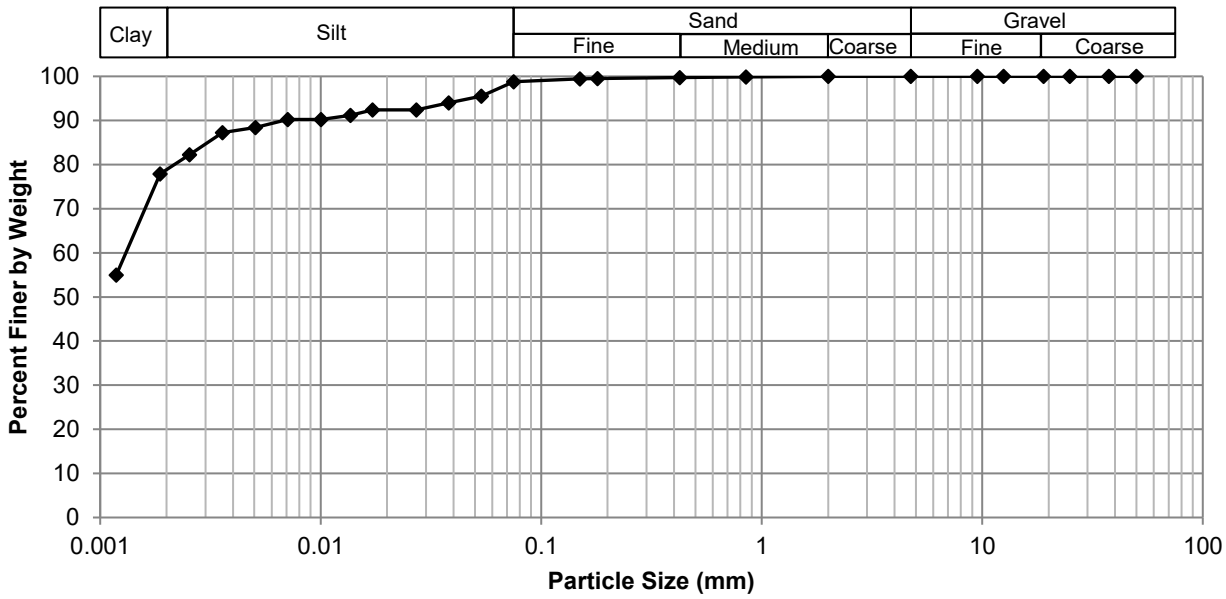
Project No.	1000-001-33
Client	Morrison Hershfield
Project	RFP 547-2023 McGregor-Inkster Geotech. Investigation
Test Hole	TH23-21
Sample #	G198
Depth (m)	0.3 - 0.4
Sample Date	19-Dec-23
Test Date	15-Jan-24
Technician	AD/KF

Gravel	0.0%
Sand	1.2%
Silt	20.1%
Clay	78.7%

Particle Size Distribution Curve



Gravel		Sand		Silt and Clay	
Particle Size (mm)	**Percent Passing**	**Particle Size (mm)**	**Percent Passing**	**Particle Size (mm)**	**Percent Passing**
50.0	100.00	4.75	100.00	0.0750	98.82
37.5	100.00	2.00	100.00	0.0535	95.55
25.0	100.00	0.850	99.87	0.0381	93.99
19.0	100.00	0.425	99.76	0.0272	92.42
12.5	100.00	0.180	99.51	0.0172	92.42
9.50	100.00	0.150	99.42	0.0137	91.17
4.75	100.00	0.075	98.82	0.0100	90.24
				0.0071	90.24
				0.0051	88.41
				0.0036	87.25
				0.0025	82.24
				0.0019	77.87
				0.0012	55.00

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Atterberg Limits
ASTM D4318-10e1

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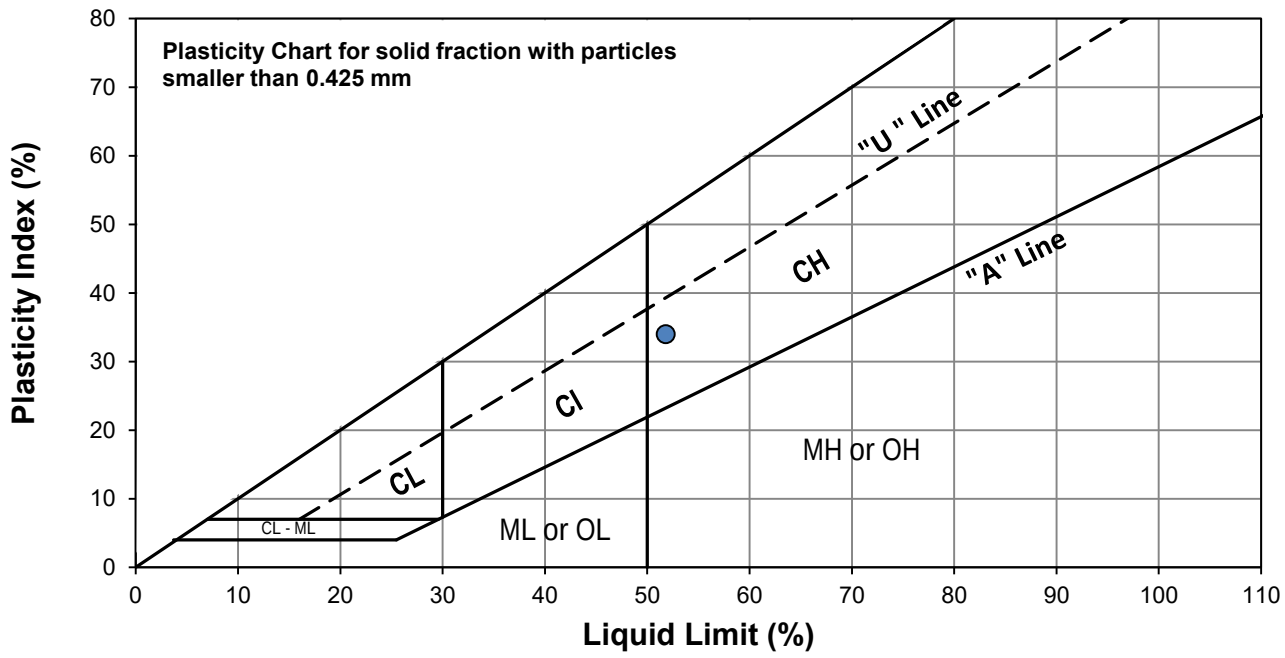
Project No.	1000-001-33
Client	Morrison Hershfield
Project	RFP 547-2023 McGregor-Inkster Geotech. Investigation
Test Hole	TH23-24
Sample #	G228
Depth (m)	1.1 - 1.2
Sample Date	19-Dec-23
Test Date	15-Jan-24
Technician	CK

Liquid Limit	52
Plastic Limit	18
Plasticity Index	34

Liquid Limit

Trial #	1	2	3		
Number of Blows (N)	18	24	35		
Mass Tare (g)	14.048	14.059	14.107		
Mass Wet Soil + Tare (g)	23.211	25.374	26.334		
Mass Dry Soil + Tare (g)	20.029	21.494	22.249		
Mass Water (g)	3.182	3.880	4.085		
Mass Dry Soil (g)	5.981	7.435	8.142		
Moisture Content (%)	53.202	52.186	50.172		



Plastic Limit

Trial #	1	2	3	4	5
Mass Tare (g)	13.719	13.899			
Mass Wet Soil + Tare (g)	20.756	20.503			
Mass Dry Soil + Tare (g)	19.695	19.499			
Mass Water (g)	1.061	1.004			
Mass Dry Soil (g)	5.976	5.600			
Moisture Content (%)	17.754	17.929			

Note: Additional information recorded/measured for this test is available upon request.

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Grain Size Analysis (Hydrometer Method)
AASHTO T 88

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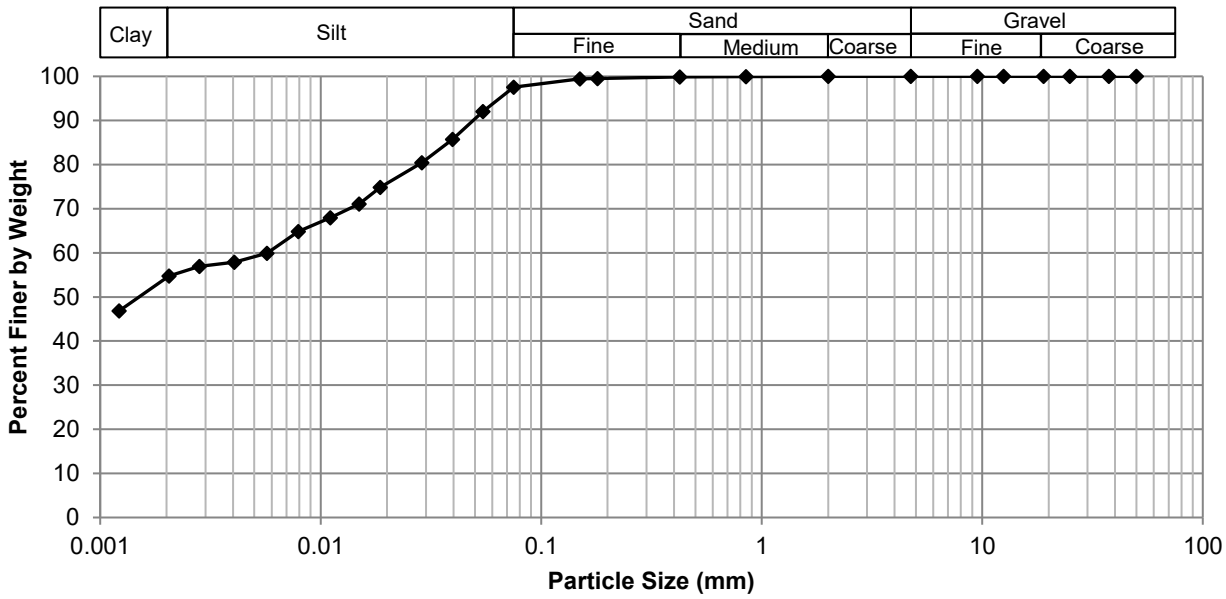
Project No.	1000-001-33
Client	Morrison Hershfield
Project	RFP 547-2023 McGregor-Inkster Geotech. Investigation
Test Hole	TH23-24
Sample #	G228
Depth (m)	0.3 - 0.4
Sample Date	19-Dec-23
Test Date	15-Jan-24
Technician	AD/KF

Gravel	0.0%
Sand	2.4%
Silt	43.4%
Clay	54.2%

Particle Size Distribution Curve



Gravel		Sand		Silt and Clay	
Particle Size (mm)	**Percent Passing**	**Particle Size (mm)**	**Percent Passing**	**Particle Size (mm)**	**Percent Passing**
50.0	100.00	4.75	100.00	0.0750	97.57
37.5	100.00	2.00	100.00	0.0544	92.02
25.0	100.00	0.850	99.95	0.0397	85.76
19.0	100.00	0.425	99.85	0.0287	80.45
12.5	100.00	0.180	99.55	0.0186	74.82
9.50	100.00	0.150	99.43	0.0150	71.07
4.75	100.00	0.075	97.57	0.0111	67.94
				0.0079	64.82
				0.0057	59.89
				0.0041	57.85
				0.0028	56.91
				0.0020	54.72
				0.0012	46.83

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Standard Proctor Compaction Test

ASTM D698-12 (2021)

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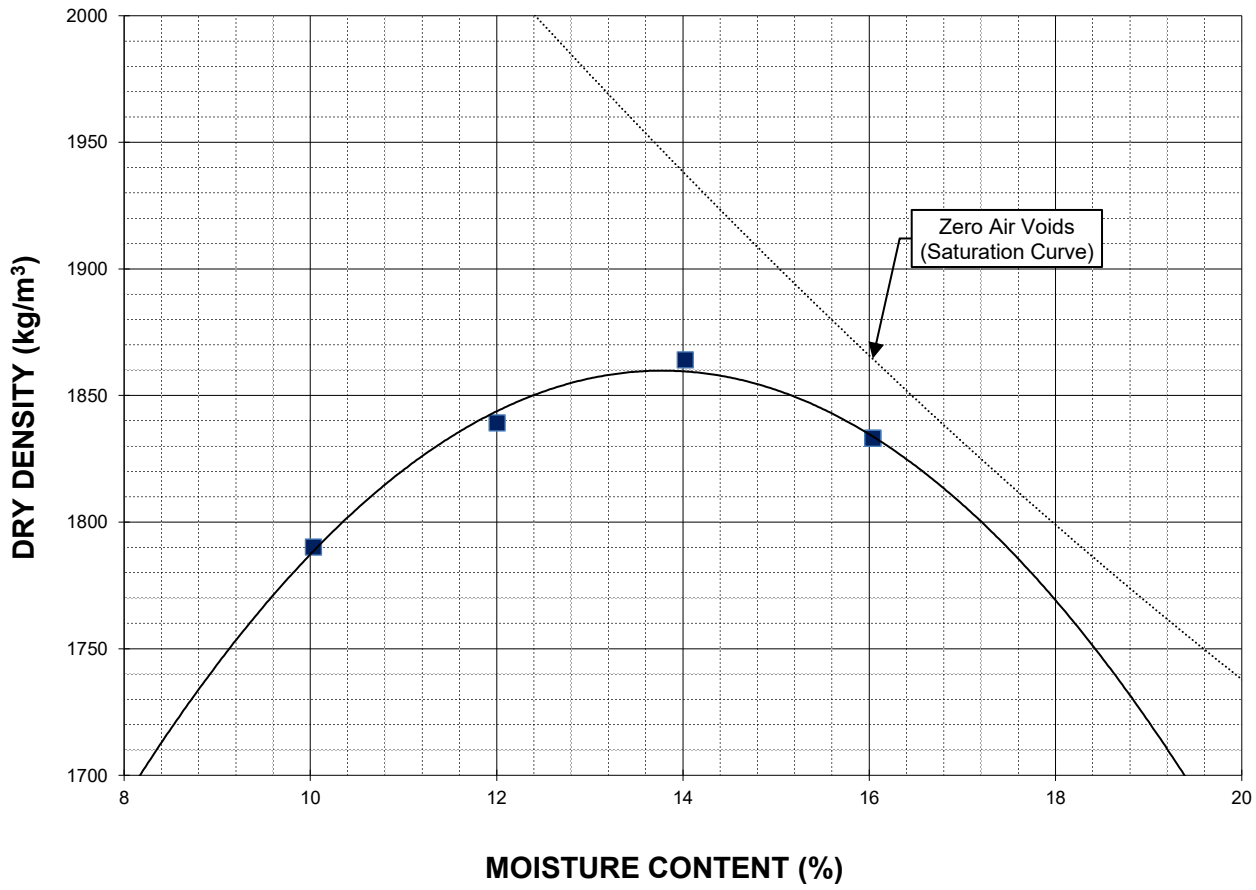
Project No.	1000-001-33
Client	Morrison Hershfield
Project	RFP 547-2023 McGregor-Inkster Geotech. Investigation
Sample #	L24-001
Source	TH23-21 (0.9 m - 1.2 m), TH23-22 (0.9 m - 1.5 m), TH23-23 (0.9 m - 1.5 m)
Material	Silt
Sample Date	21-Dec-23
Test Date	11-Jan-24
Technician	AD

Maximum Dry Density (kg/m3)	1860
Optimum Moisture (%)	13.8

Trial Number	1	2	3	4	
Wet Density (kg/m^3)	1970	2060	2126	2127	
Dry Density (kg/m^3)	1790	1839	1864	1833	
Moisture Content (%)	10.0	12.0	14.0	16.0	



Note: Additional information recorded/measured for this test is available upon request.

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California Bearing Ratio Test Data Sheet

ASTM D1883-16

Project No.	1000-001-33	**Source**	TH23-21 (0.9 m - 1.2 m), TH23-22 (0.9 m - 1.5 m), TH23-23 (0.9 m - 1.5 m)
Client	Morrison Hershfield	**Material**	Silt
Project	RFP 547-2023 McGregor-Inkster Geotech. Investigation	**Sample Date**	2023-12-21
Sample #	L24-001	**Test Date**	2024-01-13
		Technician	AD

Proctor Results (ASTM D698)

Maximum Dry Density	1860	kg/m3
Optimum Moisture Content	13.8	%
Material Retained on 19 mm Sieve	0.0	%

CBR Sample Compaction

Dry Density	1766	kg/m3
Initial Moisture Content	14.0	%
Relative Density	94.9	% SPMDD

Soaking Results

Surcharge	4.54	kg
Swell	0.3	%
Moisture Content in top 25 mm	19.8	%
Immersion Period	96	h

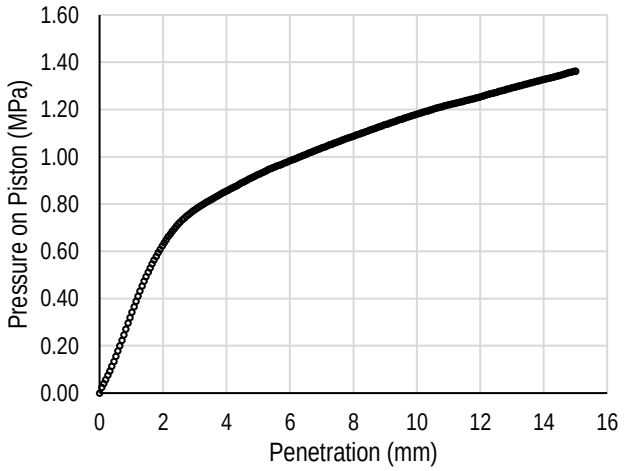
CBR Results

CBR at 2.54 mm	10.5	%
CBR at 5.08 mm	9.0	%
Zero Correction	0	mm

Test Data

Penetration (mm)	Measured Pressure (MPa)	Corrected Pressure (MPa)
0.64	0.20	0.20
1.27	0.43	0.43
1.91	0.61	0.61
2.54	0.72	0.72
3.18	0.79	0.79
3.81	0.84	0.84
4.45	0.89	0.89
5.08	0.93	0.93
7.62	1.07	1.07
10.16	1.19	1.19
12.70	1.28	1.28

Load/Penetration Curve



Comments:

www.trekgeotechnical.ca
1712 St. James Street
Winnipeg, MB R3H 0L3
Tel: 204.975.9433 Fax: 204.975.9435

Standard Proctor Compaction Test

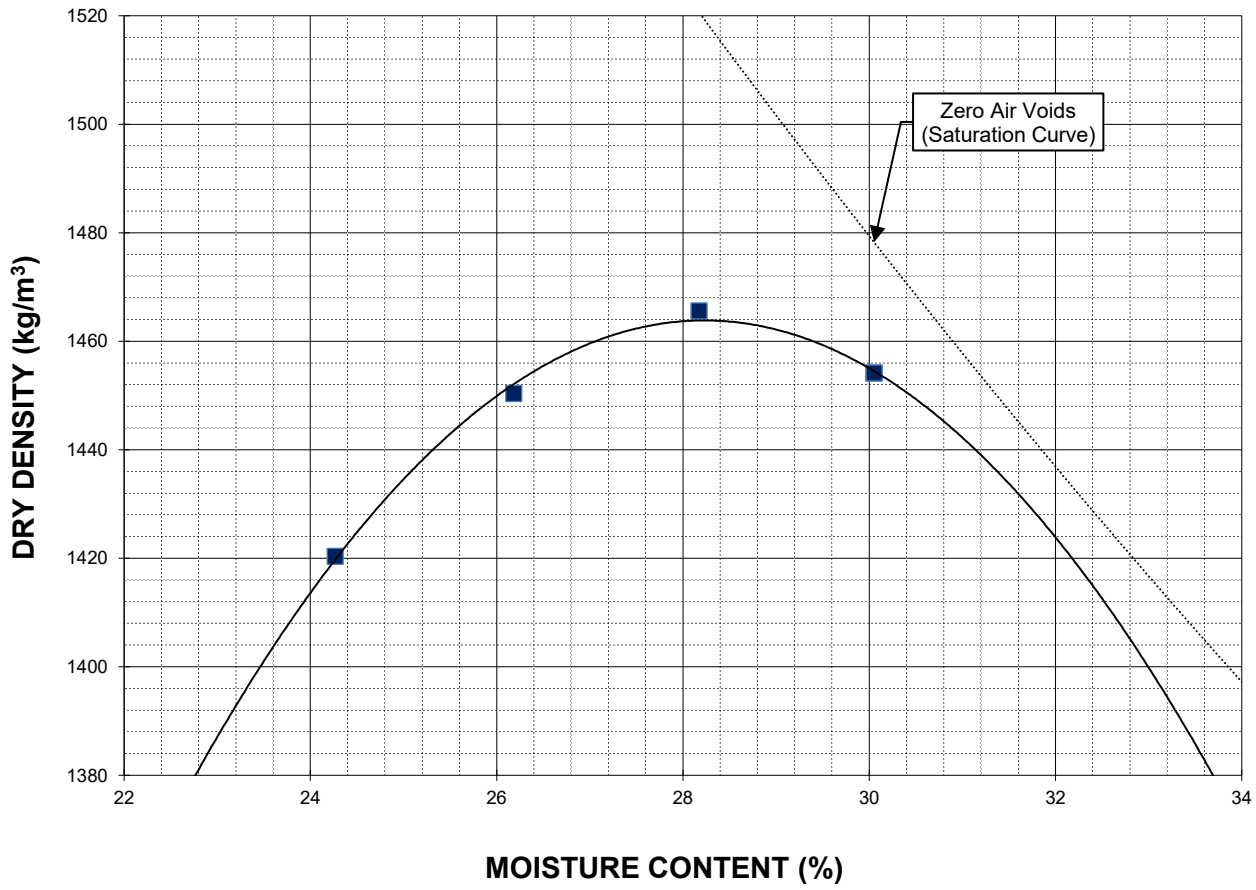
ASTM D698-12 (2021)

CERTIFIED BY CCIL Canadian Council of Independent Laboratories For specific tests as listed on www.ccil.com

Project No.	1000-001-33
Client	Morrison Hershfield
Project	RFP 547-2023 McGregor-Inkster Geotech. Investigation
Sample #	L24-001
Source	TH23-23 (1.5 m - 2.1 m), TH23-24 (0.9 m - 2.1 m)
Material	Clay
Sample Date	21-Dec-23
Test Date	11-Jan-24
Technician	AD

Maximum Dry Density (kg/m3)	1464
Optimum Moisture (%)	28.2

Trial Number	1	2	3	4	
Wet Density (kg/m^3)	1765	1830	1878	1891	
Dry Density (kg/m^3)	1420	1450	1466	1454	
Moisture Content (%)	24.3	26.2	28.2	30.1	



Note: Additional information recorded/measured for this test is available upon request.

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California Bearing Ratio Test Data Sheet

ASTM D1883-16

Project No.	1000-001-33	**Source**	TH23-23 (1.5 m - 2.1 m), TH23-24 (0.9 m -
Client	Morrison Hershfield	**Material**	Clay
Project	RFP 547-2023 McGregor-Inkster Geotech. Investigation	**Sample Date**	2023-12-21
Sample #	L24-001	**Test Date**	2024-01-13
		Technician	AD

Proctor Results (ASTM D698)

Maximum Dry Density	1464	kg/m3
Optimum Moisture Content	28.2	%
Material Retained on 19 mm Sieve	0.0	%

CBR Sample Compaction

Dry Density	1393	kg/m3
Initial Moisture Content	28.5	%
Relative Density	95.1	% SPMDD

Soaking Results

Surcharge	4.54	kg
Swell	2.5	%
Moisture Content in top 25 mm	45.9	%
Immersion Period	96	h

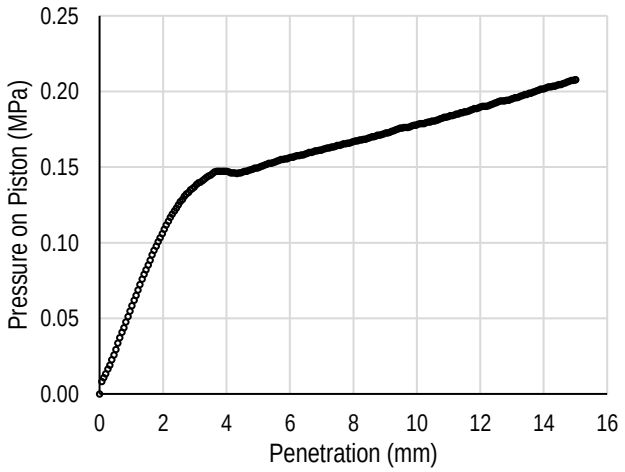
CBR Results

CBR at 2.54 mm	1.8	%
CBR at 5.08 mm	1.5	%
Zero Correction	0	mm

Test Data

Penetration (mm)	Measured Pressure (MPa)	Corrected Pressure (MPa)
0.64	0.04	0.04
1.27	0.07	0.07
1.91	0.10	0.10
2.54	0.13	0.13
3.18	0.14	0.14
3.81	0.15	0.15
4.45	0.15	0.15
5.08	0.15	0.15
7.62	0.16	0.16
10.16	0.18	0.18
12.70	0.19	0.19

Load/Penetration Curve



Comments:

Photo 1: Pavement Core Sample at Test Hole TH23-21

Photo 2: Pavement Core Sample at Test Hole TH23-22

Photo 3: Pavement Core Sample at Test Hole TH23-23

Photo 4: Pavement Core Sample at Test Hole TH23-24

Appendix D

Summary Table and Photographs of Pavement Core Samples
Inkster Boulevard

RFP 547-2023 McGregor-Inkster Geotech. Investigation

Inkster Boulevard

Pavement Core No.	Pavement Core Location	Pavement Surface		Pavement Structure Material	
		Type	Thickness (mm)	Type	Thickness (mm)
PC23-01	UTM : 55339786 m N, 630913 m E; Located 15 m East of Sheppard St, Eastbound curb lane, 1.2 m North of South curb.	Asphalt	110	Concrete	200
PC23-02	UTM : 5533935 m N, 631017 m E; Inline with West driveway for 1450 Inkster Blvd, Eastbound median lane, 1.2 m South of North curb.	Asphalt	70	Concrete	200
PC23-03	UTM : 5533894 m N, 631095 m E; Located 10 m West of Milner St, Eastbound curb lane, 1.4 m North of South curb.	Asphalt	90	Concrete	210
PC23-04	UTM : 5533666 m N, 631580 m E; 14 m East of Fife St, Eastbound curb lane, 1.0 m North of South curb.	Asphalt	80	Concrete	175
PC23-05	UTM : 5533637 m N, 631655 m E; Located East side of 1221 Inkster Blvd, Eastbound curb lane, 1.1 m South of North curb.	Asphalt	120	Concrete	180
PC23-06	UTM : 5533589 m N, 631751 m E; 1190 Inkster Blvd, Eastbound curb lane, 1.2 m North of South curb.	Asphalt	75	Concrete	215
PC23-07	UTM : 5533569 m N, 631801 m E; Located 1170 Inkster Blvd, Eastbound curb lane, 1.0 m South of North curb.	Asphalt	95	Concrete	230
PC23-08	UTM : 5533534 m N, 631872 m E; Located 1144 Inkster Blvd, Eastbound curb lane, 1.0 m North of South curb.	Asphalt	130	Concrete	230
PC23-09	UTM : 5533518 m N, 631915 m E; Located 1132 Inkster Blvd, Eastbound median travel lane, 5.5 m North of South curb.	Asphalt	90	Concrete	190
PC23-10	UTM : 5533505 m N, 631952 m E; Located 1124 Inkster Blvd, Eastbound median turn lane, 5.5 m South of North curb.	Asphalt	150	Concrete	230
PC23-11	UTM : 5533487 m N, 631975 m E; Located center of Esso, Eastbound curb lane, 1.2 m North of South curb.	Asphalt	150	Concrete	210
PC23-36	UTM : 5532385 m N, 634380 m E; Located 289 Inkster Blvd, Westbound curb lane, 1.0 m South of North curb.	Asphalt	90	Concrete	210
PC23-37	UTM : 5532419 m N, 634309 m E; Located 303 Inkster Blvd, Westbound curb lane, 1.0 m South of North curb.	Asphalt	110	Concrete	150
PC23-38	UTM : 5532449 m N, 634245 m E; Located 327 Inkster Blvd, Westbound curb lane, 1.0 m South of North curb.	Asphalt	90	Concrete	190

RFP 547-2023 McGregor-Inkster Geotech. Investigation

Inkster Boulevard

Pavement Core No.	Pavement Core Location	Pavement Surface		Pavement Structure Material	
		Type	Thickness (mm)	Type	Thickness (mm)
PC23-39	UTM : 5532641 m N, 633834 m E; Located 475 Inkster Blvd, Westbound curb lane, 1.0 m South of North curb.	Asphalt	175	Concrete	55
PC23-40	UTM : 5532677 m N, 633757 m E; Located 495 Inkster Blvd, Westbound curb lane, 1.1 m South of North curb.	Asphalt	220	Concrete	200
PC23-41	UTM : 5532722 m N, 633649 m E; Located 549 Inkster Blvd, Westbound median lane, 1.3 m North of South curb.	Asphalt	150	Concrete	80
PC23-42	UTM : 5532761 m N, 633577 m E; Located 571 Inkster Blvd, Westbound curb lane, 1.0 m South of North curb.	Asphalt	130	Concrete	-
PC23-43	UTM : 5532795 m N, 633497 m E; Located 599 Inkster Blvd, Westbound median lane, 1.2 m North of South curb.	Asphalt	150	Concrete	165
PC23-44	UTM : 5532817 m N, 633455 m E; Located 608 Inkster Blvd, Westbound curb lane, 1.3 m South of North curb.	Asphalt	170	Concrete	190
PC23-45	UTM : 5532849 m N, 633377 m E; Located 636 Inkster Blvd, Westbound median lane, 1.1 m North of South curb.	Asphalt	155	Concrete	220
PC23-46	UTM : 5532881 m N, 633319 m E; Located 658 Inkster Blvd, Westbound curb lane, 1.3 m South of North curb.	Asphalt	140	Concrete	-
PC23-47	UTM : 5532896 m N, 633290 m E; Located 723 Inkster Blvd, Westbound curb lane, 1.2 m South of North curb.	Asphalt	70	Concrete	220
PC23-48	UTM : 5532927 m N, 633212 m E; Located 747 Inkster Blvd, Westbound median lane, 1.0 m North of South curb.	Asphalt	200	Concrete	190
PC23-49	UTM : 5532968 m N, 633133 m E; Located 771 Inkster Blvd, Westbound curb lane, 1.2 m South of North curb.	Asphalt	200	Concrete	100
PC23-50	UTM : 5533041 m N, 632969 m E; Located 815 Inkster Blvd, Westbound median lane, 1.0 m North of South curb.	Asphalt	75	Concrete	195
PC23-51	UTM : 5533085 m N, 632884 m E; Located 839 Inkster Blvd, Westbound curb lane, 1.3 m South of North curb.	Asphalt	110	Concrete	160
PC23-52	UTM : 5533134 m N, 632769 m E; Located 865 Inkster Blvd, Westbound median lane, 1.1 m North of South curb.	Asphalt	90	Concrete	170
PC23-53	UTM : 5533160 m N, 632722 m E; Located 885 Inkster Blvd, Westbound curb lane, 1.2 m South of North curb.	Asphalt	60	Concrete	200

RFP 547-2023 McGregor-Inkster Geotech. Investigation

Inkster Boulevard

Pavement Core No.	Pavement Core Location	Pavement Surface		Pavement Structure Material	
		Type	Thickness (mm)	Type	Thickness (mm)
PC23-54	UTM : 5533190 m N, 632651 m E; Located 905 Inkster Blvd, Westbound median lane, 1.3 m North of South curb.	Asphalt	65	Concrete	195
PC23-55	UTM : 5533220 m N, 632594 m E; Located 929 Inkster Blvd, Westbound curb lane, 1.2 m South of North curb.	Asphalt	105	Concrete	145
PC23-56	UTM : 5533498 m N, 631991 m E; Located at KFC entryway, Westbound median lane, 1.3 m North of South curb.	Asphalt	75	Concrete	200
PC23-57	UTM : 5533519 m N, 631955 m E; Located 1127 Inkster Blvd, Westbound curb lane, 1.0 m South of North curb.	Asphalt	120	Concrete	165
PC23-58	UTM : 5533539 m N, 631904 m E; Located 1141 Inkster Blvd, Westbound median lane, 1.0 m North of South curb.	Asphalt	80	Concrete	220
PC23-59	UTM : 5533586 m N, 631815 m E; Located 1169 Inkster Blvd, Westbound curb lane, 1.0 m South of North curb.	Asphalt	95	Concrete	185
PC23-60	UTM : 5533604 m N, 631769 m E; Located 1179 Inkster Blvd, Westbound median lane, 1.0 m North of South curb.	Asphalt	50	Concrete	240
PC23-61	UTM : 5533489 m N, 631994 m E; Located at Esso Inkster Blvd, Eastbound curb turn lane, 1.1 m South of North curb.	Asphalt	100	Concrete	200

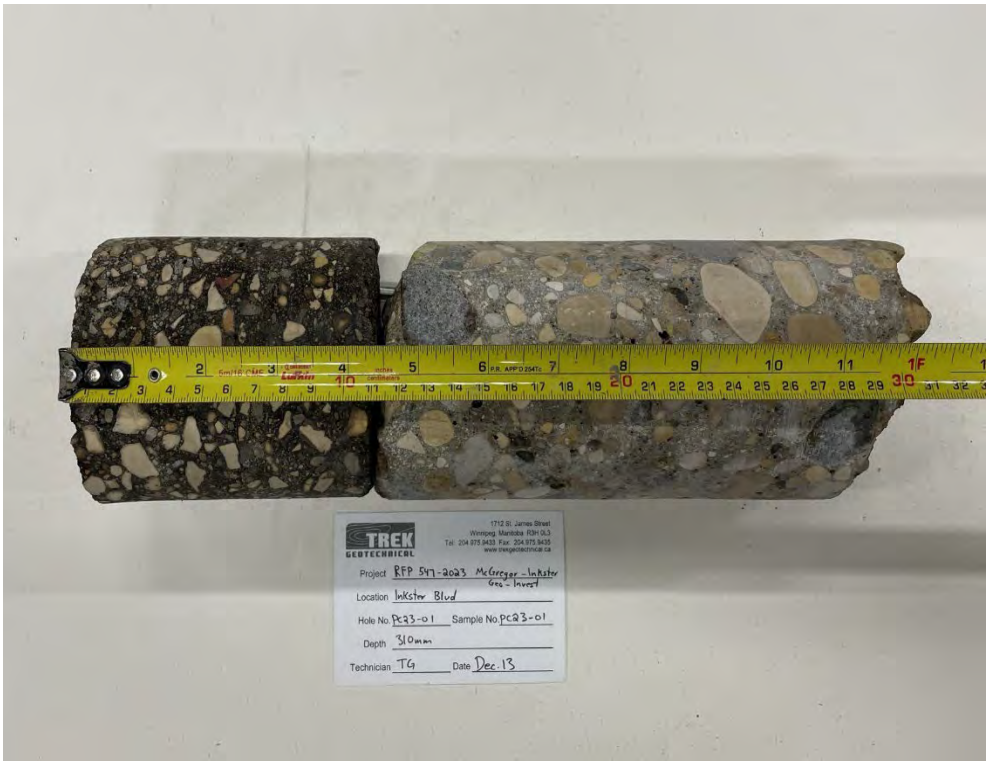


Photo 1: Pavement Core Sample PC23-01

Photo 2: Pavement Core Sample PC23-02

Photo 3: Pavement Core Sample PC23-03

Photo 4: Pavement Core Sample PC23-04

Photo 5: Pavement Core Sample PC23-05

Photo 6: Pavement Core Sample PC23-06

Photo 7: Pavement Core Sample PC23-07

Photo 8: Pavement Core Sample PC23-08

Photo 9: Pavement Core Sample PC23-09

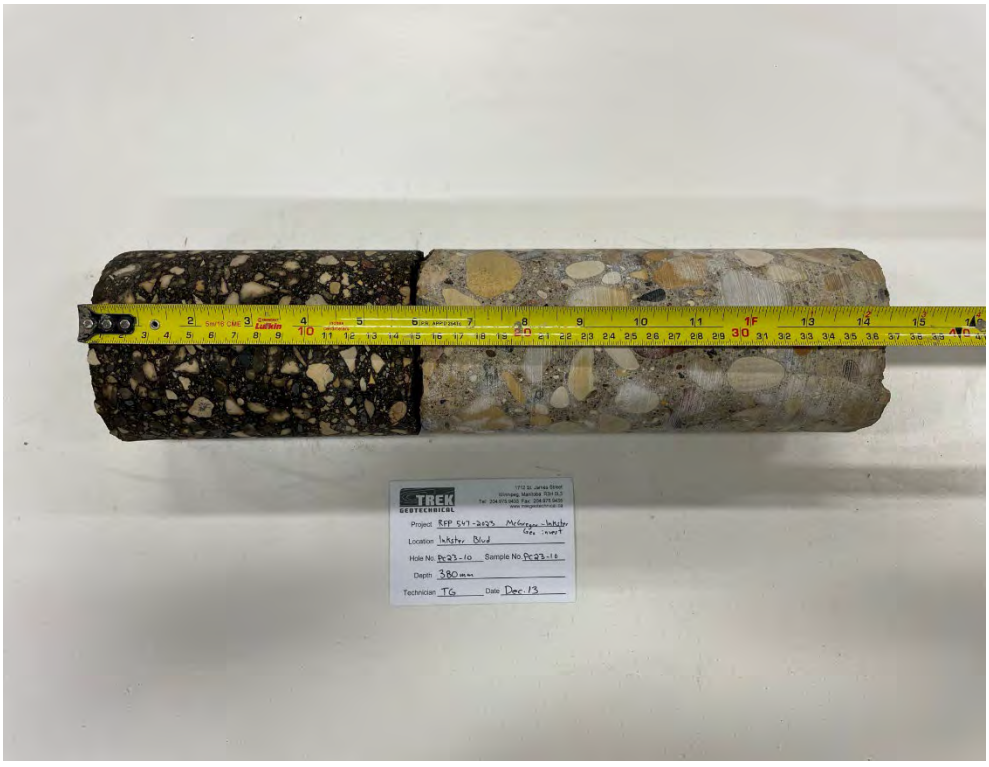


Photo 10: Pavement Core Sample PC23-10

Photo 11: Pavement Core Sample PC23-11

Photo 12: Pavement Core Sample PC23-12

Photo 13: Pavement Core Sample PC23-13

Photo 14: Pavement Core Sample PC23-14

Photo 15: Pavement Core Sample PC23-15

Photo 16: Pavement Core Sample PC23-16

Photo 17: Pavement Core Sample PC23-17

Photo 18: Pavement Core Sample PC23-18

Photo 19: Pavement Core Sample PC23-19

Photo 20: Pavement Core Sample PC23-20

Photo 21: Pavement Core Sample PC23-21

Photo 22: Pavement Core Sample PC23-22

Photo 23: Pavement Core Sample PC23-23

Photo 24: Pavement Core Sample PC23-24

Photo 25: Pavement Core Sample PC23-25

Photo 26: Pavement Core Sample PC23-26

Photo 27: Pavement Core Sample PC23-27

Photo 28: Pavement Core Sample PC23-28

Photo 29: Pavement Core Sample PC23-29

Photo 30: Pavement Core Sample PC23-30

Photo 31: Pavement Core Sample PC23-31

Photo 32: Pavement Core Sample PC23-32

Photo 33: Pavement Core Sample PC23-33

Photo 34: Pavement Core Sample PC23-34

Photo 35: Pavement Core Sample PC23-35

Photo 36: Pavement Core Sample PC23-36

Photo 37: Pavement Core Sample PC23-37

Photo 38: Pavement Core Sample PC23-38

Photo 39: Pavement Core Sample PC23-39

Photo 40: Pavement Core Sample PC23-40

Photo 41: Pavement Core Sample PC23-41

Photo 42: Pavement Core Sample PC23-42

Photo 43: Pavement Core Sample PC23-43

Photo 44: Pavement Core Sample PC23-44

Photo 45: Pavement Core Sample PC23-45

Photo 46: Pavement Core Sample PC23-46

Photo 47: Pavement Core Sample PC23-47

Photo 48: Pavement Core Sample PC23-48

Photo 49: Pavement Core Sample PC23-49

Photo 50: Pavement Core Sample PC23-50

Photo 51: Pavement Core Sample PC23-51

Photo 52: Pavement Core Sample PC23-52

Photo 53: Pavement Core Sample PC23-53

Photo 54: Pavement Core Sample PC23-54

Photo 55: Pavement Core Sample PC23-55

Photo 56: Pavement Core Sample PC23-56

Photo 57: Pavement Core Sample PC23-57

Photo 58: Pavement Core Sample PC23-58

Photo 59: Pavement Core Sample PC23-59

Photo 60: Pavement Core Sample PC23-60

Photo 61: Pavement Core Sample PC23-61