ISO A1 - 594mm x 841mm

Sub-Surface Log

TREK GEOTECHNICAL

Test Hole TH22-01
1 of 2

Client: Morrison Hershfield
Project Name: Creek Bend Road Bridge Replacement
Contractor: Paddock Drilling Ltd.
Method: 125mm Solid Stem Auger, Acker MP8 Truck Mount
Project Number: 0035-110-00
Location: UTM N-5519615, E-638708
Ground Elevation: 100.16 m (local datum)
Date Drilled: October 25, 2022

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
Backfill Legend: Bentonite | Cement | Drill Cuttings | Filter Pack Sand | Grout | Slough

Elevation (m)	Depth (m)	MATERIAL DESCRIPTION	Sample Type	Sample Number	Recovery %	SPT (N)
100.1		CLAY (TOPSOIL) - silty, trace sand, trace rootlets, moist, stiff, intermediate plasticity		G1		
99.7	1	CLAY - silty, grey, moist, very stiff, intermediate plasticity		G2		
98.8		SILT - trace clay, light brown, moist, compact, no to low plasticity				
		CLAY - silty - grey brown - moist, very stiff - high plasticity		G3		
		- silt seam (<0.2 m thick) at 2.2 m - trace silt inclusions (<5 mm diam.) below 2.4 m		G4		
	3			G5		
				T6		
	4	- stiff below 4.3 m		G7		
	6			G8		
				T9		
	7	- grey, firm to stiff below 7.0 m		G10		
	9			G11		
				T12		
	11			G13		

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 ○

Logged By: Kate Franklin **Reviewed By:** Michael Van Helden **Project Engineer:** Nuno Mendonca

SUB-SURFACE LOG - LOGS 2022-10-26 TH LOGS CREEK BEND ROAD BRIDGE DRAFT 0_A_KF 0035-110-00.GPJ TREK.GDT 12/22/22

Sub-Surface Log

TREK GEOTECHNICAL

Test Hole TH22-01
2 of 2

Elevation (m)	Depth (m)	MATERIAL DESCRIPTION	Sample Type	Sample Number	Recovery %	SPT (N)
	12			G14		
				T15		
	14			G16		
	15	- soft below 14.9 m		G17		
	17			G18		
	18	- large till inclusions (<50 mm diam.) below 17.7 m		G19		
81.6		SILT (TILL) - trace clay, trace to some sand, trace to some gravel (<25 mm diam.) - light brown - moist, compact - no to low plasticity		G20		
				S21	100	23
78.2	21			G22		

END OF TEST HOLE AT 21.9 M IN SILT TILL
Notes:
1. Power auger refusal at 21.9 m.
2. Sloughing observed below 19.8 m.
3. Seepage observed below 19.8 m.
4. Test hole open to 20.1 m immediately after drilling.
5. Unable to determine the water level immediately after drilling.
6. Vibrating wire piezometer VW22-01 (S/N 2206446) installed, tip at 3.0 m.
7. Vibrating wire piezometer VW22-02 (S/N 2206445) installed, tip at 6.1 m.
8. Test hole backfilled with a cement-grout mix to surface.

Logged By: Kate Franklin **Reviewed By:** Michael Van Helden **Project Engineer:** Nuno Mendonca

SUB-SURFACE LOG - LOGS 2022-10-26 TH LOGS CREEK BEND ROAD BRIDGE DRAFT 0_A_KF 0035-110-00.GPJ TREK.GDT 12/22/22

Sub-Surface Log

TREK GEOTECHNICAL

Test Hole TH22-02
1 of 1

Client: Morrison Hershfield
Project Name: Creek Bend Road Bridge Replacement
Contractor: Paddock Drilling Ltd.
Method: 125mm Solid Stem Auger, Acker MP8 Truck Mount
Project Number: 0035-110-00
Location: UTM N-5519589, E-638706
Ground Elevation: 100.92 m (local datum)
Date Drilled: October 25, 2022

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

Elevation (m)	Depth (m)	MATERIAL DESCRIPTION	Sample Type	Sample Number	Recovery %	SPT (N)
100.9		SAND AND GRAVEL (FILL) - trace silt, light brown, moist, compact, well graded, sub angular (25 mm down limestone)		G23		
	1	CLAY - silty, trace sand - grey - moist, stiff to very stiff - medium plasticity		G24		
99.7				G25		
99.4		SILT - trace clay, light brown, moist, compact, low plasticity		G26		
	2	CLAY - silty - mottled brown and grey - moist, firm to stiff - high plasticity				
97.9	3			G27		

END OF TEST HOLE AT 3.0 m IN CLAY.
Notes:
1. Seepage and sloughing not observed.
2. Test hole open and dry to 3.0 m immediately after drilling.
3. Test hole backfilled with cuttings and bentonite to surface.

Logged By: Kate Franklin **Reviewed By:** Michael Van Helden **Project Engineer:** Nuno Mendonca

SUB-SURFACE LOG - LOGS 2022-10-26 TH LOGS CREEK BEND ROAD BRIDGE DRAFT 0_A_KF 0035-110-00.GPJ TREK.GDT 12/22/22

Sub-Surface Log

TREK GEOTECHNICAL

Test Hole TH22-03
1 of 1

Client: Morrison Hershfield
Project Name: Creek Bend Road Bridge Replacement
Contractor: Paddock Drilling Ltd.
Method: 125mm Solid Stem Auger, Acker MP8 Truck Mount
Project Number: 0035-110-00
Location: UTM N-5519721, E-638744
Ground Elevation: 100.30 m (local datum)
Date Drilled: October 25, 2022

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

Elevation (m)	Depth (m)	MATERIAL DESCRIPTION	Sample Type	Sample Number	Recovery %	SPT (N)
100.2		SAND AND GRAVEL (FILL) - trace silt, light brown, moist, compact, well graded, sub angular (25 mm down limestone)		G28		
				G29		
	1	CLAY - silty, trace sand - grey - moist, very stiff - intermediate plasticity		G30		
98.8				G31		
		SILT - trace clay, trace sand, light brown, moist, compact, low plasticity		G32		
98.2	2	CLAY - silty - mottled brown and grey - moist, stiff - high plasticity				
97.2	3			G33		

END OF TEST HOLE AT 3.0 m IN CLAY.
Notes:
1. Seepage and sloughing not observed.
2. Test hole open and dry to 3.0 m immediately after drilling.
3. Test hole backfilled with cuttings and bentonite to surface.

Logged By: Kate Franklin **Reviewed By:** Michael Van Helden **Project Engineer:** Nuno Mendonca

SUB-SURFACE LOG - LOGS 2022-10-26 TH LOGS CREEK BEND ROAD BRIDGE DRAFT 0_A_KF 0035-110-00.GPJ TREK.GDT 12/22/22

Sub-Surface Log

TREK GEOTECHNICAL

Test Hole TH22-04
1 of 1

Client: Morrison Hershfield
Project Name: Creek Bend Road Bridge Replacement
Contractor: Paddock Drilling Ltd.
Method: 125mm Solid Stem Auger, Acker MP8 Truck Mount
Project Number: 0035-110-00
Location: UTM N-5519693, E-638707
Ground Elevation: 99.48 m (local datum)
Date Drilled: October 25, 2022

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

Elevation (m)	Depth (m)	MATERIAL DESCRIPTION	Sample Type	Sample Number	Recovery %	SPT (N)
99.4		SAND AND GRAVEL (FILL) - trace silt, light brown, moist, compact, well graded, sub angular (25 mm down limestone)		G34		
98.9		CLAY (FILL) - silty, trace sand, trace gravel, grey, moist, very stiff, intermediate plasticity		G35		
	1	CLAY - silty - grey - moist, very stiff - intermediate to high plasticity		G36		
	2					
		- brownish grey, trace sand, stiff below 2.4 m		G37		
96.4	3					

END OF TEST HOLE AT 3.0 m IN CLAY.
Notes:
1. Seepage and sloughing not observed.
2. Test hole open and dry to 3.0 m immediately after drilling.
3. Test hole backfilled with cuttings and bentonite to surface.

Logged By: Kate Franklin **Reviewed By:** Michael Van Helden **Project Engineer:** Nuno Mendonca

SUB-SURFACE LOG - LOGS 2022-10-26 TH LOGS CREEK BEND ROAD BRIDGE DRAFT 0_A_KF 0035-110-00.GPJ TREK.GDT 12/22/22

Sub-Surface Log

TREK GEOTECHNICAL

Test Hole TH22-05
1 of 1

Client: Morrison Hershfield
Project Name: Creek Bend Road Bridge Replacement
Contractor: Paddock Drilling Ltd.
Method: 125mm Solid Stem Auger, Acker MP8 Truck Mount
Project Number: 0035-110-00
Location: UTM N-5519553, E-638708
Ground Elevation: 101.31 m (local datum)
Date Drilled: October 26, 2022

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

Elevation (m)	Depth (m)	MATERIAL DESCRIPTION	Sample Type	Sample Number	Recovery %	SPT (N)
101.2		CONCRETE - 150 mm thick		G38		
100.5		SAND AND GRAVEL (FILL) - trace silt, light brown, moist, compact, well graded, sub angular (25 mm down limestone)				
	1	CLAY - silty, trace sand - grey - moist, very stiff - intermediate plasticity		G39		
99.8						
99.5		SILT - trace clay, trace sand, light brown, moist, compact, low plasticity		G40		
	2	CLAY - silty - brown - moist, stiff - high plasticity				
98.3	3			G41		

END OF TEST HOLE AT 3.0 m IN CLAY.
Notes:
1. Seepage and sloughing not observed.
2. Test hole open and dry to 3.0 m immediately after drilling.
3. Test hole backfilled with cuttings and bentonite to surface.

Logged By: Kate Franklin **Reviewed By:** Michael Van Helden **Project Engineer:** Nuno Mendonca

SUB-SURFACE LOG - LOGS 2022-10-26 TH LOGS CREEK BEND ROAD BRIDGE DRAFT 0_A_KF 0035-110-00.GPJ TREK.GDT 12/22/22

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
MORRISON HERSHFIELD
No. 1736

TENDER No. 335-2023

LOCATION APPROVED
UNDERGROUND STRUCTURES

SUPR. U/G STRUCTURES COMMITTEE — DATE

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

BM 78-009 ELEV 232.749 m — N.W. Cor. Paddington Rd. & Dakota St., 19 mm dia. x 6.1 m I.B. in Valve Box, 5.5 m S. of N.L. Paddington Rd. & on W.L. of Dakota St., in traffic island.

No.	REVISIONS	YY/MM/DD	BY
C	ISSUED FOR TENDER	23/08/02	BAP
B	ISSUED FOR 95% REVIEW	23/06/27	BAP
A	ISSUED FOR 50% REVIEW	23/04/14	BAP

MORRISON HERSHFIELD

DESIGNED BY	AGG	CHECKED BY	BAP
DRAWN BY	AH	APPROVED BY	BAP
HOR SCALE / VERT SCALE	AS SHOWN	RELEASED FOR CONSTRUCTION	
DATE	JUNE 27, 2023	DATE	

PROFESSIONAL'S SEAL
PROVINCE OF MANITOBA — A.D.G. GILARSKI — Member 32144 — 2023-05-02 — REGISTERED PROFESSIONAL ENGINEER

CONSULTANT FILE NAME: 2203665-CBR DD-BH01.DWG

Winnipeg

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

CREEK BEND ROAD BRIDGE REPLACEMENT AND RELATED WORKS

BORE HOLE LOGS 1 OF 2

CITY DRAWING NUMBER: B149-23-03
SHEET 03 OF 52
DRAWING NUMBER: 03

X:\Proj\2022\2203665\00-CdW 293-2022 Creek Bend Road Bri\09_CAD\07 Sheets\Structural\Detailed Design\2203665-CBR DD-BH01.dwg Last Saved: 7/31/2023 2:36 PM by AHeppner Plotted: 8/2/2023 3:10 PM by Alex Heppner