

APPENDIX 'A'

GEOTECHNICAL REPORT

Based on the Equivalent Single Axle Load (ESAL) of about 261,000 for heavy duty, the recommended pavement construction at this site should be as follows:

Pavement Thicknesses

	Heavy Duty	% Compaction
Asphalt	25 mm	n/a
Base Course (20mm down)	75mm	98% Std Proctor
Subbase(50mm down)	150mm	98% Std Proctor
Subbase (100mm to 150mm crushed limestone)	400mm	n/a

The existing granular fill could be reused as subbase material provided that it is free of organic and not contaminated with any hydrocarbon. The pavement section should be constructed on a prepared existing granular fill; prepared means that scarifying the existing 200mm thick and proof rolled with a heavy vibratory roller (min. 20 passes) which translates to at least 95% Std Proctor and inspected by qualified geotechnical engineer prior to the placement of the new overlying granular fill.

The granular base course and subbase materials should include organic-free, non-frozen, aggregate conforming to the City of Winnipeg gradation limits.

Where soft but dry spots are encountered at the subbase level, construction traffic should be restricted. Soft but dry spots should be excavated with a large backhoe fitted with a smooth bucket and covered with geotextile, to at least 300mm and replaced with a 300mm thick layer of 100mm crushed limestone. In this regard, the total granular fill thickness would be 900mm for heavy-duty traffic.

The combined aggregate gradation limits and physical requirements of the asphaltic concrete should be in accordance with the City of Winnipeg granular specification.

For the hot mix asphaltic concrete, gradation analysis of the aggregates (i.e. stone, fines and additive), compaction testing and sampling of at least one representative hot mix asphalt mixture (during construction) for laboratory Marshall testing should be undertaken. This will provide data to confirm that the asphaltic concrete pavement complies with the project specification. Hot mix asphaltic concrete should not be placed at ambient temperatures lower than +4°C. During placement, the temperature of the paving mix should be in the range of +120°C to +150°C and compaction should not take place at paving mix temperatures lower than +85°C.

Sieve analysis and compaction testing of the granular base and subgrade materials should be conducted by qualified geotechnical personnel to ensure that the materials supplied and percent compactions are in accordance with design specifications.

CLOSURE

The findings and recommendations provided in this report were prepared by WSP Canada

Inc. (the Consultant) in accordance with generally accepted professional engineering principles and practices. The recommendations are based on the results of field and laboratory investigations and are reflective only of the actual testhole(s) and/or excavation(s) examined. If conditions encountered during construction appear to be different than those shown by the testhole(s) and/or excavation(s) at this site, the Consultant should be notified immediately in order that the recommendations can be reviewed and modified as necessary to address actual site conditions.

This report is limited in scope to only those items that are specifically referenced in this report. There may be existing conditions that were not recorded in this report. Such conditions were not apparent to the Consultant due to the limitations imposed by the scope of work. The Consultant, therefore, accepts no liability for any costs incurred by the Client for subsequent discovery, manifestation or rectification of such conditions.

This report is intended solely for the Client named as a general indication of the visible or reported physical condition of the items addressed in the report at the time of the geotechnical investigation. The material in this report reflects the Consultant's best judgment in light of the information available to it at the time of preparation.

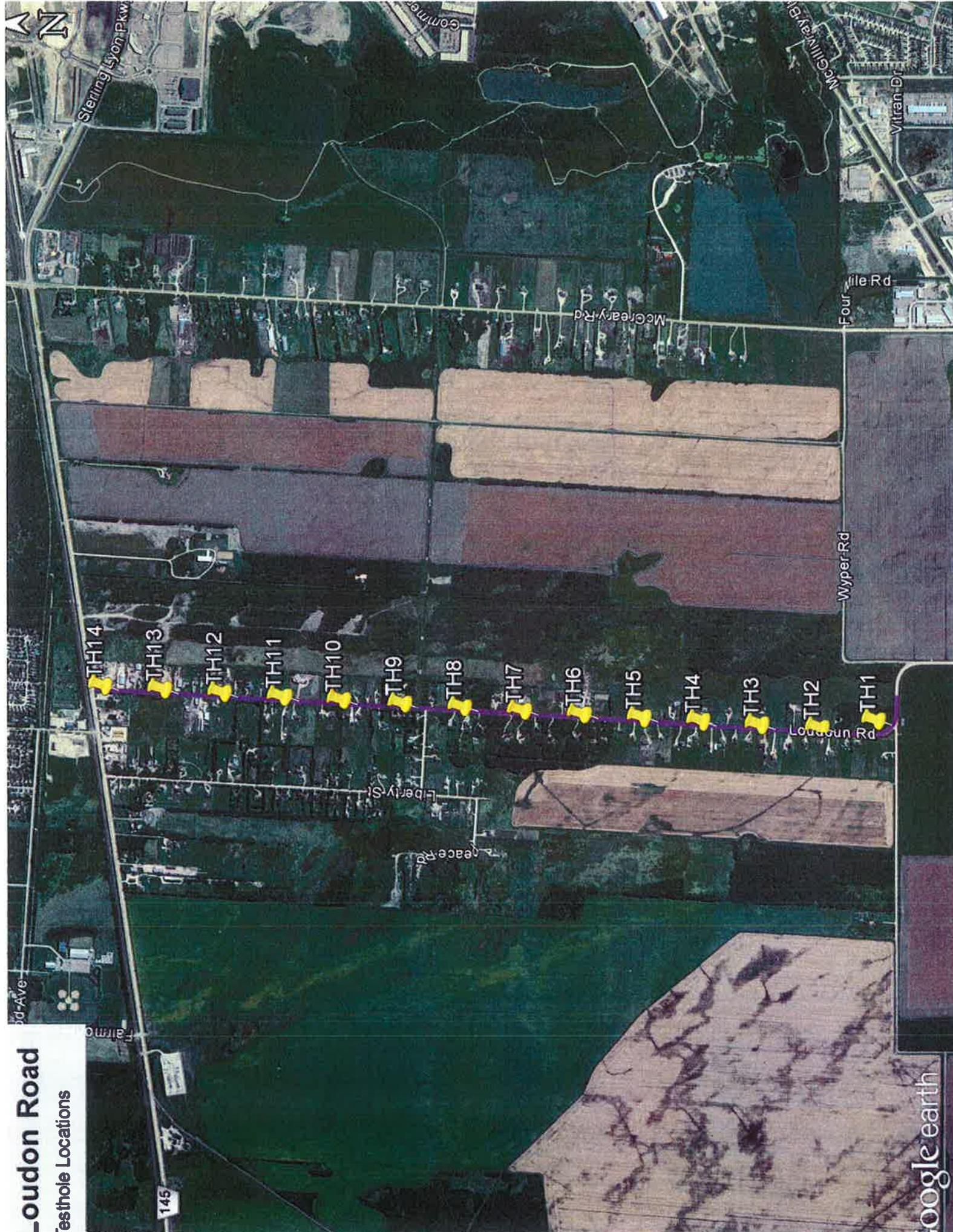
This report and the information and data contained herein are to be treated as confidential and may be used only by the Client and its officers and employees in relation to the specific project that it was prepared for. Any use a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. The Consultant accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The report has been written to be read in its entirety, do not use any part of this report as a separate entity.

All files, notes, source data, test results and master files are retained by the Consultant and remain the property of the Consultant.

Loudon Road

Testhole Locations





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CLIENT City of Winnipeg
 PROJECT NUMBER 151-13953-00
 DATE STARTED 2/8/16 COMPLETED 2/8/16
 DRILLING CONTRACTOR Maple Leaf Drilling
 DRILLING METHOD Continuous Auger
 LOGGED BY Dana Bredin CHECKED BY Silvestre Urbano
 NOTES CL of SB Lane

PROJECT NAME 2016 Granular Renewals
 PROJECT LOCATION Loudoun Road, Winnipeg, MB
 GROUND ELEVATION 100 m 100 HOLE SIZE 125 mm
 GROUND WATER LEVELS:
 AT TIME OF DRILLING ---
 AT END OF DRILLING ---
 AFTER DRILLING ---

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲			
							20	40	60	80
							PL	MC	LL	
							20	40	60	80
							□ FINES CONTENT (%) □			
							20	40	60	80
	[Red Hatched]	GRANULAR FILL - base course								
0.5	[Brown Hatched]	CLAY FILL - frost to 1.22 m								
1.0										
1.5	[Green Hatched]	SILTY CLAY - tan-brown, stiff	PP = 125 kPa		125					
2.0	[Yellow Hatched]	SILT - tan-brown, soft	PP = 10 kPa		10					
2.5										
3.0	[Blue Hatched]	CLAY - brown to grey, stiff	PP = 100 kPa		100					

GENERAL BH PLOTS - WSP LOUDOUN ROAD TESTHOLES.GPJ GINT STD CANADA.GDT 2/24/16

Bottom of hole at 3.05 m.



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 DRILLING CONTRACTOR Maple Leaf Drilling GROUND WATER LEVELS:
 DRILLING METHOD Continuous Auger AT TIME OF DRILLING ---
 LOGGED BY Dana Bredin CHECKED BY Silvestre Urbano AT END OF DRILLING ---
 NOTES CL of Road AFTER DRILLING ---

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲	
							PL	MC LL
							□ FINES CONTENT (%) □	
							20	40 60 80
0.0 - 0.5		GRANULAR FILL - base course						
0.5 - 1.5		CLAY FILL - grey/black mixed, SILTY, frost to 1.52 m						
1.5 - 2.0		SILT - tan-brown, soft	PP = 20 kPa		20			
2.0 - 3.0		CLAY - brown to grey, stiff to firm	PP = 125 kPa		125			
3.0 - 3.05			PP = 75 kPa		75			

GENERAL BH PLOTS - WSP - LOUDOUN ROAD TESTHOLES.GPJ GINT STD CANADA.GDT 2/24/16

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 NOTES CL of NB Lane

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 GROUND WATER LEVELS:
 AT TIME OF DRILLING ---
 AT END OF DRILLING ---
 AFTER DRILLING ---

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲		
							20	40	60
0.0 - 1.25		GRANULAR FILL - base course							
1.25 - 2.25		CLAY FILL - frost to 1.52 m, stiff							
2.25 - 3.05		CLAY - brown to grey, stiff	PP = 125 kPa		125				
3.05 - 3.05			PP = 100 kPa		100				

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Bottom of hole at 3.05 m.



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 DRILLING CONTRACTOR Maple Leaf Drilling GROUND WATER LEVELS:
 DRILLING METHOD Continuous Auger AT TIME OF DRILLING ---
 LOGGED BY Dana Bredin CHECKED BY Silvestre Urbano AT END OF DRILLING ---
 NOTES CL of SB Lane AFTER DRILLING ---

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲			
							20	40	60	80
							PL	MC	LL	
							20	40	60	80
							☐ FINES CONTENT (%) ☐			
							20	40	60	80
0.0 - 1.37		GRANULAR FILL - base course								
1.37 - 1.5		CLAY FILL - frost to 1.37 m, stiff								
1.5 - 3.05		CLAY - brown to grey, stiff to firm	PP = 150 kPa		150					
3.05			PP = 75 kPa		75					

GENERAL BH PLOTS - WSP - LOUDOUN ROAD TESTHOLES.GPJ GINT STD CANADA.GDT 2/24/16

Bottom of hole at 3.05 m.



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 DRILLING CONTRACTOR Maple Leaf Drilling GROUND WATER LEVELS:
 DRILLING METHOD Continuous Auger AT TIME OF DRILLING ---
 LOGGED BY Dana Bredin CHECKED BY Silvestre Urbano AT END OF DRILLING ---
 NOTES CL of Road AFTER DRILLING ---

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲		
							20	40	60
0.0 - 0.5		GRANULAR FILL - base course							
0.5 - 1.22		CLAY FILL - black/grey mixed							
1.22 - 3.05		CLAY - grey, frost to 1.22 m, stiff SILT pocket at 2.13 m, tan-brown	PP = 125 kPa		125				
3.05			PP = 100 kPa		100				

GENERAL BH PLOTS - WSP - LOUDOUN ROAD TESTHOLES.GPJ GINT STD CANADA.GDT 2/24/16

Bottom of hole at 3.05 m.



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PROJECT NUMBER 151-13053-00 **PROJECT LOCATION** Loudoun Road, Winnipeg, MB
DATE STARTED 2/8/16 **COMPLETED** 2/8/16 **GROUND ELEVATION** 100 m 100 **HOLE SIZE** 125 mm
DRILLING CONTRACTOR Maple Leaf Drilling **GROUND WATER LEVELS:**
DRILLING METHOD Continuous Auger **AT TIME OF DRILLING** ---
LOGGED BY Dana Bredin **CHECKED BY** Silvestre Urbano **AT END OF DRILLING** ---
NOTES CL of NB Lane **AFTER DRILLING** ---

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲	
							PL	MC
							20	40
							20	40
							□ FINES CONTENT (%) □	
							20	40
0.5		GRANULAR FILL - base course						
1.0		CLAY FILL - grey/brown mixed, frost to 1.22 m						
1.5		CLAY - brown to grey, stiff SILTY at 2.13 m, tan-brown	PP = 175 kPa		175			
2.0								
2.5								
3.0			PP = 100 kPa		100			

GENERAL BH PLOTS - WSP LOUDOUN ROAD TESTHOLES.GPJ GINT STD CANADA.GDT 2/24/16

Bottom of hole at 3.05 m.



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LOGGED BY Dana Bredin **CHECKED BY** Silvestre Urbano **AT END OF DRILLING** ---
NOTES CL of SB Lane **AFTER DRILLING** ---

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲	
							PL	MC LL
							20	40 60 80
							20	40 60 80
							<input type="checkbox"/>	20 40 60 80
							20	40 60 80
0.5		GRANULAR FILL - base course						
1.0		CLAY FILL - black						
1.5		SILT - tan-brown, frost to 1.37 m						
2.0		CLAY - brown to grey at 5.33 m, stiff to firm	PP = 200 kPa		200			
2.5								
3.0								

GENERAL BH PLOTS - WSP - LOUDOUN ROAD TEST HOLES.GPJ GINT STD CANADA.GDT 2/24/16

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CLIENT City of Winnipeg

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PROJECT NUMBER 151-13953-00

PROJECT LOCATION Loudoun Road, Winnipeg, MB

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲	
							PL	MC LL
							20	40 60 80
							20	40 60 80
							<input type="checkbox"/> FINES CONTENT (%) <input type="checkbox"/>	
							20	40 60 80
		CLAY - brown to grey at 5.33 m, stiff to firm (continued)	PP = 125 kPa		125			
3.5								
4.0								
4.5			PP = 75 kPa		75			
5.0								
5.5								
6.0			PP = 75 kPa		75			

Bottom of hole at 6.10 m.

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DRILLING CONTRACTOR Maple Leaf Drilling **GROUND WATER LEVELS:**
DRILLING METHOD Continuous Auger **AT TIME OF DRILLING** ---
LOGGED BY Dana Bredin **CHECKED BY** Silvestre Urbano **AT END OF DRILLING** ---
NOTES CL of SB Lane **AFTER DRILLING** ---

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲	
							PL	LL
0.0 - 1.37		GRANULAR FILL - base course						
1.37 - 1.5		CLAY FILL - brown, frost to 1.37 m						
1.5 - 2.74		CLAY - brown to grey at 2.74 m, stiff	PP = 175 kPa		175			
2.74 - 3.05			PP = 100 kPa		100			

GENERAL BH PLOTS - WSP LOUDOUN ROAD TESTHOLES.GPJ GINT STD CANADA.GDT 2/24/16

Bottom of hole at 3.05 m.



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PROJECT NUMBER <u>151-13953-00</u>	PROJECT LOCATION <u>Loudoun Road, Winnipeg, MB</u>
DATE STARTED <u>2/8/16</u> COMPLETED <u>2/8/16</u>	GROUND ELEVATION <u>100 m 100</u> HOLE SIZE <u>125 mm</u>
DRILLING CONTRACTOR <u>Maple Leaf Drilling</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>Continuous Auger</u>	AT TIME OF DRILLING <u>---</u>
LOGGED BY <u>Dana Bredin</u> CHECKED BY <u>Silvestre Urbano</u>	AT END OF DRILLING <u>---</u>
NOTES <u>CL of Road</u>	AFTER DRILLING <u>---</u>

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲										
							20	40	60	80							
		GRANULAR FILL - base course															
0.5		CLAY FILL - frost to 1.37 m															
1.0																	
1.5		CLAY - brown to grey, stiff SILTY at 2.13 m to 2.44m, inclusions below 2.44 m	PP = 175 kPa		175												
2.0																	
2.5																	
3.0			PP = 150 kPa		150												

GENERAL BH PLOTS - WSP LOUDOUN ROAD TESTHOLES.GPJ GINT STD CANADA.GDT 2/24/16

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 LOGGED BY Dana Bredin CHECKED BY Silvestre Urbano
 NOTES CL of NB Lane

PROJECT NAME 2016 Granular Renewals
 PROJECT LOCATION Loudoun Road, Winnipeg, MB
 GROUND ELEVATION 100 m 100 HOLE SIZE 125 mm
 GROUND WATER LEVELS:
 AT TIME OF DRILLING ---
 AT END OF DRILLING ---
 AFTER DRILLING ---

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲	
							PL	MC LL
0.5		GRANULAR FILL - base course						
1.0								
1.5		CLAY FILL - brown/grey mixed, frost to 1.52 m						
2.0		CLAY - grey, stiff	PP = 175 kPa		175			
2.5		SILTY at 1.83 m, tan-brown						
3.0			PP = 125 kPa		125			

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Bottom of hole at 3.05 m.



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 NOTES CL of SB Lane AFTER DRILLING --

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							20	40	60	80			
0.5		GRANULAR FILL - base course											
1.0		CLAY FILL - tan-brown, SILTY, frost to 1.52 m											
1.5		CLAY - brown to grey, stiff	PP = 175 kPa		175								
2.0													
2.5													
3.0			PP = 125 kPa		125								

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 LOGGED BY Dana Bredin CHECKED BY Silvestre Urbano AT END OF DRILLING ---
 NOTES CL of Road AFTER DRILLING ---

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲	
							PL	MC LL
							20 40 60 80	20 40 60 80
							□ FINES CONTENT (%) □	
							20 40 60 80	20 40 60 80
0.0 - 0.5		GRANULAR FILL - base course CLAY FILL - black, frost to 1.22 m						
0.5 - 1.22								
1.22 - 1.5		CLAY - brown to grey, stiff						
1.5 - 3.0			PP = 175 kPa		175			
3.0			PP = 100 kPa		100			

GENERAL BH PLOTS - WSP - LOUDOUN ROAD TESTHOLES.GPJ GINT STD CANADA.GDT 2/24/16

Bottom of hole at 3.05 m.



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 LOGGED BY Dana Bredin CHECKED BY Silvestre Urbano AT END OF DRILLING ---
 NOTES CL of NB Lane AFTER DRILLING ---

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲		
							20	40	60
0.0 - 0.5		GRANULAR FILL - base course							
0.5 - 1.0		CLAY FILL - black							
1.0 - 2.0		SILT - tan-brown, frost to 1.22 m, moist at 1.52 m, soft	PP = 10 kPa		10				
2.0 - 3.0		CLAY - brown to grey, stiff	PP = 125 kPa		125				

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 DRILLING METHOD Continuous Auger AT TIME OF DRILLING ---
 LOGGED BY Dana Bredin CHECKED BY Silvestre Urbanp AT END OF DRILLING ---
 NOTES CL of SB Lane AFTER DRILLING ---

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	TESTS AND REMARKS	BLOW COUNTS (N VALUE)	POCKET PEN. (kPa)	MOISTURE CONTENT (%)	▲ SPT N VALUE ▲	
							PL	MC
							20	40 60 80
							20	40 60 80
								□ FINES CONTENT (%) □
							20	40 60 80
0.0 - 0.1		GRANULAR FILL - base course						
0.1 - 1.5		CLAY FILL - black, frost to 1.22 m						
1.5 - 2.5		SILT - tan-brown, moist, soft	PP = 10 kPa		10			
2.5 - 3.0		CLAY - brown, stiff	PP = 150 kPa		150			

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Bottom of hole at 3.05 m.

MOISTURE CONTENT OF SOIL (ASTM D2216)

CLIENT: WSP		TEST NO: 1		PROJECT NO: 103-1602	
PROJECT: Loudon Rd		DATE SAMPLED:		SAMPLED BY:	
PROJECT CONTACT:		DATE TESTED:		TESTED BY:	
Hole	1	1	1	1	1
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	141.20	100.60	81.60	90.40	104.10
Wt Dry Sample + Tare	122.70	80.20	63.80	69.90	83.10
Wt Water	18.50	20.30	17.80	20.50	20.90
Wt Tare	4.40	4.60	4.30	5.10	5.00
Wt Dry Sample	118.30	75.60	59.50	64.80	78.10
Moisture Content (%)	15.7	26.9	29.9	31.6	26.9
Hole	1	1	1		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	141.10	173.40	92.30		
Wt Dry Sample + Tare	114.30	140.10	64.10		
Wt Water	26.80	33.20	28.10		
Wt Tare	4.30	4.40	4.40		
Wt Dry Sample	110.00	135.70	59.70		
Moisture Content (%)	24.4	24.5	47.1		
Hole	2	2	2	2	2
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	96.60	113.90	89.00	76.10	100.50
Wt Dry Sample + Tare	89.00	95.20	75.40	61.60	80.20
Wt Water	7.50	18.60	13.60	14.40	20.20
Wt Tare	4.30	4.30	4.20	4.60	4.20
Wt Dry Sample	84.70	90.90	71.20	57.00	76.00
Moisture Content (%)	9.0	20.5	19.1	25.3	26.6
Hole	2	2	2		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	132.20	115.70	96.00		
Wt Dry Sample + Tare	108.30	84.40	67.20		
Wt Water	23.90	31.30	28.70		
Wt Tare	4.20	4.30	4.20		
Wt Dry Sample	104.10	80.10	63.00		
Moisture Content (%)	23.0	39.2	45.6		

MOISTURE CONTENT OF SOIL (ASTM D2216)

CLIENT: WSP		TEST NO: 1		PROJECT NO: 103-1602	
PROJECT: Loudon Rd		DATE SAMPLED:		SAMPLED BY:	
PROJECT CONTACT:		DATE TESTED:		TESTED BY:	
Hole	3	3	3	3	3
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	94.90	137.50	96.50	106.50	84.80
Wt Dry Sample + Tare	88.10	125.60	87.30	87.20	60.90
Wt Water	6.80	11.80	9.10	19.20	23.90
Wt Tare	4.30	4.20	4.20	4.50	4.20
Wt Dry Sample	83.80	121.40	83.10	82.70	56.60
Moisture Content (%)	8.1	9.7	11.0	23.3	42.3
Hole	3	3	3		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	88.10	103.70	101.70		
Wt Dry Sample + Tare	68.10	74.80	67.60		
Wt Water	20.00	28.90	34.00		
Wt Tare	4.50	4.30	4.40		
Wt Dry Sample	63.60	70.50	63.20		
Moisture Content (%)	31.5	40.9	53.9		
Hole	4	4	4	4	4
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	134.60	93.60	124.70	115.10	95.70
Wt Dry Sample + Tare	124.80	77.40	99.80	81.70	68.10
Wt Water	9.80	16.20	24.90	33.40	27.60
Wt Tare	4.20	4.70	4.80	4.30	4.20
Wt Dry Sample	120.60	72.70	95.00	77.40	63.90
Moisture Content (%)	8.2	22.3	26.3	43.2	43.3
Hole	4	4	4		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	100.20	96.70	117.10		
Wt Dry Sample + Tare	71.20	69.10	77.70		
Wt Water	28.90	27.50	39.40		
Wt Tare	4.20	4.10	4.20		
Wt Dry Sample	67.00	65.00	73.40		
Moisture Content (%)	43.2	42.3	53.7		

MOISTURE CONTENT OF SOIL (ASTM D2216)

CLIENT: WSP		TEST NO: 1		PROJECT NO: 103-1602	
PROJECT: Loudon Rd		DATE SAMPLED:		SAMPLED BY:	
PROJECT CONTACT:		DATE TESTED:		TESTED BY:	
Hole	5	5	5	5	5
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	160.70	150.80	152.00	146.70	145.30
Wt Dry Sample + Tare	154.90	114.10	115.00	109.40	108.00
Wt Water	5.70	36.70	37.00	37.30	37.30
Wt Tare	4.30	4.30	4.60	4.30	4.20
Wt Dry Sample	150.60	109.80	110.40	105.10	103.80
Moisture Content (%)	3.9	33.4	33.5	35.5	35.9
Hole	5	5	5		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	152.20	164.50	145.30		
Wt Dry Sample + Tare	108.50	118.00	97.30		
Wt Water	43.70	46.50	48.00		
Wt Tare	4.30	4.50	4.30		
Wt Dry Sample	104.20	113.50	93.00		
Moisture Content (%)	41.9	41.0	51.6		
Hole	6	6	6	6	6
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	160.30	147.80	156.40	146.00	158.20
Wt Dry Sample + Tare	155.10	113.80	120.30	111.10	119.30
Wt Water	5.20	34.00	36.10	34.90	38.90
Wt Tare	4.30	4.60	4.20	4.20	4.20
Wt Dry Sample	150.80	109.20	116.10	106.90	115.10
Moisture Content (%)	3.4	31.1	31.1	32.6	33.8
Hole	6	6	6		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	153.70	172.00	156.50		
Wt Dry Sample + Tare	108.80	123.00	108.30		
Wt Water	44.90	49.00	48.20		
Wt Tare	4.30	4.20	4.20		
Wt Dry Sample	104.50	118.80	104.10		
Moisture Content (%)	43.0	41.2	46.3		

MOISTURE CONTENT OF SOIL (ASTM D2216)

CLIENT: WSP		TEST NO: 1		PROJECT NO: 103-1602	
PROJECT: Loudon Rd		DATE SAMPLED:		SAMPLED BY:	
PROJECT CONTACT:		DATE TESTED:		TESTED BY:	
Hole	7	7	7	7	7
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	173.50	147.30	159.00	151.90	155.50
Wt Dry Sample + Tare	164.70	115.40	130.20	124.70	126.70
Wt Water	8.80	31.90	28.80	27.20	28.80
Wt Tare	4.40	4.20	4.20	4.60	4.30
Wt Dry Sample	160.30	111.20	126.00	120.10	122.40
Moisture Content (%)	5.5	28.7	22.9	22.6	23.5
Hole	7	7	7		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	176.60	162.90	154.40		
Wt Dry Sample + Tare	129.20	115.10	101.70		
Wt Water	47.40	47.80	52.70		
Wt Tare	4.60	4.40	4.30		
Wt Dry Sample	124.60	110.70	97.40		
Moisture Content (%)	38.0	43.2	54.1		
Hole	8	8	8	8	8
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	175.60	171.00	143.60	180.20	153.40
Wt Dry Sample + Tare	161.10	146.90	118.10	146.80	116.40
Wt Water	14.50	24.10	25.50	33.40	37.00
Wt Tare	4.50	4.20	4.20	4.40	4.20
Wt Dry Sample	156.60	142.70	113.90	142.40	112.20
Moisture Content (%)	9.3	16.9	22.4	23.5	33.0
Hole	8	8	8		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	156.70	169.80	157.60		
Wt Dry Sample + Tare	111.60	120.20	103.90		
Wt Water	45.10	49.60	53.70		
Wt Tare	4.40	4.20	4.40		
Wt Dry Sample	107.20	116.00	99.50		
Moisture Content (%)	42.1	42.8	54.0		

MOISTURE CONTENT OF SOIL (ASTM D2216)

CLIENT: WSP		TEST NO: 1		PROJECT NO: 103-1602	
PROJECT: Loudon Rd		DATE SAMPLED:		SAMPLED BY:	
PROJECT CONTACT:		DATE TESTED:		TESTED BY:	
Hole	9	9	9	9	9
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	109.80	113.80	111.60	77.70	119.80
Wt Dry Sample + Tare	104.50	91.50	84.30	58.90	90.70
Wt Water	5.30	22.20	27.30	18.70	29.00
Wt Tare	4.30	4.20	4.20	4.30	4.30
Wt Dry Sample	100.20	87.30	80.10	54.60	86.40
Moisture Content (%)	5.3	25.5	34.1	34.3	33.6
Hole	9	9	9		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	113.70	132.10	119.30		
Wt Dry Sample + Tare	81.70	92.60	81.80		
Wt Water	32.00	39.40	37.40		
Wt Tare	4.30	4.30	4.30		
Wt Dry Sample	77.40	88.30	77.40		
Moisture Content (%)	41.4	44.6	48.4		
Hole	10	10	10	10	10
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	195.20	94.50	107.90	97.40	90.30
Wt Dry Sample + Tare	187.80	81.40	88.90	71.40	66.20
Wt Water	7.40	13.00	18.90	26.00	24.10
Wt Tare	4.40	4.30	4.30	4.60	4.20
Wt Dry Sample	183.40	77.10	84.60	66.80	62.00
Moisture Content (%)	4.0	17.0	22.4	38.9	38.9
Hole	10	10	10		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	100.20	134.60	117.40		
Wt Dry Sample + Tare	71.80	95.60	81.00		
Wt Water	28.30	38.90	36.30		
Wt Tare	4.30	4.20	4.60		
Wt Dry Sample	67.50	91.40	76.40		
Moisture Content (%)	42.0	42.6	47.6		

MOISTURE CONTENT OF SOIL (ASTM D2216)

CLIENT: WSP		TEST NO: 1		PROJECT NO: 103-1602	
PROJECT: Loudon Rd		DATE SAMPLED:		SAMPLED BY:	
PROJECT CONTACT:		DATE TESTED:		TESTED BY:	
Hole	11	11	11	11	11
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	159.70	151.70	150.30	160.30	159.50
Wt Dry Sample + Tare	151.40	133.50	126.30	126.70	127.90
Wt Water	8.20	18.20	24.00	33.60	31.60
Wt Tare	4.60	4.20	4.30	4.20	4.20
Wt Dry Sample	146.80	129.30	122.00	122.50	123.70
Moisture Content (%)	5.7	14.1	19.7	27.4	25.5
Hole	11	11	11		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	144.30	153.10	158.90		
Wt Dry Sample + Tare	106.20	109.30	107.30		
Wt Water	38.10	43.80	51.60		
Wt Tare	4.50	4.20	4.20		
Wt Dry Sample	101.70	105.10	103.10		
Moisture Content (%)	37.5	41.7	50.0		
Hole	12	12	12	12	12
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	152.90	152.70	148.50	157.90	152.90
Wt Dry Sample + Tare	125.50	112.70	110.00	116.10	113.60
Wt Water	27.40	40.00	38.50	41.80	39.30
Wt Tare	4.40	4.30	4.40	4.20	4.20
Wt Dry Sample	121.10	108.40	105.60	111.90	109.40
Moisture Content (%)	22.6	36.9	36.5	37.4	35.9
Hole	12	12	12		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	170.30	158.10	166.40		
Wt Dry Sample + Tare	118.70	109.70	113.20		
Wt Water	51.60	48.40	53.20		
Wt Tare	4.40	4.20	4.20		
Wt Dry Sample	114.30	105.50	109.00		
Moisture Content (%)	45.1	45.9	48.8		

MOISTURE CONTENT OF SOIL (ASTM D2216)

CLIENT: WSP		TEST NO: 1		PROJECT NO: 103-1602	
PROJECT: Loudon Rd		DATE SAMPLED:		SAMPLED BY:	
PROJECT CONTACT:		DATE TESTED:		TESTED BY:	
Hole	13	13	13	13	13
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	153.40	175.90	153.60	160.50	181.10
Wt Dry Sample + Tare	145.60	138.60	122.60	128.20	148.00
Wt Water	7.80	37.30	31.00	32.30	33.10
Wt Tare	4.60	4.20	4.20	4.30	4.30
Wt Dry Sample	141.00	134.40	118.40	123.90	143.70
Moisture Content (%)	5.5	27.8	26.2	26.1	23.0
Hole	13	13	13		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	162.60	155.90	154.60		
Wt Dry Sample + Tare	126.40	111.00	105.00		
Wt Water	36.20	44.90	49.60		
Wt Tare	4.30	4.20	4.30		
Wt Dry Sample	122.10	106.80	100.70		
Moisture Content (%)	29.6	42.0	49.3		
Hole	14	14	14	14	14
Depth (ft)	1.00	2.00	3.00	4.00	5.00
Tare No:	159	160	161		
Wt Wet Sample + Tare	162.10	150.40	154.80	149.20	150.30
Wt Dry Sample + Tare	150.30	108.10	118.20	115.90	115.90
Wt Water	11.80	42.30	36.60	33.30	34.40
Wt Tare	4.60	4.20	4.20	4.50	4.20
Wt Dry Sample	145.70	103.90	114.00	111.40	111.70
Moisture Content (%)	8.1	40.7	32.1	29.9	30.8
Hole	14	14	14		
Depth (ft)	6.00	7.00	10.00		
Tare No:	159	160	161		
Wt Wet Sample + Tare	184.90	179.00	157.90		
Wt Dry Sample + Tare	151.10	148.00	114.70		
Wt Water	33.80	31.00	43.20		
Wt Tare	4.20	4.60	4.30		
Wt Dry Sample	146.90	143.40	110.40		
Moisture Content (%)	23.0	21.6	39.1		