Appendix B-6

Detailed Soil Classification

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1000.0	2.0	1002.0	Glaciolacustrine Deposits	Mudstone	20		2:1	Standard	0.3			
1002.0				Mudstone	20	Creek				Culvert		
1002.0	6.0	1008	Glaciolacustrine Deposits	Mudstone	5		2:1	Standard	0.3			
1008.0				Mudstone	5	Creek				Culvert		
1008.0	2.2	1010.2	Glaciolacustrine Deposits	Mudstone	5		2:1	Standard	0.3			
1010.2				Mudstone	5	Creek				Culvert		
1010.2	1.6	1011.8	Glaciolacustrine Deposits	Mudstone	5		2:1	Standard	0.3			
1011.8				Mudstone	5	Creek				Culvert		
1011.8	0.7	1012.5	Glaciolacustrine Deposits	Mudstone	5		2:1	Standard	0.3			
1012.5				Mudstone	5	Creek				Culvert		
1012.5	3.9	1016.4	Glaciolacustrine Deposits	Mudstone	5		2:1	Standard	0.3			
1016.4				Mudstone	5	Creek				Culvert		
1016.4	2.6	1019	Glaciolacustrine Deposits	Mudstone	5		2.5:1	Standard	0.3			
1019.0				Mudstone	5	Creek				Culvert		
1019.0	1.5	1020.5	Glaciolacustrine Deposits	Mudstone	5		2:1	Standard	0.3			
1020.5				Mudstone	5	Creek				Culvert		
1020.5	1.5	1022.0	Glaciolacustrine Deposits	Mudstone	5		2:1	Standard	0.3			
1022.0				Mudstone	5	Creek				Culvert		
1022.0	0.3	1022.3	Glaciolacustrine Deposits	Mudstone	5		2:1	Standard	0.3			
1022.3	0.9	1023.2	Moraine	Mudstone	5		2:1	Standard	0.5			
1023.2	2.2	1025.4	Organic Deposits	Mudstone	5		4:1	Standard	0		yes	
1025.4	2.6	1028.0	Moraine	Sandstone	10		2:1	Standard	0.5			
1028.0	3.0	1031.0	Organic Deposits	Sandstone	10		4:1	Standard	0		yes	
1031.0	2.2	1033.2	Moraine	Sandstone	10		2:1	Standard	0.5			
1033.2	1.4	1034.6	Organic Deposits	Sandstone	10		4:1	Standard	0		yes	
1034.6	6.8	1041.4	Moraine	Sandstone	10		2:1	Standard	0.5			
1041.4	0.1	1041.5		Sandstone	10	Dover River				Bridge		Deep Piles
1041.5	0.5	1042.0	Moraine	Sandstone	10		2.5:1	Standard	0.5			
1042.0	1.6	1043.6	Fluted Moraine	Sandstone	10		2.5:1	Standard	0.5			
1043.6	7.7	1051.3	Moraine	Mudstone	20		2:1	Standard	0.5			
1051.3	1.6	1052.9	Organic Deposits	Mudstone	20		4:1	Standard	0		yes	
1052.9	0.3	1053.2	Moraine	Mudstone	20		2:1	Standard	0.5			
1053.2	3.4	1056.6	Organic Deposits	Mudstone	5		4:1	Standard	0		yes	
1056.6	0.1	1056.7	Moraine	Mudstone	5		2:1	Standard	0.5			
1056.7				Mudstone	5	Dunkirk River				Bridge		Shallow Piles
1056.7	0.5	1057.2	Moraine	Mudstone	5		2:1	Standard	0.5			

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
1057.2	3.3	1060.5	Organic Deposits	Mudstone	20		4:1	Standard	0		yes	
1060.5	2.5	1063.0	Moraine	Mudstone	20		2:1	Standard	0.5			
1063.0	5.0	1068.0	Moraine	Mudstone	20		2.5:1	Standard	0.5			
1068.0	6.0	1074.0	Moraine	Mudstone	20		2:1	Standard	0.5			
1074.0	1.0	1075.0	Moraine	Mudstone	20		2.5:1	Standard	0.5			
1075.0	1.0	1076.0	Moraine	Mudstone	20		3:1	Standard	0.5			
1076.0	1.0	1077.0	Moraine	Mudstone	20		2.5:1	Standard	0.5			
1077.0	0.9	1077.9	Moraine	Mudstone	20		2:1	Standard	0.5			
1077.9				Mudstone	20	Creek				Culvert		
1077.9	3.3	1081.2	Moraine	Mudstone	20		2:1	Standard	0.5			
1081.2	1.0	1082.2	Organic Deposits	Siltstone	10		4:1	Standard	0		yes	
1082.2	1.5	1083.7	Moraine	Siltstone	10		2.5:1	Standard	0.5			
1083.7	2.1	1085.8	Organic Deposits	Siltstone	5		4:1	Standard	0		yes	
1085.8	1.8	1087.6	Fluted Moraine	Siltstone	20		2.5:1	Standard	0.5			
1087.6				Siltstone	20	Creek				Culvert		
1087.6	2.3	1089.9	Fluted Moraine	Siltstone	20		2.5:1	Standard	0.5			
1089.9	0.4	1090.3	Stagnant Ice Moraine	Siltstone	20		2.5:1	Standard	0.5			
1090.3				Siltstone	20	Creek				Culvert		
1090.3	7.9	1098.2	Stagnant Ice Moraine	Siltstone	20		2.5:1	Standard	0.5			
1098.2				Siltstone	20	Creek				Culvert		
1098.2	3.5	1101.7	Organic Deposits	Siltstone	20		4:1	Standard	0		yes	
1101.7	3.8	1105.5	Moraine	Siltstone	20		3:1	Standard	0.5			
1105.5				Siltstone	20	Creek				Culvert		
1105.5	2.5	1108.0	Moraine	Siltstone	20		2:1	Standard	0.5			
1108.0	1.1	1109.1	Moraine	Siltstone	20		2.5:1	Standard	0.5			
1109.1	4.8	1113.9	Stagnant Ice Moraine	Siltstone	20		2.5:1	Standard	0.5			
1113.9				Siltstone	20	Seaforth Creek				Bridge		Shallow Piles
1113.9	1.1	1115.0	Stagnant Ice Moraine	Siltstone	20		2.5:1	Standard	0.5			
1115.0	1.0	1116.0	Stagnant Ice Moraine	Siltstone	20		3:1	Standard	0.5			
1116.0	8.0	1124.0	Stagnant Ice Moraine	Siltstone	20		2.5:1	Standard	0.5			
1124.0	1.2	1125.2	Stagnant Ice Moraine	Siltstone	20		3:1	Standard	0.5			
1125.2				Siltstone	20	Liege River				Bridge		Deep Piles
1125.2	5.4	1130.6	Stagnant Ice Moraine	Mudstone	20		2.5:1	Standard	0.5			
1130.6	3.7	1134.3	Organic Deposits	Mudstone	20		4:1	Standard	0		yes	
1134.3	1.3	1135.6	Glaciolacustrine Deposits	Mudstone	20		2.5:1	Standard	0.5			
1135.6	16.0	1151.6	Organic Deposits	Mudstone	20		4:1	Standard	0		yes	

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
1151.6				Mudstone	20	Creek				Culvert		
1151.6	1.8	1153.4	Organic Deposits	Mudstone	20		4:1	Standard	0		yes	
1153.4	11.1	1164.5	Stagnant Ice Moraine	Siltstone	70		2.5:1	Standard	0.5			
1164.5	3.3	1167.8	Organic Deposits	Siltstone	70		4:1	Standard	0		yes	
1167.8	1.7	1169.5	Stagnant Ice Moraine	Siltstone	70		3:1	Standard	0.5			
1169.5				Siltstone	70	Creek				Culvert		
1169.5	1.1	1170.6	Stagnant Ice Moraine	Siltstone	70		2.5:1	Standard	0.5			
1170.6	0.3	1170.9	Moraine	Siltstone	70		2:1	Standard	0.5			
1170.9	3.4	1174.3	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1174.3				Mudstone	50	Creek				Culvert		
1174.3	4.4	1178.7	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1178.7	1.2	1179.9	Moraine	Mudstone	50		2:1	Standard	0.5			
1179.9				Mudstone	50	Creek				Culvert		
1179.9	6.3	1186.2	Moraine	Mudstone	50		2:1	Standard	0.5			
1186.2	11.5	1197.7	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1197.7				Mudstone	50	Panny River				Bridge		Deep Piles
1197.7	1.4	1199.1	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1199.1				Mudstone	50	Creek				Culvert		
1199.1	6.6	1205.7	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1205.7				Mudstone	50	Creek				Culvert		
1205.7	4.0	1209.7	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1209.7				Mudstone	50	Creek				Culvert		
1209.7	23.0	1232.7	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1232.7				Mudstone	50	Owl Creek				Bridge		Deep Piles
1232.7	2.0	1234.7	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1234.7				Mudstone	50	Creek				Culvert		
1234.7	2.0	1236.7	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1236.7				Mudstone	50	Creek				Culvert		
1236.7	2.6	1239.3	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1239.3	1.7	1241.0	Moraine	Mudstone	50		2.5:1	Standard	0.5			
1241.0	2.7	1243.7	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1243.7	0.2	1243.9	Fluvial Deposits	Mudstone	50		2:1	Standard	0			
1243.9				Mudstone	50	Mikkwa River				Bridge		Deep Piles
1243.9	1.1	1245.0	Fluvial Deposits	Mudstone	50		2:1	Standard	0			
1245.0	6.1	1251.1	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1251.1	3.9	1255.0	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			

Terrain Analysis							Civil Design Features					
Start Mile Post	**Mileage**	**End Mile Post**	**Surficial Terrain**	**Bedrock Geology**	**Depth To Bedrock (m)**	**Features Requiring Civil Structures**	**Cut or Fill Slope (H:V)**	**Excavatability assessment**	**Topsoil Depth (m)**	**Civil Structure**	**Geotextile Required under Base**	**Foundations**
1255.0	1.0	1256.0	Glaciolacustrine Deposits	Mudstone	50		2.5:1	Standard	0.3			
1256.0	4.0	1260.0	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
1260.0	1.0	1261.0	Glaciolacustrine Deposits	Mudstone	50		2.5:1	Standard	0.3			
1261.0	3.5	1264.5	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
1264.5	0.5	1265.0	Glaciolacustrine Deposits	Mudstone	50		2.5:1	Standard	0.3			
1265.0	1.6	1266.6	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
1266.6	2.7	1269.3	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1269.3	1.1	1270.4	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
1270.4	7.8	1278.2	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1278.2	6.3	1284.5	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
1284.5				Mudstone	50	Mikkwa River				Bridge		Shallow Piles
1284.5	4.4	1288.9	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
1288.9	6.3	1295.2	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1295.2	4.6	1299.8	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
1299.8	4.1	1303.9	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1303.9	1.8	1305.7	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
1305.7	3.1	1308.8	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
1308.8	2.6	1311.4	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
1311.4	0.2	1311.6		Mudstone	50	Wabasca River				Bridge		Shallow Piles and Pier
1311.6	9.1	1320.7	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
END												

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
2000.0	0.7	2000.7	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
2000.7	1.0	2001.7	Organic Deposits	Mudstone	50		4:1	Standard	0		yes	
2001.7	0.6	2002.3	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
2002.3				Mudstone	50	Creek				Culvert		
2002.3	3.3	2005.6	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
2005.6				Mudstone	50	Bear River				Bridge		Shallow Piles
2005.6	10.3	2015.9	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.3			
2015.9				Mudstone	50	Road				Level Crossing		
2015.9	11.0	2026.9	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.6			
2026.9				Mudstone	50	Road				Level Crossing		
2026.9	0.6	2027.5	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.6			
2027.5				Mudstone	50	Road				Level Crossing		
2027.5	2.7	2030.2	Glaciolacustrine Deposits	Mudstone	50		2:1	Standard	0.6			
2030.2	0.8	2031.0	Fluvial Deposits	Mudstone	10		3:1	Standard	0			
2031.0	0.5	2031.5		Mudstone	10	Peace River				Bridge		Deep Piles with Piers
2031.5	2.4	2033.9	Glaciolacustrine Deposits	Mudstone	40		3:1	Standard	0.6			
2033.9	1.3	2035.2	Moraine	Mudstone	40		2:1	Standard	1			
2035.2				Mudstone	40	Caribou River				Bridge		Deep Piles
2035.2	5.3	2040.5	Moraine	Mudstone	40		3:1	Standard	1			
2040.5				Mudstone	40	Highway				Level Crossing with Signals		
2040.5	5.1	2045.6	Moraine	Mudstone	40		2:1	Standard	1			
2045.6				Mudstone	40	Road				Level Crossing		
2045.6	20.6	2066.2	Moraine	Mudstone	40		2:1	Standard	1			
2066.2				Mudstone	40	Ponton River				Bridge		Shallow Piles
2066.2	22.6	2088.8	Moraine	Mudstone	40		2:1	Standard	1			
2088.8	2.0	2090.8	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.6			
2090.8				Mudstone	40	Road				Level Crossing		
2090.8	0.1	2090.9	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.6			
2090.9	2.3	2093.2	Moraine	Mudstone	40		2:1	Standard	1			
2093.2	10.0	2103.2	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.6			
2103.2				Mudstone	40	Bushe River				Bridge		Shallow Piles
2103.2	7.0	2110.2	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.6			
2110.2				Mudstone	40	Road				Level Crossing		
2110.2	1.6	2111.8	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.6			
2111.8				Mudstone	40	CN Rail line				Level Crossing		
2111.8	0.2	2112	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.6			
2112.0				Mudstone	40	Highway				Level Crossing with Signals		
2112.0	1.5	2113.5	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.6			
2113.5	0.8	2114.3	Organic Deposits	Mudstone	40		4:1	Standard	0		yes	
2114.3				Mudstone	40	Creek				Culvert		
2114.3	0.9	2115.2	Organic Deposits	Mudstone	40		4:1	Standard	0		yes	
2115.2	8.3	2123.5	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.3			

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
2123.5				Mudstone	40	Creek				Culvert		
2123.5	3.5	2127	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.3			
2127.0				Mudstone	10	Creek				Culvert		
2127.0	4.8	2131.8	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2131.8				Mudstone	10	Creek				Culvert		
2131.8	1.2	2133	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2133.0				Mudstone	10	Creek				Culvert		
2133.0	5.2	2138.2	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2138.2				Mudstone	10	Melito Creek				Culvert		
2138.2	1.3	2139.5	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2139.5				Mudstone	10	Creek				Culvert		
2139.5	1.7	2141.2	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2141.2	1.8	2143	Moraine	Mudstone	10		2:1	Standard	0.5			
2143.0				Mudstone	10	Creek				Culvert		
2143.0	1.2	2144.2	Moraine	Mudstone	10		2:1	Standard	0.5			
2144.2				Mudstone	10	Creek				Culvert		
2144.2	1.8	2146	Moraine	Mudstone	10		2.5:1	Standard	0.5			
2146.0				Mudstone	10	Creek				Culvert		
2146.0	5.0	2151	Moraine	Mudstone	10		2:1	Standard	0.5			
2151.0				Mudstone	10	Creek				Culvert		
2151.0	3.4	2154.4	Moraine	Mudstone	10		2:1	Standard	0.5			
2154.4				Mudstone	10	Creek				Culvert		
2154.4	6.1	2160.5	Moraine	Mudstone	10		2:1	Standard	0.5			
2160.5	0.3	2160.8	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.3			
2160.8				Mudstone	40	Creek				Culvert		
2160.8	8.2	2169	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.3			
2169.0				Mudstone	40	Creek				Culvert		
2169.0	2.4	2171.4	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.3			
2171.4				Mudstone	40	Creek				Culvert		
2171.4	1.8	2173.2	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.3			
2173.2				Mudstone	40	Creek				Culvert		
2173.2	3.8	2177	Glaciolacustrine Deposits	Mudstone	40		2.5:1	Standard	0.3			
2177.0	1.0	2178	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.3			
2178.0	2.2	2180.2	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.3			
2180.2				Mudstone	40	Creek				Culvert		
2180.2	2.6	2182.8	Glaciolacustrine Deposits	Mudstone	40		2.5:1	Standard	0.3			
2182.8	0.1	2182.9		Mudstone	40	Chinchaga River				Bridge		Deep Piles with Pier
2182.9	1.4	2184.3	Fluvial Deposits	Mudstone	40		3:1	Standard	0			
2184.3	4.7	2189	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.3			
2189.0	2.4	2191.4	Organic Deposits	Mudstone	40		4:1	Standard	0		yes	
2191.4	2.5	2193.9	Glaciolacustrine Deposits	Mudstone	40		2:1	Standard	0.3			
2193.9				Mudstone	40	Sousa Creek				Bridge		Shallow Piles

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
2193.9	3.6	2197.5	Glaciolacustrine Deposits	Mudstone	30		2:1	Standard	0.3			
2197.5	1.5	2199	Glaciolacustrine Deposits	Mudstone	30		2.5:1	Standard	0.3			
2199.0				Mudstone	30	Creek				Culvert		
2199.0	0.7	2199.7	Glaciolacustrine Deposits	Mudstone	20		2:1	Standard	0.3			
2199.7	1.8	2201.5	Moraine	Mudstone	20		2:1	Standard	0.5			
2201.5	2.0	2203.5	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2203.5	1.0	2204.5	Moraine	Mudstone	10		2:1	Standard	0.5			
2204.5	3.9	2208.4	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2208.4	1.2	2209.6	Moraine	Mudstone	10		2:1	Standard	0.5			
2209.6	4.0	2213.6	Organic Deposits	Mudstone	10		4:1	Standard	0		yes	
2213.6	1.6	2215.2	Moraine	Mudstone	10		2:1	Standard	0.5			
2215.2	6.3	2221.5	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2221.5	4.0	2225.5	Organic Deposits	Mudstone	10		4:1	Standard	0		yes	
2225.5				Mudstone	10	Creek				Culvert		
2225.5	1.7	2227.2	Organic Deposits	Mudstone	10		4:1	Standard	0		yes	
2227.2				Mudstone	10	Creek				Culvert		
2227.2	1.5	2228.7	Organic Deposits	Mudstone	10		4:1	Standard	0		yes	
2228.7	0.8	2229.5	Moraine	Mudstone	10		2:1	Standard	0.5			
2229.5				Mudstone	10	Creek				Culvert		
2229.5	0.2	2229.7	Moraine	Mudstone	10		2:1	Standard	0.5			
2229.7	0.5	2230.2	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2230.2				Mudstone	10	Road				Level Crossing		
2230.2	1.3	2231.5	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2231.5				Mudstone	10	Creek				Culvert		
2231.5	2.0	2233.5	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2233.5				Mudstone	10	Creek				Culvert		
2233.5	1.5	2235	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2235.0				Mudstone	10	Creek				Culvert		
2235.0	3.8	2238.8	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2238.8				Mudstone	10	Creek				Culvert		
2238.8	13.6	2252.4	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2252.4				Mudstone	10	Creek				Culvert		
2252.4	1.9	2254.3	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2254.3				Mudstone	10	Creek				Culvert		
2254.3	3.0	2257.3	Glaciolacustrine Deposits	Mudstone	10		2.5:1	Standard	0.3			
2257.3				Mudstone	10	Creek				Culvert		
2257.3	3.6	2260.9	Glaciolacustrine Deposits	Mudstone	10		2.5:1	Standard	0.3			
2260.9				Mudstone	10	Creek				Culvert		
2260.9	4.2	2265.1	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2265.1				Mudstone	10	Creek				Culvert		
2265.1	4.2	2269.3	Glaciolacustrine Deposits	Mudstone	10		2:1	Standard	0.3			
2269.3				Mudstone	10	Creek				Culvert		

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
2269.3	1.9	2271.2	Glaciolacustrine Deposits	Mudstone	10		2.5:1	Standard	0.3			
2271.2				Mudstone	20	Creek				Culvert		
2271.2	0.8	2272	Glaciolacustrine Deposits	Mudstone	20		2:1	Standard	0.3			
2272.0				Mudstone	20	Creek				Culvert		
2272.0	4.7	2276.7	Glaciolacustrine Deposits	Mudstone	20		2:1	Standard	0.3			
2276.7				Mudstone	20	Creek				Culvert		
2276.7	2.8	2279.5	Glaciolacustrine Deposits	Mudstone	20		2:1	Standard	0.3			
2279.5				Mudstone	20	Fire Creek				Bridge		Shallow Piles
2279.5	3.5	2283	Glaciolacustrine Deposits	Mudstone	20		2.5:1	Standard	0.3			
2283.0	5.8	2288.8	Glaciolacustrine Deposits	Mudstone	20		2:1	Standard	0.3			
2288.8				Mudstone	20	Little Hay River				Bridge		Shallow Piles
2288.8	6.7	2295.5	Glaciolacustrine Deposits	Mudstone	20		2:1	Standard	0.3			
2295.5				Mudstone	20	Timberwolf Creek				Bridge		Shallow Piles
2295.5	3.0	2298.5	Glaciolacustrine Deposits	Mudstone	20		2:1	Standard	0.3			
2298.5	1.5	2300	Organic Deposits	Mudstone	20		4:1	Standard	0		yes	
2300.0				Mudstone	20	Creek				Culvert		
2300.0	8.0	2308	Organic Deposits	Mudstone	20		4:1	Standard	0		yes	
2308.0				Mudstone	20	Hay River				Bridge		Shallow Piles
2308.0	2.7	2310.7	Organic Deposits	Mudstone	20		4:1	Standard	0		yes	
2310.7				Mudstone	20	Creek				Culvert		
2310.7	3.8	2314.5	Organic Deposits	Mudstone	20		4:1	Standard	0		yes	
2314.5				Mudstone	20	Creek				Culvert		
2314.5	0.5	2315	Organic Deposits	Mudstone	20		4:1	Standard	0		yes	
2315.0	1.8	2316.8	Glaciolacustrine Deposits	Mudstone	20		2:1	Standard	0.3			
2316.8				Mudstone	20	Townsoitoi Creek				Bridge		Shallow Piles
2316.8	0.7	2317.5	Organic Deposits	Mudstone	20		4:1	Standard	0		yes	
2317.5	2.9	2320.4	Glaciolacustrine Deposits	Mudstone	20		2:1	Standard	0.3			
2320.4	12.6	2333	Organic Deposits	Mudstone	20		4:1	Standard	0		yes	
2333.0				Mudstone	20	Creek				Culvert		
2333.0	4.0	2337	Organic Deposits	Mudstone	20		4:1	Standard	0		yes	
2337.0				Mudstone	20	Creek				Culvert		
2337.0	2.7	2339.7	Glaciolacustrine Deposits	Mudstone	20		2:1	Standard	0.3			
2339.7				Mudstone	20	Kyklo Creek				Bridge		Shallow Piles
2339.7	15.3	2355	Glaciolacustrine Deposits	Mudstone	20		2:1	Standard	0.3			
2355.0	2.0	2357	Glaciolacustrine Deposits	Mudstone	20		2.5:1	Standard	0.3			
2357.0	5.0	2362	Organic Deposits	Shale	20		4:1	Standard	0		yes	
2362.0				Shale	20	Road				Level Crossing		
2362.0	14.9	2376.9	Organic Deposits	Shale	20		4:1	Standard	0		yes	
2376.9				Shale	20	Road				Level Crossing		
2376.9	0.2	2377.1	Organic Deposits	Shale	20		4:1	Standard	0		yes	
2377.1				Shale	20	Creek				Culvert		
2377.1	6.9	2384	Organic Deposits	Shale	20		4:1	Standard	0		yes	

Terrain Analysis							Civil Design Features					
Start Mile Post	**Mileage**	**End Mile Post**	**Surficial Terrain**	**Bedrock Geology**	**Depth To Bedrock (m)**	**Features Requiring Civil Structures**	**Fill Slope (H:V)**	**Excavatability assessment**	**Topsoil Depth (m)**	**Civil Structure**	**Geotextile Required under Base**	**Foundations**
2384.0				Shale	20	Creek				Culvert		
2384.0	2.0	2386	Organic Deposits	Shale	20		4:1	Standard	0		yes	
2386.0				Shale	20	Pipeline						
2386.0	5.0	2391	Organic Deposits	Shale	20		4:1	Standard	0		yes	
2391.0				Shale	20	Road				Level Crossing		
2391.0	1.0	2392	Organic Deposits	Shale	20		4:1	Standard	0		yes	
2392.0				Shale	20	Creek				Culvert		
END												

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
3000.0	3.5	3003.5	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3003.5				Shale	20	Creek				Culvert		
3003.5	2.1	3005.6	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3005.6	0.3	3005.9	Fluvial	Shale	20		2:1	Standard	0.3			
3005.9				Shale	20	Hoffard Creek				Bridge		Shallow Piles
3005.9	0.1	3006.0	Fluvial	Shale	20		2:1	Standard	0.3			
3006.0	9.6	3015.6	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3015.6	0.1	3015.7	Fluvial	Shale	20		3:1	Standard	0.3			
3015.7				Shale	20	Chuatse Creek					Bridge	Shallow Piles
3015.7	0.1	3015.8	Fluvial	Shale	20		3:1	Standard	0.3			
3015.8	3.4	3019.2	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3019.2				Shale	20	Creek				Culvert		
3019.2	1.3	3020.5	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3020.5	1.7	3022.2	Moraine	Shale	20		2.5:1	Standard	1			
3022.2				Shale	20	Creek				Culvert		
3022.2	0.3	3022.5	Moraine	Shale	20		2.5:1	Standard	1			
3022.5				Shale	20	Creek				Culvert		
3022.5	6.5	3029	Moraine	Shale	20		2:1	Standard	1			
3029.0				Shale	20	Utahn Creek				Bridge		Shallow Piles
3029.0	0.4	3029.4	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3029.4	0.4	3029.8	Moraine	Shale	20		2:1	Standard	1			
3029.8	0.3	3030.1	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3030.1	0.6	3030.7	Moraine	Shale	20		2:1	Standard	1			
3030.7	0.4	3031.1	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3031.1	0.6	3031.7	Moraine	Shale	20		2:1	Standard	1			
3031.7	0.4	3032.1	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3032.1	1.6	3033.7	Moraine	Shale	20		2:1	Standard	1			
3033.7	0.3	3034	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3034.0	1.1	3035.1	Moraine	Shale	20		2:1	Standard	1			
3035.1	0.2	3035.3	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3035.3	1.2	3036.5	Moraine	Shale	20		2:1	Standard	1			
3036.8	0.2	3037	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3037.0	1.9	3038.9	Moraine	Shale	20		2:1	Standard	1			
3038.9	0.5	3039.4	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3039.4	1.3	3040.7	Moraine	Shale	20		2:1	Standard	1			
3040.7				Shale	20	Creek				Culvert		
3040.7	0.9	3041.6	Moraine	Shale	20		2:1	Standard	1			
3041.6	0.1	3041.7	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3041.7	1.7	3043.4	Moraine	Shale	20		2:1	Standard	1			
3043.4				Shale	20	Creek				Culvert		
3043.4	3.6	3047	Moraine	Shale	20		2.5:1	Standard	1			
3048.0	0.2	3048.2	Colluvium	Shale	20		2.5:1	Standard	0.3			
3048.2	0.2	3048.4		Shale	20	Sahtaneh River				Bridge		Deep Piles
3048.4	0.4	3048.8	Fluvial	Shale	20		2:1	Standard	0.3			
3048.8	0.2	3049	Colluvium	Shale	20		2.5:1	Standard	0.3			
3049.0	0.6	3049.6	Moraine	Shale	20		2:1	Standard	1			
3049.6	0.2	3049.8	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3049.8	2.7	3052.5	Moraine	Shale	20		2:1	Standard	1			
3052.5				Shale	20	Creek				Culvert		
3052.5	0.1	3052.6	Moraine	Shale	20		2:1	Standard	1			
3052.6	0.3	3052.9	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3052.9	1.0	3053.9	Moraine	Shale	20		2:1	Standard	1			

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
3053.9	0.6	3054.5	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3054.5	0.9	3055.4	Moraine	Shale	20		2.5:1	Standard	1			
3055.4				Shale	20	Creek				Culvert		
3055.4	0.2	3055.6	Moraine	Shale	20		2.5:1	Standard	1			
3055.6	0.2	3055.8	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3055.8	0.3	3056.1	Moraine	Shale	20		2:1	Standard	1			
3056.1	0.4	3056.5	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3056.5	0.1	3056.6	Moraine	Shale	20		2:1	Standard	1			
3056.6	0.1	3056.7	Colluvium	Shale	20		2:1	Standard	0.3			
3056.7				Shale	20	Shush Creek				Bridge		Deep Piles
3056.7	0.1	3056.8	Colluvium	Shale	20		2:1	Standard	0.3			
3056.7	1.7	3058.4	Moraine	Shale	20		2:1	Standard	1			
3058.4	0.4	3058.8	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3058.8	4.7	3063.5	Moraine	Shale	20		2:1	Standard	1			
3063.5				Shale	20	Creek				Culvert		
3063.5	1.1	3064.6	Moraine	Shale	20		2:1	Standard	1			
3064.6	1.1	3065.7	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3065.7	0.6	3066.3	Moraine	Shale	20		2:1	Standard	1			
3066.3	0.2	3066.5	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3066.5	0.6	3067.1	Moraine	Shale	20		2:1	Standard	1			
3067.1	0.4	3067.5	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3067.5	0.4	3067.9	Moraine	Shale	20		2:1	Standard	1			
3067.9	0.2	3068.1	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3068.1	1.4	3069.5	Moraine	Shale	20		2:1	Standard	1			
3069.5	0.3	3069.8	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3069.8	1.3	3071.1	Moraine	Shale	20		2:1	Standard	1			
3071.1	1.6	3072.7	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3072.7	2.1	3074.8	Moraine	Shale	20		2:1	Standard	1			
3074.8				Shale	20	Creek				Culvert		
3074.8	0.8	3075.6	Moraine	Shale	20		2:1	Standard	1			
3075.6				Shale	20	Creek				Culvert		
3075.6	4.1	3079.7	Moraine	Shale	20		2:1	Standard	1			
3079.7				Shale	20	Creek				Culvert		
3079.7	3.1	3082.8	Moraine	Shale	20		2:1	Standard	1			
3082.8	0.2	3083	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3083.0	0.8	3083.8	Moraine	Shale	20		2:1	Standard	1			
3083.8	0.9	3084.7	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3084.7	0.2	3084.9	Moraine	Shale	20		2:1	Standard	1			
3084.9	2.4	3087.3	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3087.3	0.6	3087.9	Moraine	Shale	20		2:1	Standard	1			
3087.9	2.0	3089.9	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3089.9	2.0	3091.9	Moraine	Shale	20		2:1	Standard	1			
3091.9	0.2	3092.1	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3092.1	0.3	3092.4	Moraine	Shale	20		2:1	Standard	1			
3092.4	0.1	3092.5	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3092.5	0.4	3092.9	Moraine	Shale	20		2:1	Standard	1			
3092.9	0.3	3093.2	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3093.2	0.7	3093.9	Moraine	Shale	20		2:1	Standard	1			
3093.9	0.2	3094.1	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3094.1	0.4	3094.5	Moraine	Shale	20		2:1	Standard	1			
3094.5	0.4	3094.9	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3094.9	1.9	3096.8	Moraine	Shale	20		2.5:1	Standard	1			

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
3096.8	2.8	3099.6	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3099.6	0.9	3100.5	Moraine	Shale	20		2:1	Standard	1			
3100.5	1.7	3102.2	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3102.2	0.7	3102.9	Moraine	Shale	20		2:1	Standard	1			
3102.9				Shale	20	Creek				Culvert		
3102.9	7.0	3109.9	Moraine	Shale	20		2:1	Standard	1			
3109.9	0.1	3110		Shale	20	Kiwigana River				Bridge		Shallow Piles
3110.0	2.0	3112	Moraine	Shale	20		3:1	Standard	1			
3112.0				Conglomerate	20	Tsinhia Creek				Bridge		Shallow Piles
3112.0	2.7	3114.7	Moraine	Conglomerate	20		2.5:1	Standard	1			
3114.7				Conglomerate	20	Highway				Level Crossing with Signals		
3114.7	8.8	3123.5	Moraine	Conglomerate	20		2:1	Standard	1			
3123.5				Conglomerate	20	Creek				Culvert		
3123.5	0.6	3124.1	Moraine	Conglomerate	20		2:1	Standard	1			
3124.1	0.7	3124.8	Organic Deposits	Conglomerate	20		4:1	Standard	0.3		Yes	
3124.8	0.7	3125.5	Moraine	Conglomerate	20		2:1	Standard	1			
3125.5				Conglomerate	20	Creek				Culvert		
3125.5	2.0	3127.5	Moraine	Shale	20		2:1	Standard	1			
3127.5	0.1	3127.6	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3127.6	6.5	3134.1	Moraine	Shale	20		2:1	Standard	1			
3133.9	0.2	3134.1	Colluvium	Shale	20		3:1	Standard	0.3			
3134.1				Shale	20	Capot - Blanc Creek				Bridge		Deep Piles
3134.1	0.2	3134.3	Fluvial	Shale	20		3:1	Standard	0.3			
3134.3	0.5	3134.8	Colluvium	Shale	20		3:1	Standard	0.3			
3134.8	1.8	3136.6	Moraine	Shale	20		2.5:1	Standard	1			
3136.6	2.8	3139.4	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3139.4	2.4	3141.8	Moraine	Shale	20		2:1	Standard	1			
3141.8	1.8	3143.6	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3143.6	1.4	3145	Moraine	Shale	20		3:1	Standard	1			
3145.0				Shale	20	High Pressure Gas Pipeline						Shallow Piles
3145.0	1.0	3146	Moraine	Shale	20		3:1	Standard	1			
3146.0	6.6	3152.6	Glaciolacustrine	Shale	20		3:1	Standard	0.6			
3152.6	0.9	3153.5	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3153.5	0.2	3153.7	Glaciolacustrine	Shale	20		3:1	Standard	0.6			
3153.7				Shale	20	Creek				Culvert		
3153.7	0.2	3153.9	Glaciolacustrine	Shale	20		2.5:1	Standard	0.6			
3153.9	0.2	3154.1	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3154.1	1.1	3155.2	Glaciolacustrine	Shale	20		2:1	Standard	0.6			
3155.2	0.5	3155.7	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3155.7	1.1	3156.8	Glaciolacustrine	Shale	20		2:1	Standard	0.6			
3156.8	0.2	3157	Organic Deposits	Shale	20		4:1	Standard	0.3		Yes	
3157.0	5.9	3162.9	Glaciolacustrine	Shale	20		3:1	Standard	0.6			
3162.9	0.5	3163.4	Fluvial	Shale	10		3:1	Standard	0.3			
3163.4	0.2	3163.6	Organic Deposits	Shale	10		4:1	Standard	0.3		Yes	
3163.6	2.8	3166.4	Fluvial	Shale	5		3:1	Standard	0.3			
3166.4	0.5	3166.9		Shale	5	Liard River				Bridge with piers		Deep Piles
3166.9	0.5	3167.4	Colluvium	Shale	5		3:1	Standard	0.3			
3167.4	5.3	3172.7	Moraine	Shale	10		0.5:1	Standard/Rippable	1			
3172.7				Shale	10	Creek				Culvert		
3172.7	8.9	3181.6	Moraine	Sandstone	10		0.5:1	Standard/Rippable	1			
3181.6	2.9	3184.5	Colluvium	Siltstone	5		0.5:1	Standard/Rippable	0.3			
3183.2	2.7	3185.9	Moraine	Siltstone	10		0.5:1	Standard/Rippable	1			

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
3185.9				Siltstone	10	Creek				Culvert		
3185.9	1.0	3186.9	Moraine	Siltstone	10		3:1	Standard	1			
3186.9				Siltstone	10	Creek				Culvert		
3186.9	1.0	3187.9	Moraine	Siltstone	10		3:1	Standard	1			
3187.9	0.6	3188.5	Colluvium	Siltstone	2		3:1	Standard	0.3			
3188.5				Siltstone	2	Creek				Culvert		
3188.5	0.3	3188.8	Colluvium	Siltstone	2		3:1	Standard	0.3			
3188.8	2.6	3191.4	Moraine	Siltstone	10		0.5:1	Standard/Rippable	1			
3191.4	0.3	3191.7	Colluvium	Siltstone	2		0.5:1	Standard/Rippable	0.3			
3191.5	2.0	3193.5	Fluvial	Siltstone	5		3:1	Standard	0.3			
3193.5	0.1	3193.6		Siltstone	2	Beaver River				Bridge		Deep Piles
3193.6	0.1	3193.7	Fluvial	Siltstone	5		3:1	Standard	0.3			
3193.7	3.2	3196.9	Colluvium	Siltstone	2		3:1	Standard	0.3			
3196.9	1.9	3198.8	Glaciolacustrine	Siltstone	10		3:1	Standard	0.6			
3198.8				Siltstone	10	Creek				Culvert		
3198.8	2.9	3201.7	Glaciolacustrine	Siltstone	10		2.5:1	Standard	0.6			
3201.7	3.2	3204.9	Colluvium	Sandstone	2		0.5:1	Standard/Rippable	0.3			
3204.9	0.1	3205	Glaciolacustrine	Shale	5		0.5:1	Standard/Rippable	0.6			
3205.0	0.1	3205.1	Organic Deposits	Sandstone	5		0.5:1	Standard/Rippable	0.3		Yes	
3205.1	0.6	3205.7	Glaciolacustrine	Sandstone	5		0.5:1	Standard/Rippable	0.6			
3205.7	1.7	3207.4	Organic Deposits	Shale	5		0.5:1	Standard/Rippable	0.3		Yes	
3207.4				Shale	5	Creek				Culvert		
3207.4	0.1	3207.5	Organic Deposits	Shale	5		0.5:1	Standard/Rippable	0.3		Yes	
3207.5	4.7	3212.2	Glaciolacustrine	Shale	5		3:1	Standard	0.6			
3212.2	0.4	3212.6	Colluvium	Shale	2		2:1	Standard	0.3			
3212.6	0.1	3212.7	Fluvial	Shale	2		2:1	Standard	0.3			
3212.7				Shale	2	Tussock Creek				Bridge		Deep Piles
3212.7	0.3	3213	Fluvial	Shale	2		2:1	Standard	0.3			
3213.0	0.7	3213.7	Colluvium	Shale	2		3:1	Standard	0.3			
3213.7	0.4	3214.1	Glaciolacustrine	Shale	5		3:1	Standard	0.6			
3214.1	0.7	3214.8	Organic Deposits	Shale	5		4:1	Standard	0.3		Yes	
3214.8	0.3	3215.1	Glaciolacustrine	Shale	5		2.5:1	Standard	0.6			
3215.1	0.6	3215.7	Colluvium	Shale	2		3:1	Standard	0.3			
3215.7				Shale	2	Creek				Culvert		
3215.7	0.7	3216.4	Colluvium	Shale	2		3:1	Standard	0.3			
3216.4	0.4	3216.8	Glaciolacustrine	Shale	5		3:1	Standard	0.6			
3216.8	0.3	3217.1	Organic Deposits	Shale	5		4:1	Standard	0.3		Yes	
3217.1	0.3	3217.4	Glaciolacustrine	Shale	5			Standard	0.6			
3217.4	0.7	3218.1	Organic Deposits	Shale	5		4:1	Standard	0.3		Yes	
3218.1	0.3	3218.4	Glaciolacustrine	Shale	5		2:1	Standard	0.6			
3218.4				Shale	5	Creek				Culvert		
3218.2	1.2	3219.4	Glaciolacustrine	Shale	5		3:1	Standard	0.6			
3219.4				Shale	5	Creek				Culvert		
3219.4	0.2	3219.6	Glaciolacustrine	Shale	5		3:1	Standard	0.6			
3219.6	0.3	3219.9	Organic Deposits	Shale	5		4:1	Standard	0.3		Yes	
3219.9	0.4	3220.3	Glaciolacustrine	Shale	5		2.5:1	Standard	0.6			
3220.3	0.6	3220.9	Organic Deposits	Shale	5		4:1	Standard	0.3		Yes	
3220.9	0.5	3221.4	Glaciolacustrine	Shale	5		0.5:1	Standard/Rippable	0.6			
3221.4	0.2	3221.6	Organic Deposits	Shale	5		4:1	Standard	0.3		Yes	
3221.6	0.2	3221.8	Glaciolacustrine	Shale	5		0.5:1	Standard/Rippable	0.6			
3221.8				Shale	5	Creek				Culvert		
3221.8	0.2	3222	Glaciolacustrine	Shale	5		2:1	Standard	0.6			
3222.0	0.3	3222.3	Organic Deposits	Shale	5		4:1	Standard	0.3		Yes	
3222.3	0.6	3222.9	Glaciolacustrine	Shale	5		2.5:1	Standard	0.6			

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
3222.9				Shale	5	Creek				Culvert		
3222.9	2.9	3225.8	Glaciolacustrine	Shale	5		3:1	Standard	0.6			
3225.8				Shale	5	Creek				Culvert		
3225.8	1.1	3226.9	Glaciolacustrine	Shale	5		3:1	Standard	0.6			
3226.9	3.5	3230.4	Moraine	Sandstone	5		0.5:1	Standard/Rippable	1			
3230.4	0.3	3230.7	Colluvium	Shale	2		0.5:1	Standard/Rippable	0.3			
3230.7	0.2	3230.9	Moraine	Shale	5		0.5:1	Standard/Rippable	1			
3230.9	2.5	3233.4	Colluvium	Sandstone	2		0.5:1	Standard/Rippable	0.3			
3233.4	1.2	3234.6	Bedrock	Shale	0		0.5:1	Rippable				
3234.6	1	3235.6	Moraine Veneer	Shale	2		0.5:1	Standard/Rippable	1			
3235.6					0	Creek				Culvert		
3235.6	0.6	3236.2	Moraine Veneer	Chert	2		0.5:1	Standard/Blasting Close Pattern	1			
3236.2	0.6	3236.8	Bedrock	Chert	0		0.5:1	Blasting Close Pattern				
3236.8	0.5	3237.3	Moraine Veneer	Sandstone	2		3:1	Standard	1			
3237.3	0.9	3238.2	Bedrock	Sandstone	0		0.5:1	Rippable				
3238.2	1.5	3239.7	Moraine Veneer	Sandstone	2		3:1	Standard	1			
3239.7	0.7	3240.4	Bedrock	Sandstone	0		0.5:1	Rippable				
3240.4	3.6	3244	Colluvium	Sandstone	2		2.5:1	Standard	0.3			
3244.0				Shale	2	Creek				Culvert		
3244.0	0.9	3244.9	Moraine Veneer	Shale	2		3:1	Standard	1			
3244.9				Shale	2	Creek				Culvert		
3244.9	1.6	3246.5	Moraine Veneer	Shale	2		3:1	Standard	1			
3246.5				Shale	2	Creek				Culvert		
3246.5	1	3247.5	Moraine Veneer	Shale	2		3:1	Standard	1			
3247.5	0.9	3248.4	Colluvium	Shale	2		0.5:1	Standard/Rippable	0.3			
3248.4	2.6	3251	Moraine Veneer	Shale	2		0.5:1	Standard/Rippable	1			
3251.0	1.2	3252.2	Colluvium	Shale	2		0.5:1	Standard/Rippable	0.3			
3252.2	0.5	3252.7	Moraine Veneer	Shale	2		0.5:1	Standard/Rippable	1			
3252.7	0.2	3252.9	Fluvial	Shale	2		3:1	Standard	0.3			
3252.9				Shale	2	Creek				Culvert		
3253.0	0.05	3253.05	Fluvial	Shale	2		3:1	Standard	0.3			
3253.1	2.371	3255.5	Moraine Veneer	Chert	2		0.5:1	Standard/Blasting Close Pattern	1			
3255.5	1.9	3257.4	Colluvium	Shale	2		0.5:1	Standard/Rippable	0.3			
3257.4	0.7	3258.1	Moraine Veneer	Shale	2		3:1	Standard	1			
3258.1				Shale	2	Creek				Culvert		
3258.1	0.4	3258.5	Moraine Veneer	Shale	2		3:1	Standard	1			
3258.5	2.5	3261	Colluvium	Shale	2		0.5:1	Standard/Rippable	0.3			
3261.0	0.5	3261.5	Moraine Veneer	Shale	2		0.5:1	Standard/Rippable	1			
3261.5				Shale	2	Creek				Culvert		
3261.5	3.6	3265.1	Moraine Veneer	Shale	2		3:1	Standard	1			
3265.1				Shale	2	Creek				Culvert		
3265.1	0.9	3266	Moraine Veneer	Shale	2		0.5:1	Standard/Rippable	1			
3266.0	2.2	3268.2	Colluvium	Chert	2		0.5:1	Standard/Blasting Close Pattern	0.3			
3268.2				Sandstone	2	Creek				Culvert		
3268.2	5.8	3274	Colluvium	Sandstone	2		0.5:1	Standard/Rippable	0.3			
3274.0	0.4	3274.4	Fluvial	Shale	5		3:1	Standard	0.3			
3274.4	0.157	3274.56		Shale	2	Crow River				Bridge		Deep Piles
3274.6	0.743	3275.3	Fluvial	Shale	5		3:1	Standard	0.3			
3275.2	0.1	3275.3	Colluvium	Shale	2		3:1	Standard	0.3			
3275.3	2	3277.3	Moraine Veneer	Shale	2		0.5:1	Standard/Rippable	1			
3277.3	1.3	3278.6	Colluvium	Shale	2		0.5:1	Standard/Rippable	0.3			
3278.6	0.5	3279.1	Moraine Veneer	Shale	2		3:1	Standard	1			
3279.1	0.2	3279.3	Fluvial	Shale	5		3:1	Standard	0.3			
3279.3				Shale	2	Creek				Culvert		
3279.3	0.2	3279.5	Fluvial	Shale	5		3:1	Standard	0.3			

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
3279.5	1.7	3281.2	Moraine Veneer	Shale	2		2.5:1	Standard	1			
3281.2	0.8	3282	Bedrock	Shale	0		0.5:1	Rippable				
3282.0	0.8	3282.8	Colluvium	Shale	2		0.5:1	Standard/Rippable	0.3			
3282.8	0.4	3283.2	Bedrock	Dolomite	0		0.5:1	Blasting Wide Pattern				
3283.2	0.5	3283.7	Colluvium	Dolomite	2		0.5:1	Standard/Blasting Wide Pattern	0.3			
3283.7				Dolomite	2	Creek				Culvert		
3283.7	0.1	3283.8	Fluvial	Dolomite	2		3:1	Standard	0.3			
3283.8	0.1	3283.9	Bedrock	Dolomite	0		0.5:1	Blasting Wide Pattern				
3283.9	0.3	3284.2	Colluvium	Dolomite	2		3:1	Standard	0.3			
3284.2	0.1	3284.3	Bedrock	Dolomite	0		1.5:1	Blasting Wide Pattern				
3284.3	3.3	3287.6	Moraine Veneer	Dolomite	2		0.5:1	Standard/Blasting Wide Pattern	1			
3287.6	0.3	3287.9	Bedrock	Dolomite	0		0.5:1	Blasting Wide Pattern				
3287.9	1.1	3289	Colluvium	Dolomite	2		0.5:1	Standard/Blasting Wide Pattern	0.3			
3289.5	0.3	3289.8	Fluvial	Shale	5		2:1	Standard	0.3			
3289.8				Shale	2	Crow River				Bridge		Deep Piles
3289.8	0.2	3290	Fluvial	Shale	5		2:1	Standard	0.3			
3290.0	4.3	3294.3	Moraine Veneer	Shale	2		0.5:1	Standard/Rippable	1			
3294.3	1.7	3296	Colluvium	Shale	2		0.5:1	Standard/Rippable	0.3			
3296.0	1.6	3297.6	Moraine Veneer	Shale	2		0.5:1	Standard/Rippable	1			
3297.6	6.6	3304.2	Glaciofluvial	Shale	5		0.5:1	Standard/Rippable	0.6			
3304.2				Shale	2	Creek				Culvert		
3304.2	0.3	3304.5	Fluvial	Dolomite	5		0.5:1	Standard/Blasting Wide Pattern	0.3			
3304.5	0.4	3304.9	Colluvium	Dolomite	2		0.5:1	Standard/Blasting Wide Pattern	0.3			
3304.9	3	3307.9	Moraine Veneer	Dolomite	2		0.5:1	Standard/Blasting Wide Pattern	1			
3307.9	0.2	3308.1	Colluvium	Dolomite	2		0.5:1	Standard/Blasting Wide Pattern	0.3			
3308.1	6.2	3314.3	Glaciofluvial	Dolomite	5		0.5:1	Standard/Blasting Wide Pattern				
3314.3				Dolomite	5	Tropical Creek				Bridge		Shallow Piles
3314.3	0.5	3314.8	Colluvium	Dolomite	2		3:1	Standard	0.3			
3314.8	5.2	3320	Stagnant Ice Moraine	Dolomite	5		0.5:1	Standard/Blasting Wide Pattern	1			
3320.0				Dolomite	5	Creek				Culvert		
3320.0	2.8	3322.8	Stagnant Ice Moraine	Dolomite	5		0.5:1	Standard/Blasting Wide Pattern	1			
3322.8	2.4	3325.2	Glaciofluvial	Dolomite	5		2:1	Standard	0.6			
3325.2				Dolomite	5	Creek				Culvert		
3325.2	4	3329.2	Glaciofluvial	Dolomite	5		2.5:1	Standard	0.6			
3329.2				Dolomite	5	Creek				Culvert		
3329.2	2.7	3331.9	Glaciofluvial	Dolomite	5		0.5:1	Standard/Blasting Wide Pattern	0.6			
3331.9				Dolomite	5	Creek				Culvert		
3331.9	4.1	3336	Glaciofluvial	Dolomite	5		0.5:1	Standard/Blasting Wide Pattern	0.6			
3336.0	7	3343	Glaciofluvial	Dolomite	5		3:1	Standard	0.6			
3343.0	0.2	3343.2	Colluvium	Dolomite	5		3:1	Standard	0.3			
3343.2	0.1	3343.3	Fluvial	Dolomite	5		3:1	Standard	0.3			
3343.3				Dolomite	2	Smith River				Bridge		Deep Piles
3343.3	0.1	3343.4	Fluvial	Dolomite	5		3:1	Standard	0.3			
3343.4	0.2	3343.6	Colluvium	Dolomite	5		3:1	Standard	0.3			
3343.6	8.6	3352.2	Glaciofluvial	Dolomite	5		3:1	Standard	0.6			
3352.2	2.7	3354.9	Moraine	Dolomite	5		2.5:1	Standard	1			
3354.9	2.4	3357.3	Moraine Veneer	Dolomite	2		0.5:1	Standard/Blasting Wide Pattern	1			
3357.3	0.5	3357.8	Colluvium	Dolomite	2		0.5:1	Standard/Blasting Wide Pattern	0.3			
3357.8	3	3360.8	Moraine Veneer	Dolomite	2		0.5:1	Standard/Blasting Wide Pattern	1			
3360.8				Dolomite	0	Creek				Culvert		
3360.8	3.2	3364	Colluvium	Dolomite	2		0.5:1	Standard/Blasting Wide Pattern	0.3			
3364.0	0.6	3364.6	Moraine Veneer	Dolomite	2		0.5:1	Standard/Blasting Wide Pattern	1			
3364.6				Dolomite	0	Creek				Culvert		
3364.6	7	3371.6	Colluvium	Dolomite	2		0.5:1	Standard/Blasting Wide Pattern	0.3			
3371.6	0.6	3372.2	Bedrock	Limestone	0		0.5:1	Blasting Wide Pattern				

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
3372.2	1.1	3373.3	Colluvium	Limestone	2		0.5:1	Standard/Blasting Wide Pattern	0.3			
3373.3				Limestone	2	Shaw Creek				Bridge		Shallow Piles
3373.3	1.2	3374.5	Moraine	Limestone	5		0.5:1	Standard/Blasting Wide Pattern	1			
3374.5				Limestone	2	Creek				Culvert		
3374.5	0.6	3375.1	Moraine	Limestone	5		0.5:1	Standard/Blasting Wide Pattern	1			
3375.1				Limestone	2	Creek				Culvert		
3375.5	1.3	3376.8	Colluvium	Limestone	2		0.5:1	Standard/Blasting Wide Pattern	0.3			
3376.8	1.2	3378	Moraine	Limestone	5		0.5:1	Standard/Blasting Wide Pattern	1			
3378.0	2	3380	Moraine	Limestone	5		3:1	Standard	1			
3380.0	0.3	3380.3	Moraine Veneer	Limestone	2		3:1	Standard	1			
3380.3	1.4	3381.7	Bedrock	Dolomite	0		1.5:1	Blasting Wide Pattern				
3381.7	1.8	3383.5	Moraine	Dolomite	5		3:1	Standard	1			
3383.5	1.6	3385.1	Colluvium	Dolomite	2		3:1	Standard	0.3			
3385.1	2.2	3387.3	Moraine	Dolomite	5		3:1	Standard	1			
3387.3				Dolomite	2	Creek				Culvert		
3387.3	0.7	3388	Moraine Veneer	Limestone	2		2:1	Standard	1			
3388.0	1.4	3389.4	Colluvium	Limestone	2		3:1	Standard	0.3			
3389.4	0.3	3389.7	Fluvial	Limestone	5		3:1	Standard	0.3			
3389.7	0.1	3389.8		Limestone	2	Coal River						
3389.8	2.785	3392.6	Glaciofluvial	Limestone	5		3:1	Standard	0.6			
3392.6	0.2	3392.8	Organic deposits	Limestone	5		4:1	Standard	0.3		Yes	
3392.8	0.2	3393	Glaciofluvial	Limestone	5		3:1	Standard	0.6			
3393.0	0.4	3393.4	Organic deposits	Limestone	5		4:1	Standard	0.3		Yes	
3393.4	0.1	3393.5	Glaciofluvial	Limestone	5		3:1	Standard	0.6			
3393.5	0.2	3393.7	Organic deposits	Limestone	5		4:1	Standard	0.3		Yes	
3393.7	0.1	3393.8	Glaciofluvial	Limestone	5		3:1	Standard	0.6			
3393.8				Limestone	5	Creek				Culvert		
3393.8	0.6	3394.4	Glaciofluvial	Limestone	5		3:1	Standard	0.6			
3394.4	0.2	3394.6	Organic deposits	Limestone	5		4:1	Standard	0.3		Yes	
3394.6	0.8	3395.4	Glaciofluvial	Limestone	5		2:1	Standard	0.6			
3395.4	0.1	3395.5	Organic deposits	Limestone	5		4:1	Standard	0.3		Yes	
3395.5	0.2	3395.7	Glaciofluvial	Limestone	5		2:1	Standard	0.6			
3395.7				Limestone	5	Creek				Culvert		
3395.7	0.2	3395.9	Glaciofluvial	Limestone	5		2:1	Standard	0.6			
3395.9	0.1	3396	Organic deposits	Limestone	5		4:1	Standard	0.3		Yes	
3396.0	0.3	3396.3	Bedrock	Limestone	0		0.5:1	Blasting Wide Pattern				
3396.3	0.7	3397	Glaciofluvial	Limestone	5		2:1	Standard	0.6			
3397.0	0.2	3397.2	Organic deposits	Limestone	5		4:1	Standard	0.3		Yes	
3397.2	0.4	3397.6	Glaciofluvial	Limestone	5		2:1	Standard	0.6			
3397.6	0.3	3397.9	Organic deposits	Limestone	5		4:1	Standard	0.3		Yes	
3397.9	0.8	3398.7	Glaciofluvial	Limestone	5		2:1	Standard	0.6			
3398.7				Limestone	0	Creek				Culvert		
3398.7	0.6	3399.3	Bedrock	Limestone	0		0.5:1	Blasting Wide Pattern				
3399.3				Limestone	0	Creek				Culvert		
3399.3	1.8	3401.1	Moraine	Limestone	5		0.5:1	Standard	1			
3401.1				Limestone	2	Creek				Culvert		
3401.1	2.8	3403.9	Moraine	Limestone	5		2:1	Standard	1			
3403.9				Limestone	2	Creek				Culvert		
3403.9	1	3404.9	Glaciofluvial	Limestone	5		3:1	Standard	0.6			
3404.9	0.3	3405.2	Organic deposits	Limestone	5		4:1	Standard	0.3		Yes	
3405.2	3.3	3408.5	Glaciofluvial	Limestone	5		3:1	Standard	0.6			
3408.5				Limestone	5	Highway				Level Crossing with Signals		
3408.5	0.7	3409.2	Glaciofluvial	Limestone	5		3:1	Standard	0.6			
3409.2	0.3	3409.5		Limestone	5	Liard River				Bridge		Deep Piles with Piers
3409.5	1.3	3410.8	Glaciofluvial	Limestone	5		3:1	Standard	0.6			

Terrain Analysis							Civil Design Features					
Start Km Post	**Mileage (km)**	**End Km Post**	**Surficial Terrain**	**Bedrock Geology**	**Depth to Bedrock (m)**	**Features Requiring Civil Structures**	**Fill Slope (H:V)**	**Excavatability assessment**	**Topsoil Depth (m)**	**Civil Structure**	**Geotextile Required under Base**	**Foundations**
3410.8				Limestone	5	Tsia Creek				Bridge		Shallow Piles
3410.8	2.2	3413	Glaciofluvial	Limestone	5		0.5:1	Standard/Blasting Wide Pattern	0.6			
3413.0	5.6	3418.6	Glaciofluvial	Limestone	5		3:1	Standard	0.6			
3418.6				Limestone	5	Creek				Culvert		
3418.6	0.4	3419	Moraine	Limestone	5		3:1	Standard	1			
3422.2				Limestone	5	Creek				Culvert		
3422.2	1.3	3423.5	Fluvial	Limestone	5		0.5:1	Standard/Blasting Wide Pattern	0.3			
3423.5	0.8	3424.3	Glaciofluvial	Limestone	5		3:1	Standard	0.6			
3424.3	1.3	3425.6	Colluvium	Limestone	2		3:1	Standard	0.3			
3425.6	3.5	3429.1	Moraine	Limestone	5		0.5:1	Standard/Blasting Wide Pattern	1			
3429.1	0.6	3429.7	Colluvium	Limestone	2		0.5:1	Standard/Blasting Wide Pattern	0.3			
3429.7				Limestone	2	Creek				Culvert		
3429.7	0.3	3430	Colluvium	Limestone	2		0.5:1	Standard/Blasting Wide Pattern	0.3			
3430.0	1.3	3431.3	Glaciofluvial	Limestone	5		0.5:1	Standard/Blasting Wide Pattern	0.6			
3431.3				Limestone	2	Creek				Culvert		
3431.3	1	3432.3	Glaciofluvial	Limestone	5		2:1	Standard	0.6			
3432.3	0.4	3432.7	Colluvium	Limestone	2		0.5:1	Standard/Blasting Wide Pattern	0.3			
3432.7	0.5	3433.2	Glaciofluvial	Limestone	5		0.5:1	Standard/Blasting Wide Pattern	0.6			
3433.2	2.5	3435.7	Moraine	Limestone	5		0.5:1	Standard/Blasting Wide Pattern	1			
3435.7	0.3	3436	Colluvium	Limestone	2		2:1	Standard	0.3			
3436.0	1.3	3437.3	Fluvial	Limestone	10		2:1	Standard	0.3			
3437.3				Limestone	10	Creek				Culvert		
3437.3	2.7	3440	Fluvial	Limestone	10		2:1	Standard	0.3			
3440.0	3	3443	Fluvial	Limestone	10		0.5:1	Standard/Blasting Wide Pattern				
3443.0	4.6	3447.6		Limestone	10		2.5:1					
3447.6				Limestone	10	Nutslo Creek				Bridge		Shallow Piles
3447.6	14.4	3462	Fluvial	Slate	20		2.5:1	Standard	0.3			
3462.0	0.5	3462.5		Slate	20	Liard River				Bridge		Deep Piles with Piers
3462.5	0.3	3462.8	Fluvial	Slate	20		2.5:1	Standard	0.3			
3462.8	0.1	3462.9		Slate	20	Liard River				Bridge		Deep Piles
3462.9	3.6	3466.5	Fluvial	Slate	20		2.5:1	Standard	0.3			
3466.5	3.3	3469.8	Glaciofluvial	Slate	20		3:1	Standard	0.6			
3469.8	0.45	3470.25	Fluvial	Slate	20		2:1	Standard	0.3			
3470.3	0.1	3470.35		Slate	20	Hyland River						
3470.4	4.15	3474.5	Fluvial	Slate	20		2.5:1	Standard	0.3			
3474.5				Slate	20	Creek				Culvert		
3474.5	13.9	3488.4	Glaciofluvial	Slate	20		2.5:1	Standard	0.6			
3488.4				Slate	20	Mayfield Creek				Bridge		Shallow Piles
3488.4	0.1	3488.5	Glaciofluvial	Slate	20		3:1	Standard	0.6			
3488.5				Slate	20	Highway				Level Crossing with Signals		
3487.5	4	3491.5	Glaciofluvial	Slate	20		3:1	Standard	0.6			
3491.5				Slate	20	Highway				Level Crossing with Signals		
3491.5	5.9	3497.4	Fluvial	Slate	10		3:1	Standard	0.3			
3497.4	1.6	3499	Colluvium	Slate	10		0.5:1	Standard/Blasting Wide Pattern	0.3			
3499.0	5.1	3504.1	Glaciofluvial	Slate	10		0.5:1	Standard/Blasting Wide Pattern	0.6			
3504.1				Slate	10	Creek				Culvert		
3504.1	6.4	3510.5	Glaciofluvial	Slate	10		2:1	Standard	0.6			
3510.5				Slate	10	road				Level Crossing		
3510.5	0.701	3511.2	Glaciofluvial	Slate	10		2:1	Standard	0.6			
END												

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
4000.0	0.5	4000.5	Glaciofluvial	Siltstone	>10		2.5:1	Standard	1			
4000.5				Siltstone	>10	Road				Level Crossing		
4000.5	1.0	4001.5	Glaciofluvial	Siltstone	>10		2.5:1	Standard	1			
4001.5				Siltstone	>10	Road				Level Crossing		
4001.5	0.7	4002.2	Glaciofluvial	Siltstone	>10		2:1	Standard	1			
4002.2	1.4	4003.6	Colluvium	Siltstone	>10		2:1	Standard	0.6			
4003.6				Siltstone	>10	Road				Level Crossing		
4003.6	3.9	4007.5	Colluvium	Siltstone	>10		2:1	Standard	0.6			
4007.5				Siltstone	>10	Road				Level Crossing		
4007.5	0.5	4008.0	Colluvium	Siltstone	>10		2:1	Standard	1			
4008.0				Siltstone	>10	Highway				Level Crossing with signals		
4008.0	0.2	4008.2	Colluvium	Siltstone	>10		2:1	Standard	1			
4008.2				Siltstone	>10	Road				Level Crossing		
4008.2	0.8	4009.0	Colluvium	Siltstone	>10		2:1	Standard	1			
4009.0	1.5	4010.5	Colluvium/ Organic	Siltstone	>10		2.5:1	Standard	0.6			
4010.5	2.0	4012.5	Organic	Siltstone	>10		4:1	Standard	0.6		yes	
4012.5	0.1	4012.6	Moraine	Siltstone	>10		2:1	Standard	1			
4012.6	0.7	4013.3	Colluvium	Siltstone	>10		2:1	Standard	0.6			
4013.3	1.1	4014.3	Moraine	Siltstone	>10		2:1	Standard	1			
4014.3				Siltstone	>10	creek				culvert		
4014.3	1.7	4016.0	Moraine	Siltstone	>10		3:1	Standard	1			
4016.0	0.5	4016.5	Colluvium	Siltstone	>10		2:1	Standard	0.6			
4016.5	0.2	4016.7	Fluvial	Siltstone	>10		2:1	Standard	0.6			
4016.7				Siltstone	>10	Watson Creek				bridge		shallow piles
4016.7	0.6	4017.3	Fluvial	Siltstone	>10		2:1	Standard	0.6			
4017.3	1.2	4018.5	Glaciofluvial	Siltstone	>10		2:1	Standard	1			
4018.5				Siltstone	>10	Road				Level Crossing		
4018.5	1.4	4019.9	Glaciofluvial	Siltstone	>10		3:1	Standard	1			
4019.9				Siltstone	>10	creek				culvert		
4019.9	0.6	4020.5	Glaciofluvial	Siltstone	>10		2:1	Standard	1			
4020.5				Siltstone	>10	Road				Level Crossing		
4020.5	1.0	4021.5	Glaciofluvial	Siltstone	>10		2:1	Standard	1			
4021.5				Siltstone	>10	Road				Level Crossing		
4021.5	1.7	4023.2	Glaciofluvial	Siltstone	>10		3:1	Standard	1			
4023.2				Siltstone	>10	Road				Level Crossing		
4023.2	0.8	4024.0	Glaciofluvial	Siltstone	>10		2:1	Standard	1			
4024.0	0.2	4024.2	Fluvial	Siltstone	>10		2:1	Standard	0.6			
4024.2				Siltstone	>10	Road				Level Crossing		
4024.2	1.1	4025.3	Fluvial	Siltstone	>10		2:1	Standard	0.6			
4025.3				Siltstone	>10	creek				culvert		
4025.3	0.2	4025.5	Fluvial	Siltstone	>10		2:1	Standard	0.6			
4025.5				Siltstone	>10	Tom Creek				bridge		shallow piles
4025.5	1.3	4026.8	Fluvial	Siltstone	>10		2:1	Standard	0.6			
4026.8				Siltstone	>10	creek				culvert		
4026.8	0.4	4027.2	Fluvial	Siltstone	>10		2:1	Standard	0.6			
4027.2				Siltstone	>10	creek				culvert		
4027.2	0.7	4027.9	Fluvial	Siltstone	>10		2:1	Standard	0.6			

Terrain Analysis							Civil Design Features					
Start Mile Post	**Mileage**	**End Mile Post**	**Surficial Terrain**	**Bedrock Geology**	**Depth To Bedrock (m)**	**Features Requiring Civil Structures**	**Cut or Fill Slope (H:V)**	**Excavatability assessment**	**Topsoil Depth (m)**	**Civil Structure**	**Geotextile Required under Base**	**Foundations**
4027.9				Siltstone	>10	creek				culvert		
4027.9	0.3	4028.2	Fluvial	Siltstone	>10		2:1	Standard	0.6			
4028.2	0.6	4028.8	Moraine	Limestone	>10		2:1	Standard	1			
4028.8	1.1	4029.9	Glaciofluvial	Limestone	>10		3:1	Standard	1			
4029.9	0.6	4030.5	Moraine	Limestone	>10		3:1	Standard	1			
4030.5	5.7	4036.2	Glaciofluvial	Limestone	>10		3:1	Standard	1			
4036.2				Limestone	>10	Cabin Creek				bridge		shallow piles
4036.2	1.6	4037.8	Glaciofluvial	Limestone	>10		2:1	Standard	1			
4037.8	4.0	4041.8	Moraine	Limestone	>10		3:1	Standard	1			
4041.8				Limestone	>10	creek				culvert		
4041.8	3.2	4045.0	Moraine	Limestone	>10		2:1	Standard	1			
4045.0	11.6	4056.6	Fluted Moraine	Limestone	>10		3:1	Standard	0.3			
4056.6	0.3	4056.9	Colluvium	Limestone	1		1.5:1	Blasting: Wide Pattern	1			
4056.9	0.2	4057.1		Limestone	0	Francis River				bridge		Shallow Pads
4057.1	0.1	4057.2	Colluvium	Limestone	1		1.5:1	Blasting: Wide Pattern	0.3			
4057.2	1.4	4058.6	Moraine	Limestone	>10		2:1	Standard	1			
4058.6				Limestone	>10	creek				culvert		
4058.6	1.1	4059.7	Moraine	Limestone	>10		2:1	Standard	1			
4059.7				Limestone	>10	creek				culvert		
4059.7	0.5	4060.2	Moraine	Limestone	>10		2:1	Standard	1			
4060.2				Limestone	>10	Road				Level Crossing		
4060.2	2.0	4062.2	Moraine	Limestone	>10		2.5:1	Standard	1			
4062.2				Limestone	>10	creek				culvert		
4062.2	2.8	4065.0	Moraine	Limestone	>10		2:1	Standard	1			
4065.0				Limestone	>10	creek				culvert		
4065.0	1.0	4066.0	Moraine	Limestone	>10		3:1	Standard	1			
4066.0				Limestone	>10	creek				culvert		
4066.0	0.4	4066.4	Moraine	Limestone	>10		2:1	Standard	1			
4066.4				Limestone	>10	creek				culvert		
4066.4	0.3	4066.7	Moraine	Limestone	>10		2:1	Standard	1			
4066.7				Limestone	>10	creek				culvert		
4066.7	0.5	4067.2	Moraine	Limestone	>10		2.5:1	Standard	1			
4067.2				Limestone	>10	creek				culvert		
4067.2	1.6	4068.8	Glaciolacustrine	Limestone	>10		2:1	Standard	0.3			
4068.8				Limestone	>10	creek				culvert		
4068.8	1.2	4070.0	Glaciolacustrine	Limestone	>10		2:1	Standard	0.3			
4070.0	0.6	4070.6	Organic	Limestone	>10		4:1	Standard	0.6		yes	
4070.6	0.4	4071.0	Glaciolacustrine	Limestone	>10		3:1	Standard	0.3			
4071.0	0.3	4071.3	Organic	Limestone	>10		4:1	Standard	0.6		yes	
4071.3				Limestone	>10	creek				culvert		
4071.3	0.2	4071.5	Organic	Limestone	>10		4:1	Standard	0.6		yes	
4071.5	1.3	4072.8	Glaciofluvial	Limestone	>10		2.5:1	Standard	0.6			
4072.8	3.2	4076.0	Moraine	Limestone	>10		2.5:1	Standard	1			
4076.0				Limestone	>10	creek				culvert		
4076.0	3.3	4079.3	Moraine	Limestone	>10		2:1	Standard	1			
4079.3				Limestone	>10	creek				culvert		
4079.3	2.8	4082.1	Moraine	Limestone	>10		2:1	Standard	1			

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
4082.1				Limestone	>10	creek				culvert		
4082.1	2.3	4084.4	Moraine Veneer	Limestone	2		0.5:1	Rippable	1			
4084.4				Limestone	2	creek				culvert		
4084.4	4.6	4089.0	Moraine Veneer	Limestone	2		1.5:1	Rippable	1			
4089.0	3.2	4092.2	Moraine Veneer	Limestone	2		0.5:1	Rippable	1			
4092.2				Limestone	2	creek				culvert		
4092.2	3.3	4095.5	Moraine Veneer	Limestone	2		0.5:1	Rippable	1			
4095.5				Limestone	>10	creek				culvert		
4095.5	1.4	4096.9	Moraine	Limestone	>10		2:1	Standard	1			
4096.9				Limestone	>10	creek				culvert		
4096.9	0.5	4097.4	Moraine	Limestone	>10		2:1	Standard	1			
4097.4				Limestone	>10	creek				culvert		
4097.4	1.5	4098.9	Moraine	Limestone	>10		2.5:1	Standard	1			
4098.9				Limestone	>10	creek				culvert		
4098.9	0.6	4099.5	Moraine	Limestone	>10		3:1	Standard	1			
4099.5	1.9	4101.4	Glaciolacustrine	Limestone	>10		3:1	Standard	0.3			
4101.4	7.3	4108.7	Glaciofluvial	Volcanic Rocks	>10		3:1	Standard	1			
4108.7	1.8	4110.5	Moraine	Volcanic Rocks	5		2.5:1	Standard	1			
4110.5				Volcanic Rocks		Tachina River				bridge		shallow piles
4110.5	6.3	4116.8	Stagnant Ice Moraine	Volcanic Rocks	5		3:1	Standard	1			
4116.8				Volcanic Rocks	3	Highway				Level Crossing with signals		
4116.8	4.2	4121.0	Moraine	Volcanic Rocks	5		2.5:1	Standard	1			
4121.0				Shale	>10	creek				culvert		
4121.0	1.8	4122.8	Glaciofluvial	Shale	>10		2:1	Standard	0.6			
4122.8	1.2	4124.0	Moraine	Shale	>10		2.5:1	Standard	1			
4124.0	1.0	4125.0	Moraine	Shale	>10		2:1	Standard	1			
4125.0	1.1	4126.1	Moraine	Shale	>10							
4126.1						creek				culvert		
4126.1	0.5	4126.6	Glaciofluvial	Shale	>10		2:1	Standard	0.6			
4126.6	1.2	4127.8	Moraine	Shale	>10		2:1	Standard	1			
4127.8	0.6	4128.4	Glaciofluvial	Shale	>10		2:1	Standard	0.6			
4128.4	0.6	4129.0	Moraine	Shale	>10		2:1	Standard	1			
4129.0	0.2	4129.2	Glaciofluvial	Shale	>10		2.5:1	Standard	0.6			
4129.2	1.3	4130.5	Moraine	Shale	>10		2:1	Standard	1			
4130.5	0.2	4130.7	Moraine	Shale	>10		2:1	Standard	1			
4130.7	0.5	4131.2	Moraine	Shale	>10		2:1	Standard	1			
4131.2				Shale	>10	creek				culvert		
4131.2	7.8	4139.0	Moraine	Shale	>10		2:1	Standard	1			
4139.0	1.0	4140.0	Moraine	Shale	>10		2.5:1	Standard	1			
4140.0	1.3	4141.3	Moraine	Shale	>10		2:1	Standard	1			
4141.3				Shale	>10	creek				culvert		
4141.3	0.8	4142.1	Glaciofluvial	Shale	>10		2:1	Standard	0.6			
4142.1				Shale	>10	Jules Creek				bridge		shallow piles
4142.1	1.0	4143.1	Glaciofluvial	Shale	>10		2:1	Standard	0.6			
4143.1	0.3	4143.4	Moraine	Shale	>10		2:1	Standard	1			
4143.4	1.1	4144.5	Glaciofluvial	Shale	>10		2:1	Standard	0.6			

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
4144.5				Shale	>10	creek				culvert		
4144.5	1.6	4146.1	Glaciofluvial	Shale	>10		2:1	Standard	0.6			
4146.1	2.8	4148.9	Moraine	Shale	>10		2.5:1	Standard	1			
4148.9	0.9	4149.8	Glaciofluvial	Shale	>10		2:1	Standard	0.6			
4149.8	1.6	4151.4	Moraine	Shale	>10		2:1	Standard	1			
4151.4				Shale	>10	creek				culvert		
4151.4	3.6	4155.0	Glaciofluvial	Shale	>10		2.5:1	Standard	0.6			
4155.0	1.5	4156.5	Moraine	Shale	>10		2:1	Standard	1			
4156.5				Shale	>10	creek				culvert		
4156.5	3.4	4159.9	Glaciofluvial	Shale	>10		2:1	Standard	0.6			
4159.9	1.8	4161.7	Moraine	Shale	>10		2.5:1	Standard	1			
4161.7	0.1	4161.8	Glaciofluvial	Shale	>10		2:1	Standard	0.6			
4161.7				Shale	>10	creek				culvert		
4161.8	0.1	4161.9	Glaciofluvial	Shale	>10		2:1	Standard	0.6			
4161.8	0.9	4162.7	Moraine	Shale	>10		3:1	Standard	1			
4161.9				Shale	>10	Highway				Level Crossing with signals		
4162.7	0.2	4162.9	Moraine	Shale	>10		2:1	Standard	1			
4162.9	1.9	4164.8	Glaciofluvial	Shale	>10		2:1	Standard	0.6			
4164.8	3.9	4168.7	Moraine	Shale	>10		2:1	Standard	1			
4168.7	0.8	4169.5	Stagnant Ice Moraine	Shale	>10		2:1	Standard	1			
4169.5	0.3	4169.8	Moraine	Shale	>10		2:1	Standard	1			
4169.8	0.4	4170.2	Glaciofluvial	Shale	>10		2:1	Standard	0.6			
4170.2				Shale	>10	creek				culvert		
4170.2	1.7	4171.9	Glaciofluvial	Shale	>10		2.5:1	Standard	0.6			
4171.9				Shale	>10	creek				culvert		
4171.9	2.2	4174.1	Glaciofluvial	Shale	>10		3:1	Standard	0.6			
4174.1				Shale	>10	Money Creek				bridge		shallow piles
4174.1	2.9	4177.0	Moraine	Shale	>10		3:1	Standard	1			
4177.0	3.0	4180.0	Moraine	Shale	>10		2:1	Standard	1			
4180.0	1.3	4181.3	Moraine	Shale	>10		2.5:1	Standard	1			
4181.3				Shale	>10	creek				culvert		
4181.3	0.7	4182.0	Moraine	Shale	>10		3:1	Standard	1			
4182.0	2.0	4184.0	Moraine	Shale	>10		2:1	Standard	1			
4184.0	3.3	4187.3	Stagnant Ice Moraine	Shale	>10		2.5:1	Standard	1			
4187.3				Shale	>10	creek				culvert		
4187.3	1.3	4188.6	Stagnant Ice Moraine	Shale	>10		2.5:1	Standard	1			
4188.6				Shale	>10	creek				culvert		
4188.6	3.3	4191.9	Stagnant Ice Moraine	Shale	>10		2.5:1	Standard	1			
4191.9				Shale	>10	creek				culvert		
4191.9	0.1	4192.0	Stagnant Ice Moraine	Shale	>10		2.5:1	Standard	1			
4192.0	5.2	4197.2	Stagnant Ice Moraine	Shale	>10		3:1	Standard	1			

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
4197.2				Conglomerate	>10	creek				culvert		
4197.2	2.5	4199.7	Stagnant Ice Moraine	Conglomerate	>10		2.5:1	Standard	1			
4199.7				Conglomerate	>10	creek				culvert		
4199.7	0.2	4199.9	Fluvial	Conglomerate	>10		2:1	Standard	0.3			
4199.9	1.7	4201.6	Moraine	Conglomerate	>10		2:1	Standard	1			
4201.6	1.9	4203.5	Glaciofluvial	Conglomerate	>10		2.5:1	Standard	0.6			
4203.5	0.2	4203.7	Fluvial	Conglomerate	>10		3:1	Standard	0.3			
4203.7				Conglomerate	>10	creek				culvert		
4203.7	0.2	4203.9	Fluvial	Conglomerate	>10		2:1	Standard	0.3			
4203.9	3.3	4207.2	Moraine	Conglomerate	>10		2:1	Standard	1			
4207.2				Conglomerate	>10	creek				culvert		
4207.2	2.4	4209.6	Moraine	Conglomerate	>10		2:1	Standard	1			
4209.6				Conglomerate	>10	creek				culvert		
4209.6	7.9	4217.5	Moraine	Conglomerate	>10		2.5:1	Standard	1			
4217.5				Conglomerate	>10	creek				culvert		
4217.5	1.3	4218.8	Moraine	Conglomerate	>10		2.5:1	Standard	1			
4218.8				Conglomerate	>10	creek				culvert		
4218.8	3.9	4222.7	Moraine	Conglomerate	>10		2.5:1	Standard	1			
4222.7				Conglomerate	>10	creek				culvert		
4222.7	1.4	4224.1	Moraine	Conglomerate	>10		2.5:1	Standard	1			
4224.1				Phyllite	>10	creek				culvert		
4224.1	0.3	4224.4	Moraine	Phyllite	>10		2:1	Standard	1			
4224.4				Phyllite	>10	creek				culvert		
4224.4	4.1	4228.5	Moraine	Phyllite	>10		3:1	Standard	1			
4228.5				Phyllite	>10	creek				culvert		
4228.5	0.3	4228.8	Moraine	Phyllite	>10		3:1	Standard	1			
4228.8				Phyllite	>10	creek				culvert		
4228.8	1.2	4230.0	Moraine	Phyllite	>10		2:1	Standard	1			
4230.0	0.7	4230.7	Glaciofluvial	Phyllite	>10		2:1	Standard	0.6			
4230.7	0.2	4230.9	Fluvial	Phyllite	>10		2:1	Standard	0.3			
4230.9				Phyllite	>10	creek				culvert		
4230.9	0.1	4231.0	Fluvial	Phyllite	>10		2.5:1	Standard	0.3			
4231.0	0.4	4231.4	Moraine	Conglomerate	>10		2:1	Standard	1			
4231.4				Conglomerate	>10	Highway				Level Crossing with signals		
4231.4	3.2	4234.6	Moraine	Conglomerate	>10		2.5:1	Standard	1			
4234.6	1.3	4235.9	Glaciofluvial	Conglomerate	>10		2:1	Standard	0.6			
4235.9				Conglomerate	>10	creek				culvert		
4235.9	2.2	4238.1	Glaciofluvial	Conglomerate	>10		2:1	Standard	0.6			
4238.1				Conglomerate	>10	creek				culvert		
4238.1	0.8	4238.9	Moraine	Conglomerate	>10		2:1	Standard	1			
4238.9				Conglomerate	>10	creek				culvert		
4238.9	1.6	4240.5	Moraine	Conglomerate	>10		2:1	Standard	1			
4240.5				Conglomerate	>10	creek				culvert		
4240.5	1.7	4242.2	Glaciofluvial	Conglomerate	>10		2:1	Standard	0.6			
4242.2				Conglomerate	>10	Highway				Level Crossing with signals		
4242.2	0.9	4243.1	Moraine	Conglomerate	>10		2:1	Standard	1			

Terrain Analysis							Civil Design Features					
Start Mile Post	**Mileage**	**End Mile Post**	**Surficial Terrain**	**Bedrock Geology**	**Depth To Bedrock (m)**	**Features Requiring Civil Structures**	**Cut or Fill Slope (H:V)**	**Excavatability assessment**	**Topsoil Depth (m)**	**Civil Structure**	**Geotextile Required under Base**	**Foundations**
4243.1	3.5	4246.6	Stagnant Ice Moraine	Conglomerate	>10		3:1	Standard	1			
4246.0				Conglomerate	2	Campbell Creek				bridge		shallow piles
4246.6	0.5	4247.1	Fluvial	Conglomerate	2		0.5:1	Rippable	0.3			
4247.1	0.5	4247.6	Moraine	Conglomerate	>10		3:1	Standard	1			
4247.6				Phyllite	>10	creek				culvert		
4247.6	1.9	4249.5	Moraine	Phyllite	>10		3:1	Standard/Rippable	1			
4249.5				Phyllite	>10	creek				culvert		
4249.5	4.9	4254.4	Moraine	Phyllite	>10		3:1	Standard	1			
4254.4	1.5	4255.9	Glaciofluvial	Phyllite	>10		3:1	Standard/Rippable	0.6			
4255.9				Phyllite	>10	creek				culvert		
4255.9	1.1	4257.0	Glaciofluvial	Phyllite	>10		3:1	Standard/Rippable	0.6			
4257.0	9.8	4266.8	Moraine	Phyllite	>10		2.5:1	Standard	1			
4266.8				Phyllite	>10	creek				culvert		
4266.8	1.4	4268.2	Moraine	Phyllite	>10		3:1	Standard	1			
4268.2				Phyllite	2	Big Campbell Creek				bridge		shallow piles
4268.2	0.3	4268.5	Fluvial	Phyllite	2		1.5:1	Standard/Rippable	0.3			
4268.5	7.7	4276.2	Moraine	Phyllite	>10		2.5:1	Standard	1			
4276.2	2.0	4278.2	Glaciofluvial	Phyllite	>10		2.5:1	Standard	0.6			
4278.2	0.2	4278.4	Fluvial	Phyllite	>10		3:1	Standard	0.3			
4278.4				Gneiss	>10	Mink Creek				bridge		shallow piles
4278.4	0.2	4278.6	Fluvial	Gneiss	>10		3:1	Standard	0.3			
4278.6	2.4	4281.0	Glaciofluvial	Gneiss	>10		2.5:1	Standard	0.6			
4281.0				Gneiss	>10	creek				culvert		
4281.0	4.4	4285.4	Glaciofluvial	Gneiss	>10		3:1	Standard/Blasting Wide Pattern	0.6			
4285.4	4.0	4289.4	Eolian Sand	Gneiss	>10		3:1	Standard/Blasting Wide Pattern	0.3			
4289.4	0.8	4290.2	Moraine	Gneiss	>10		2.5:1	Standard	1			
4290.2				Gneiss	>10	creek				culvert		
4290.2	4.0	4294.2	Moraine	Gneiss	>10		3:1	Standard/Blasting Wide Pattern	1			
4294.2	2.3	4296.5	Eolian Sand	Gneiss	>10		3:1	Standard	0.3			
4296.5	2.5	4299.0	Glaciofluvial	Gneiss	>10		3:1	Standard/Blasting Wide Pattern	0.6			
4299.0	2.9	4301.9	Moraine	Gneiss	>10		3:1	Standard/Blasting Wide Pattern	1			
4301.9	0.1	4302.0	Colluvium	Basalt	2		0.5:1	Blasting Close Pattern	0.3			
4302.0	1.7	4303.7	Glaciofluvial	Basalt	2		0.5:1	Standard/Blasting Close Pattern	0.6			
4303.7				Basalt	2	Hoole River		Blasting Close Pattern		bridge		shallow pads
4303.7	1.0	4304.7	Glaciofluvial	Basalt	2		0.5:1	Standard/Blasting Close Pattern	0.6			
4304.7	6.3	4311.0	Moraine	Phyllite	>10		2.5:1	Standard	1			
4311.0	1.2	4312.2	Glaciofluvial	Phyllite	>10		2.5:1	Standard	0.6			
4312.2				Phyllite	>10	Starr Creek				bridge		shallow piles
4312.2	0.5	4312.7	Glaciofluvial	Phyllite	>10		2.5:1	Standard	0.6			
4312.2	7.0	4319.2	Moraine	Amphibolite	>10		2.5:1	Standard	1			
4319.2	0.1	4319.3	Organic	Amphibolite	>10		4:1	Standard	0.3		yes	
4319.3	1.2	4320.5	Glaciofluvial	Amphibolite	>10		2.5:1	Standard	0.6			
4320.5				Amphibolite	>10	Horton Creek				culvert		
4320.5	0.9	4321.4	Glaciofluvial	Amphibolite	>10		2:1	Standard	0.6			
4321.4				Amphibolite	>10	creek				culvert		
4321.4	0.4	4321.8	Glaciofluvial	Amphibolite	>10		2:1	Standard	0.6			

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
4321.8	1.7	4323.5	Moraine Veneer	Amphibolite	2		2:1	Standard	1			
4323.5				Amphibolite	2	Road				Level Crossing		
4323.5	4.8	4328.3	Moraine Veneer	Amphibolite	2		0.5:1	Standard/Blasting Close Pattern	1			
4328.3				Phyllite	2	creek				culvert		
4328.3	4.4	4332.7	Moraine Veneer	Phyllite	2		0.5:1	Standard/Rippable	1			
4332.7	4.8	4337.5	Glaciofluvial	Sandstone	5		0.5:1	Standard/Rippable	0.6			
4337.5	0.3	4337.8	Fluvial	Quartz Porphyry	5		2:1	Standard	0.3			
4337.8				Quartz Porphyry	2	Ketza River				bridge		shallow pads
4337.8	0.2	4338.0	Fluvial	Quartz Porphyry	5		2:1	Standard	0.3			
4338.0	2.8	4340.8	Glaciofluvial	Quartz Porphyry	5		0.5:1	Standard/Blasting Close Pattern	0.6			
4340.8				Quartz Porphyry	5	creek				culvert		
4340.8	4.5	4345.3	Glaciofluvial	Quartz Porphyry	5		0.5:1	Standard/Blasting Close Pattern	0.6			
4345.3	0.7	4346.0	Fluvial	Quartz Porphyry	5		0.5:1	Standard/Blasting Close Pattern	0.3			
4346.0				Quartz Porphyry	5	creek				culvert		
4346.0	1.2	4347.2	Fluvial	Quartz Porphyry	5		0.5:1	Standard/Blasting Close Pattern	0.3			
4347.2	4.3	4351.5	Glaciofluvial	Quartz Porphyry	5		2.5:1	Standard	0.6			
4351.5	0.8	4352.3	Fluvial	Quartz Porphyry	5		2.5:1	Standard	0.3			
4352.3				Quartz Porphyry	5	creek				culvert		
4352.3	1.3	4353.6	Fluvial	Quartz Porphyry	5		2:1	Standard	0.3			
4353.6	2.6	4356.2	Glaciofluvial	Quartz Porphyry	5		2.5:1	Standard	0.6			
4356.2				Quartz Porphyry	5	Highway						
4356.2	1.0	4357.2	Glaciofluvial	Quartz Porphyry	5		3:1	Standard	0.6			
4357.2	0.4	4357.6	Fluvial	Quartz Porphyry	5		3:1	Standard	0.3			
4357.6				Quartz Porphyry	5	Lapie River				bridge		shallow pads
4357.6	0.2	4357.8	Fluvial	Quartz Porphyry	5		3:1	Standard	0.3			
4357.8	1.2	4359.0	Glaciofluvial	Quartz Porphyry	5		3:1	Standard	0.6			
4359.0	1.0	4360.0	Organics	Quartz Porphyry	5		4:1	Standard	0.3		yes	
4360.0	4.0	4364.0	Fluvial	Quartz Porphyry	5		3:1	Standard/Blasting Close Pattern	0.3			
4364.0	1.4	4365.4	Glaciofluvial	Quartz Porphyry	5		3:1	Standard	0.6			
4365.4				Quartz Porphyry	5	Danger Creek				bridge		shallow pads
4365.4	6.4	4371.8	Moraine Veneer	Quartz Porphyry	2		0.5:1	Standard/Blasting Close Pattern	1			
4371.8				Chert	2	Highway				Level Crossing with signals		
4371.8	1.9	4373.7	Moraine Veneer	Chert	2		0.5:1	Standard/Blasting Close Pattern	1			
4373.7				Chert	2	Highway				Level Crossing with signals		
4373.7	4.0	4377.7	Moraine Veneer	Chert	2		2.5:1	Standard	1			
4377.7	0.3	4378.0	Colluvium	Chert	2		3:1	Standard	0.3			
4378.0				Chert	2	Crew Creek				bridge		shallow pads
4378.0	0.3	4378.3	Colluvium	Chert	2		3:1	Standard	0.3			
4378.3	3.7	4382.0	Moraine Veneer	Chert	2		0.5:1	Standard/Blasting Close Pattern	1			
4382.0	4.0	4386.0	Moraine	Chert	5		2:1	Standard	1			
4386.0				Chert	5	Highway				Level Crossing with signals		
4386.0	9.4	4395.4	Moraine	Chert	5		0.5:1	Standard/Blasting Close Pattern	1			
4395.4				Chert	5	creek				culvert		
4395.4	0.7	4396.1	Moraine	Chert	5		0.5:1	Standard/Blasting Close Pattern	1			
4396.1				Chert	5	Highway				Level Crossing with signals		
4396.1	2.6	4398.7	Moraine	Chert	5		2.5:1	Standard	1			
4398.7	0.6	4399.3	Moraine Veneer	Diorite	2		0.5:1	Standard/Blasting Close Pattern	1			

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
4399.3				Diorite	2	Buttle Creek				bridge		shallow pads
4399.3	1.4	4400.7	Moraine Veneer	Diorite	2		3:1	Standard	1			
4400.7				Diorite	2	creek				culvert		
4400.7	3.0	4403.7	Moraine Veneer	Diorite	2		0.5:1	Standard/Blasting Close Pattern	1			
4403.7				Diorite	2	creek				culvert		
4403.7	3.3	4407.0	Moraine	Diorite	5		2.5:1	Standard	1			
4407.0				Diorite	5	creek				culvert		
4407.0	0.7	4407.7	Moraine	Diorite	5		3:1	Standard	1			
4407.7				Diorite	5	Highway				Level Crossing with signals		
4407.7	5.1	4412.8	Moraine	Diorite	5		0.5:1	Standard/Blasting Close Pattern	1			
4412.8				Diorite	5	Road				Level Crossing		
4412.8	0.9	4413.7	Moraine	Diorite	5		0.5:1	Standard/Blasting Close Pattern	1			
4413.7				Diorite	5	Highway				Level Crossing with signals		
4413.7	0.8	4414.5	Moraine Veneer	Shale	2		3:1	Standard	1			
4414.5				Shale	0	creek				culvert		
4414.5	1.2	4415.7	Bedrock	Shale	0		1.5:1		0			
4415.7	1.4	4417.1	Moraine Veneer	Shale	2		3:1	Standard	1			
4417.1				Shale	2	creek				culvert		
4417.1	0.9	4418.0	Moraine Veneer	Shale	2		0.5:1	Standard/Blasting Close Pattern	1			
4418.0	4.7	4422.7	Moraine	Slate	5		0.5:1	Standard/Blasting Close Pattern	1			
4422.7				Slate	5	Magundy River				bridge		shallow piles
4422.7	2.3	4425.0	Moraine	Slate	5		3:1	Standard	1			
4425.0				Limestone	5	creek				culvert		
4425.0	1.0	4426.0	Moraine	Limestone	5		2:1	Standard	1			
4426.0	4.2	4430.2	Moraine Veneer	Slate	2		2.5:1	Standard	1			
4430.2				Slate	2	creek				culvert		
4430.2	2.8	4433.0	Moraine Veneer	Slate	2		3:1	Standard	1			
4433.0	5.7	4438.7	Moraine	Dolostone	5		2.5:1	Standard	1			
4438.7				Siltstone	5	creek				culvert		
4438.7	1.3	4440.0	Moraine	Dolostone	5		3:1	Standard	1			
4440.0	3.6	4443.6	Moraine	Quartzite	5		2.5:1	Standard	1			
4443.6				Quartzite	5	creek				culvert		
4443.6	8.4	4452.0	Moraine	Limestone	5		2.5:1	Standard	1			
4452.0	0.2	4452.2	Fluvial	Limestone	2		2:1	Standard	0.3			
4452.2				Limestone	2	creek				culvert		
4452.2	0.2	4452.4	Fluvial	Limestone	2		2:1	Standard	0.3			
4452.4	2.6	4455.0	Moraine	Limestone	5		3:1	Standard	1			
4455.0	1.5	4456.5	Colluvium	Limestone	2		2:1	Standard	0.3			
4456.5	3.2	4459.7	Glaciofluvial	Limestone	10		0.5:1	Standard/Blasting Wide Pattern	0.6			
4459.7				Limestone	10	creek				culvert		
4459.7	2.4	4462.1	Glaciofluvial	Limestone	10		0.5:1	Standard/Blasting Wide Pattern	0.6			
4462.1	2.3	4464.4	Fluvial	Limestone	10		3:1	Standard	0.3			
4464.4				Limestone	10	Magundy River				bridge		shallow piles
4464.4	0.4	4464.8	Fluvial	Limestone	10		3:1	Standard	0.3			
4464.8	1.4	4466.2	Glaciofluvial	Limestone	10		0.5:1	Standard/Blasting Wide Pattern	0.6			
4466.2				Limestone	10	Highway				Level Crossing with signals		
4466.2	0.3	4466.5	Colluvium	Volcanics	5		2:1	Standard	0.3			

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
4466.5	0.7	4467.2	Moraine	Volcanics	5		2:1	Standard	1			
4467.2				Volcanics	5	creek				culvert		
4467.2	0.3	4467.5	Moraine	Volcanics	5		2:1	Standard	1			
4467.5	0.3	4467.8	Fluvial	Volcanics	5		3:1	Standard	0.3			
4467.8				Volcanics	5	Drury Creek				bridge		shallow piles
4467.8	0.1	4467.9	Fluvial	Volcanics	5		3:1	Standard	0.3			
4467.8	0.7	4468.5	Moraine	Volcanics	5		3:1	Standard	1			
4468.5				Volcanics	5	creek				culvert		
4468.5	0.3	4468.8	Moraine	Volcanics	5		0.5:1	Standard/Blasting Close Pattern	1			
4468.8	1.5	4470.3	Moraine Veneer	Volcanics	2		0.5:1	Standard/Blasting Close Pattern	1			
4470.3				Volcanics	2	creek				culvert		
4470.3	3.4	4473.7	Moraine Veneer	Volcanics	2		0.5:1	Standard/Blasting Close Pattern	1			
4473.7				Volcanics	2	creek				culvert		
4473.7	1.6	4475.3	Moraine Veneer	Volcanics	2		3:1	Standard	1			
4475.3				Schist	2	creek				culvert		
4475.3	0.4	4475.7	Fluvial	Schist	2		3:1	Standard	0.3			
4475.7	2.0	4477.7	Moraine Veneer	Schist	2		3:1	Standard	1			
4477.7	1.1	4478.8	Bedrock	Schist	0		0.5:1	Blasting Wide Pattern	0			
4478.8	0.5	4479.3	Moraine Veneer	Schist	2		3:1	Standard	1			
4479.3				Schist	2	creek				culvert		
4479.3	4.1	4483.4	Moraine Veneer	Schist	2		0.5:1	Standard/Blasting Wide Pattern	1			
4483.4				Schist	2	creek				culvert		
4483.4	2.8	4486.2	Moraine Veneer	Schist	2		0.5:1	Standard/Blasting Wide Pattern	1			
4486.2				Schist	2	creek				culvert		
4486.2	1.3	4487.5	Moraine Veneer	Schist	2		2:1	Standard	1			
4487.5				Schist	2	creek				culvert		
4487.5	1.8	4489.3	Moraine Veneer	Schist	2		0.5:1	Standard/Blasting Wide Pattern	1			
4489.3				Schist	2	creek				culvert		
4489.3	2.3	4491.6	Moraine Veneer	Schist	2		3:1	Standard	1			
4491.6				Schist	2	creek				culvert		
4491.6	1.1	4492.7	Moraine Veneer	Schist	2		0.5:1	Standard/Blasting Wide Pattern	1			
4492.7				Granodiorite	2	creek				culvert		
4492.7	1.0	4493.7	Bedrock	Granodiorite	0		3:1	Blasting Close Pattern	0			
4493.7	1.3	4495.0	Moraine Veneer	Granodiorite	2		0.5:1	Standard/Blasting Close Pattern	1			
4495.0	0.5	4495.5	Bedrock	Granodiorite	0		0.5:1	Blasting Close Pattern	0			
4495.5				Granodiorite	0	creek		Blasting Close Pattern		culvert		
4495.5	3.3	4498.8	Moraine	Schist	5		0.5:1	Standard/Blasting Wide Pattern	1			
4498.8				Schist	5	creek				culvert		
4498.8	1.9	4500.7	Moraine	Schist	5		0.5:1	Standard/Blasting Wide Pattern	1			
4500.7				Granodiorite	5	creek				culvert		
4500.7	3.1	4503.8	Moraine	Granodiorite	5		0.5:1	Standard/Blasting Close Pattern	1			
4503.8				Granodiorite	5	creek				culvert		
4503.8	1.6	4505.4	Moraine	Granodiorite	5		2.5:1	Standard	1			
4505.4	0.1	4505.5	Fluvial	Granodiorite	5		2.5:1	Standard	0.3			
4505.5				Granodiorite	5	Bearfeed Creek				bridge		shallow piles
4505.5	0.1	4505.6	Fluvial	Granodiorite	5		2.5:1	Standard	0.3			
4505.6	1.2	4506.8	Moraine	Granodiorite	5		2.5:1	Standard	1			

Terrain Analysis							Civil Design Features					
Start Mile Post	Mileage	End Mile Post	Surficial Terrain	Bedrock Geology	Depth To Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
4506.8				Granodiorite	5	creek				culvert		
4506.8	0.8	4507.6	Moraine	Granodiorite	5		2.5:1	Standard	1			
4507.6				Granodiorite	5	creek				culvert		
4507.6	0.9	4508.5	Colluvium	Granodiorite	2		0.5:1	Standard/Blasting Close Pattern	0.3			
4508.5	2.5	4511.0	Moraine	Granodiorite	5		2.5:1	Standard	1			
4511.0				Granodiorite	5	Road				Level Crossing		
4511.0	3.8	4514.8	Moraine	Granodiorite	5		3:1	Standard	1			
4514.8				Granodiorite	5	creek				culvert		
4514.8	4.3	4519.1	Moraine	Granodiorite	5		3:1	Standard	1			
4519.1				Granodiorite	5	creek				culvert		
4519.1	4.0	4523.1	Moraine	Granodiorite	5		0.5:1	Standard/Blasting Close Pattern	1			
4523.1				Granodiorite	5	creek				culvert		
4523.1	4.1	4527.2	Moraine	Granodiorite	5		3:1	Standard	1			
4527.2	2.5	4529.7	Glaciofluvial	Granodiorite	10		0.5:1	Standard/Blasting Close Pattern	0.6			
4529.7				Granodiorite	5	creek				culvert		
4529.7	4.0	4533.7	Moraine	Basalt	5		0.5:1	Standard/Blasting Close Pattern	1			
4533.7				Basalt	5	creek				culvert		
4533.7	1.5	4535.2	Moraine	Basalt	5		0.5:1	Standard/Blasting Close Pattern	1			
4535.2				Basalt	5	creek				culvert		
4535.2	1.3	4536.5	Moraine	Basalt	5		3:1	Standard	1			
4536.5				Basalt	5	creek				culvert		
4538.6	1.4	4540.0	Moraine	Basalt	5		3:1	Standard	1			
4540.0	0.7	4540.7	Glaciofluvial	Basalt	10		3:1	Standard	0.6			
4540.7				Basalt	10	road				Level Crossing		
4540.7	0.9	4541.6	Glaciofluvial	Basalt	10		2:1	Standard	0.6			
4541.6				Conglomerate	10	creek				culvert		
4541.6	1.4	4543.0	Glaciofluvial	Conglomerate	10		3:1	Standard	0.6			
4543.0	4.5	4547.5	Moraine	Conglomerate	5		0.5:1	Standard/Rippable	1			
4547.5	7.5	4555.0	Stagnant Ice Moraine	Conglomerate	5		2.5:1	Standard	1			
4555.0	1.5	4556.5	Moraine	Conglomerate	5		3:1	Standard	1			
4556.5				Conglomerate	5	creek				culvert		
4556.5	3.4	4559.9	Moraine	Conglomerate	5		0.5:1	Standard/Rippable	1			
4559.9				Conglomerate	5	creek				culvert		
4559.9	1.1	4561.0	Moraine	Conglomerate	5		2.5:1	Standard	1			
4561.0	1.1	4562.1	Glaciofluvial	Conglomerate	5		0.5:1	Standard/Rippable	0.6			
4562.1	3.3	4565.4	Moraine	Conglomerate	5		2.5:1	Standard	1			
4565.4				Conglomerate	5	creek				culvert		
4565.4	3.4	4568.8	Moraine	Conglomerate	5		3:1	Standard	1			
4568.8				Conglomerate	5	creek				culvert		
4568.8	2.5	4571.3	Moraine	Dacite Tuff	5		3:1	Standard	1			
4571.3	0.5	4571.8	Glaciofluvial	Dacite Tuff	10		2.5:1	Standard	0.6			
4571.8				Dacite Tuff	10	creek				culvert		
4571.8	0.4	4572.2	Glaciofluvial	Dacite Tuff	10		2.5:1	Standard	0.6			
4572.2	2.3	4574.5	Moraine	Dacite Tuff	5		3:1	Standard	1			
4574.5				Dacite Tuff	5	creek				culvert		
4574.5	1.9	4576.4	Moraine	Dacite Tuff	5		0.5:1	Standard/Blasting Close Pattern	1			

Terrain Analysis							Civil Design Features					
Start Mile Post	**Mileage**	**End Mile Post**	**Surficial Terrain**	**Bedrock Geology**	**Depth To Bedrock (m)**	**Features Requiring Civil Structures**	**Cut or Fill Slope (H:V)**	**Excavatability assessment**	**Topsoil Depth (m)**	**Civil Structure**	**Geotextile Required under Base**	**Foundations**
4576.4				Dacite Tuff	5	creek				culvert		
4576.4	3.9	4580.3	Moraine	Dacite Tuff	5		0.5:1	Standard/Blasting Close Pattern	1			
4580.3	0.4	4580.7	Glaciofluvial	Dacite Tuff	25		2.5:1	Standard	0.6			
4580.7				Dacite Tuff	25	creek				culvert		
4580.8	1.3	4582.1	Glaciofluvial	Dacite Tuff	25		2:1	Standard	0.6			
4582.1				Dacite Tuff	25	creek				culvert		
4582.1	2.1	4584.2	Glaciofluvial	Dacite Tuff	25		2.5:1	Standard	0.6			
4584.2	0.2	4584.4	Colluvium	Dacite Tuff	10		2.5:1	Standard	0.3			
4584.4	0.1	4584.5	Fluvial	Dacite Tuff	10		2:1	Standard	0.3			
4584.5				Dacite Tuff	10	Tatchun River				bridge		shallow piles
4584.5	0.2	4584.7	Fluvial	Dacite Tuff	10		2:1	Standard	0.3			
4584.7	0.1	4584.8	Colluvium	Dacite Tuff	10		2.5:1	Standard	0.3			
4584.8				Dacite Tuff	25	Road				Level Crossing		
4584.8	2.7	4587.5	Glaciofluvial	Dacite Tuff	25		2.5:1	Standard	0.6			
4587.5				Dacite Tuff	25	Road				Level Crossing		
4587.5	1.9	4589.4	Glaciofluvial	Dacite Tuff	25		2:1	Standard	0.6			
4589.4				Dacite Tuff	25	Highway				Level Crossing with signals		
4589.4	0.5	4589.9	Glaciofluvial	Dacite Tuff	25		2:1	Standard	0.6			
4589.9				Dacite Tuff	25	Road				Level Crossing		
4589.9	4.5	4594.4	Glaciofluvial	Dacite Tuff	25		2.5:1	Standard	0.6			
End												

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
5000.0	2.1	5002.1	Glaciofluvial	Dacite Tuff	25		2.5:1	Standard	0.6			
5002.1	1.0	5003.1	Colluvium	Dacite Tuff	2		0.5:1	Standard/Blasting Close Pattern	0.3			
5003.1					25	Highway				Level Crossing with Signals		
5003.1	4.0	5007.1	Glaciofluvial	Dacite Tuff	25		3:1	Standard	0.6			
5007.1					25	Highway 2				Level Crossing with Signals		
5007.1	4.2	5011.3	Glaciofluvial	Volcanic breccia	25		2.5:1	Standard	0.6			
5011.3	0.2	5011.5	Fluvial	Volcanic breccia	25		3:1	Standard	0.3			
5011.5					25	McGregor Creek				Bridge		Shallow Piles
5011.5	0.1	5011.6	Fluvial	Volcanic breccia	25		3:1	Standard	0.3			
5011.6	5.4	5017.0	Glaciofluvial	Volcanic breccia	25		2:1	Standard	0.6			
5017.0					25	Creek				Culvert		
5018.0	12.2	5030.2	Glaciofluvial	Volcanic breccia	25		3:1	Standard	0.6			
5030.2					25	Road				Level Crossing		
5030.2	0.1	5030.3	Glaciofluvial	Schist	25		2:1	Standard	0.6			
5030.3					25	McCabe Creek				Bridge		Shallow Piles
5030.3	8.3	5038.6	Glaciofluvial	Schist	25		2.5:1	Standard	0.6			
5038.6	0.2	5038.8	Fluvial	Schist	25		2:1	Standard	0.3			
5038.8	0.3	5039.1		Schist	25	Yukon River				Bridge		Deep Piles with Piers
5039.1	7.5	5046.6	Glaciofluvial	Schist	25		3:1	Standard/Rippable	0.6			
5046.6	0.2	5046.8	Fluvial	Schist	25		3:1	Standard	0.3			
5046.8				Schist	25	Big Creek				Bridge		Shallow Piles
5046.8	0.2	5047.0	Fluvial	Schist	25		3:1	Standard	0.3			
5047.0	1.8	5048.8	Glaciofluvial	Schist	25		2:1	Standard	0.6			
5048.8	0.8	5049.6	Fluvial	Schist	25		2:1	Standard	0.3			
5049.6				Schist	25	Creek				Culvert		
5049.6	0.1	5049.7	Fluvial	Schist	25		2:1	Standard	0.3			
5049.7	4.4	5054.1	Glaciofluvial	Schist	25		2.5:1	Standard	0.6			
5054.1				Granodiorite	25	Creek				Culvert		
5054.1	0.2	5054.3	Glaciofluvial	Granodiorite	25		2.5:1	Standard	0.6			
5054.3				Granodiorite	25	Road				Level Crossing		
5054.3	3.2	5057.5	Moraine	Granodiorite	10		3:1	Standard	1			
5057.5				Granodiorite	10	Creek				Culvert		
5057.5	4.5	5062.0	Moraine	Granodiorite	10		3:1	Standard	1			
5062.0				Granodiorite	10	Creek				Culvert		
5062.0	4.2	5066.2	Moraine	Granodiorite	10		3:1	Standard	1			
5066.2	0.2	5066.4	Fluvial	Basalt	10		2.5:1	Standard	0.3			
5066.4				Basalt	10	Wolverine Creek				Bridge		Shallow Piles
5066.4	0.1	5066.5	Fluvial	Basalt	10		2.5:1	Standard	0.3			
5066.5	0.6	5067.1	Moraine	Basalt	10		3:1	Standard	1			
5067.1	1.1	5068.2	Fluvial	Basalt	25		3:1	Standard	0.3			
5068.2	2.0	5070.2	Glaciofluvial	Basalt	25		2.5:1	Standard	0.6			
5070.2				Granodiorite	25	Creek				Culvert		
5070.2	2.1	5072.3	Glaciofluvial	Granodiorite	25		3:1	Standard	0.6			
5072.3				Granodiorite	25	Creek				Culvert		
5072.3	1.8	5074.1	Glaciofluvial	Granodiorite	25		2.5:1	Standard	0.6			
5074.1				Granodiorite	25	Creek				Culvert		
5074.1	3.1	5077.2	Glaciofluvial	Granodiorite	25		3:1	Standard	0.6			
5076.8	0.4	5077.2	Fluvial	Granodiorite	25		3:1	Standard	0.3			
5077.2				Granodiorite	25	Creek				Culvert		
5077.2	0.5	5077.7	Fluvial	Granodiorite	25		3:1	Standard	0.3			
5077.7	1.9	5079.6	Glaciofluvial	Granodiorite	25		2.5:1	Standard	0.6			
5079.6				Granodiorite	25	Creek				Culvert		
5078.6	2.6	5081.2	Glaciofluvial	Granodiorite	25		3:1	Standard	0.6			
5081.2	0.9	5082.1	Organic Deposits	Granodiorite	25		4:1	Standard	0.3		yes	

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
5082.1				Granodiorite	25	Creek				Culvert		
5082.1	1.3	5083.4	Glaciofluvial	Granodiorite	25		3:1	Standard	0.6			
5083.4				Granodiorite	25	Creek				Culvert		
5083.4	0.1	5083.5	Glaciofluvial	Schist	25		3:1	Standard	0.6			
5083.5	0.9	5084.4	Moraine	Schist	10		3:1	Standard	1			
5084.4	0.6	5085.0	Colluvium	Schist	2		3:1	Standard	0.3			
5085.0	1.5	5086.5	Fluvial	Schist	2		3:1	Standard	0.3			
5086.5	4.3	5090.8	Moraine veneer	Schist	2		3:1	Standard	1			
5090.8	4.7	5095.5	Glaciofluvial	Schist	10		0.5:1	Standard/Rippable	0.6			
5095.5				Schist	5	Creek				Culvert		
5095.5	0.2	5095.7	Fluvial	Volcanic breccia	5		2:1	Standard	0.3			
5095.7	0.3	5096.0	Bedrock	Volcanic breccia	0		0.5:1	Blasting Close Pattern				
5096.0	5.1	5101.1	Fluvial	Volcanic breccia	5		2:1	Standard	0.3			
5101.1				Granodiorite	2	Creek				Culvert		
5101.0	1.5	5102.5	Fluvial	Granodiorite	5		2:1	Standard	0.3			
5102.5				Granodiorite	2	Creek				Culvert		
5103.1	2.6	5105.7	Fluvial	Granodiorite	5		2.5:1	Standard	0.3			
5105.7	0.7	5106.4	Moraine veneer	Granodiorite	2		3:1	Standard	1			
5106.4				Granodiorite	2	Creek				Culvert		
5106.4	3.3	5109.7	Moraine veneer	Granodiorite	2		0.5:1	Standard/Blasting Close Pattern	1			
5109.7	3.4	5113.1	Glaciofluvial	Granodiorite	10		2.5:1	Standard	0.6			
5113.1				Granodiorite	10	Creek				Culvert		
5113.1	0.7	5113.8	Glaciofluvial	Granodiorite	10		2:1	Standard	0.6			
5113.8	1.0	5114.8	Colluvium	Granodiorite	5		2:1	Standard	0.3			
5114.8	1.5	5116.3	Fluvial	Granodiorite	10		3:1	Standard	0.3			
5116.3	0.3	5116.6	Moraine	Granodiorite	5		3:1	Standard	1			
5116.6				Granodiorite	5	Creek				Culvert		
5116.6	4.9	5121.5	Colluvium	Granodiorite	5		0.5:1	Standard/Blasting Close Pattern	0.3			
5121.5				Granodiorite	5	Creek				Culvert		
5121.5	1.9	5123.4	Moraine	Granodiorite	5		0.5:1	Standard/Blasting Close Pattern	1			
5123.4	1.5	5124.9	Glaciofluvial	Granodiorite	10		2.5:1	Standard	0.6			
5124.9	0.1	5125.0	Fluvial	Granodiorite	5		3:1	Standard	0.3			
5125.0				Granodiorite	5	Selwyn River				Bridge		Shallow Piles
5125.0	0.2	5125.2	Fluvial	Granodiorite	5		3:1	Standard	0.3			
5125.2	2.4	5127.6	Glaciofluvial	Granodiorite	10		2.5:1	Standard	0.6			
5127.6	2.4	5130.0	Moraine	Gneiss	5		0.5:1	Standard/Blasting Close Pattern	1			
5130.0	0.9	5130.9	Colluvium	Gneiss	5		0.5:1	Standard/Blasting Close Pattern	0.3			
5130.9	3.7	5134.6	Moraine	Gneiss	5		3:1	Standard	1			
5134.6	0.1	5134.7	Fluvial	Gneiss	5		3:1	Standard	0.3			
5134.7				Gneiss	5	Mascot Creek				Bridge		Shallow Piles
5134.7	0.2	5134.9	Fluvial	Gneiss	5		3:1	Standard	0.3			
5134.9	4.4	5139.3	Colluvium	Gneiss	5		0.5:1	Standard/Blasting Close Pattern	1			
5139.3	3.4	5142.7	Glaciofluvial	Gneiss	10		3:1	Standard	0.6			
5142.7				Gneiss	5	Isaac Creek				Bridge		Shallow Piles
5142.7	0.7	5143.4	Glaciofluvial	Gneiss	10		3:1	Standard	0.6			
5143.4	3.8	5147.2	Colluvium	Gneiss	10		3:1	Standard	1			
5147.2				Gneiss	10	Creek				Culvert		
5147.2	6.5	5153.7	Colluvium	Gneiss	10		2:1	Standard	1			
5153.7				Gneiss	10	Britannia Creek						
5153.7	5.3	5159.0	Colluvium	Gneiss	10		0.5:1	Standard/Blasting Close Pattern	1			
5159.0				Gneiss	10	Creek				Culvert		
5159.0	2.6	5161.6	Colluvium	Gneiss	10		2.5:1	Standard	1			
5161.6				Gneiss	10	Creek				Culvert		
5161.6	1.2	5162.8	Colluvium	Gneiss	10		0.5:1	Standard/Blasting Close Pattern	1			

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
5162.8	2.0	5164.8	Glaciofluvial	Gneiss	10		2:1	Standard	0.6			
5164.8				Gneiss	10	Creek				Culvert		
5164.8	1.9	5166.7	Glaciofluvial	Gneiss	10		2:1	Standard	0.6			
5166.7	0.5	5167.2	Colluvium	Gneiss	10		3:1	Standard	1			
5167.2				Gneiss	10	Creek				Culvert		
5167.2	1.4	5168.6	Colluvium	Gneiss	10		2.5:1	Standard	1			
5168.6				Gneiss	10	Excelsior Creek				Bridge		Shallow Piles
5168.6	1.9	5170.5	Colluvium	Gneiss	10		2.5:1	Standard	1			
5170.5	1.4	5171.9	Glaciofluvial	Gneiss	10		3:1	Standard	0.6			
5171.9				Gneiss	10	Creek				Culvert		
5171.9	2.2	5174.1	Glaciofluvial	Gneiss	10		2.5:1	Standard	0.6			
5174.1				Gneiss	10	Coffee Creek				Bridge		Shallow Piles
5174.1	4.2	5178.3	Glaciofluvial	Gneiss	10		2.5:1	Standard	0.6			
5178.3				Gneiss	10	Creek				Culvert		
5178.3	1.9	5180.2	Glaciofluvial	Gneiss	10		2.5:1	Standard	0.6			
5180.2				Gneiss	10	Creek				Culvert		
5180.2	1.7	5181.9	Glaciofluvial	Gneiss	10		2.5:1	Standard	0.6			
5181.9	1.0	5182.9	Colluvium	Gneiss	10		2.5:1	Standard	1			
5182.9				Gneiss	10	Creek				Culvert		
5182.9	1.2	5184.1	Colluvium	Gneiss	10		3:1	Standard	1			
5184.1				Gneiss	10	Creek				Culvert		
5184.1	1.5	5185.6	Colluvium	Gneiss	10		2.5:1	Standard	1			
5185.6	0.1	5185.7	Fluvial	Gneiss	5		2.5:1	Standard	0.3			
5185.7				Gneiss	5	Halfway Creek				Bridge		Shallow Piles
5185.7	0.1	5185.8	Fluvial	Gneiss	5		2.5:1	Standard	0.3			
5185.8	3.4	5189.2	Colluvium	Gneiss	10		3:1	Standard	1			
5189.2				Gneiss	10	Dan Man Creek				Bridge		Shallow Piles
5189.2	1.9	5191.1	Colluvium	Gneiss	10		3:1	Standard	1			
5191.1				Gneiss	10	Creek				Culvert		
5191.1	2.7	5193.8	Colluvium	Gneiss	10		2.5:1	Standard	1			
5193.8	1.2	5195.0	Glaciofluvial	Gneiss	10		3:1	Standard	0.6			
5195.0	0.1	5195.1	Fluvial	Gneiss	5		3:1	Standard	0.3			
5195.1				Gneiss	5	Independence Creek				Bridge		Shallow Piles
5195.1	0.2	5195.3	Fluvial	Gneiss	5		3:1	Standard	0.3			
5195.3	1.9	5197.2	Glaciofluvial	Gneiss	10		2.5:1	Standard	0.6			
5197.2				Gneiss	10	Creek				Culvert		
5197.2	3.0	5200.2	Glaciofluvial	Gneiss	10		2.5:1	Standard	0.6			
5200.2				Schist	10	Carlisle Creek				Bridge		Shallow Piles
5200.2	5.6	5205.8	Glaciofluvial	Schist	10		3:1	Standard	0.6			
5205.8	1.8	5207.6	Colluvium	Schist	10		0.5:1	Standard/Rippable	1			
5207.6				Schist	10	Los Angeles Creek				Bridge		Shallow Piles
5207.6	2.0	5209.6	Bedrock	Schist	0		0.5:1	Rippable				
5209.6	0.9	5210.5	Colluvium	Schist	10		0.5:1	Standard/Rippable	1			
5210.5				Schist	10	Creek				Culvert		
5210.5	3.5	5214.0	Colluvium	Schist	10		2.5:1	Standard	1			
5214.0				Gneiss	10	Creek				Culvert		
5214.0	1.2	5215.2	Colluvium	Gneiss	10		2.5:1	Standard	1			
5215.2				Gneiss	10	Creek				Culvert		
5215.2	0.5	5215.7	Colluvium	Gneiss	10		2.5:1	Standard	1			
5215.7	2.0	5217.7	Fluvial	Gneiss	5		3:1	Standard	0.3			
5217.7				Schist	5	Thorsen Creek				Bridge		Shallow Piles
5217.7	3.0	5220.7	Colluvium	Schist	10		0.5:1	Standard/Rippable	1			
5220.7				Schist	10	Creek				Culvert		
5220.7	5.6	5226.3	Colluvium	Schist	10		3:1	Standard	1			

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
5226.3				Schist	10	Creek				Culvert		
5226.3	1.9	5228.2	Colluvium	Schist	10		3:1	Standard	1			
5228.2				Schist	10	Creek				Culvert		
5228.2	2.8	5231.0	Colluvium	Schist	10		2.5:1	Standard	1			
5231.0				Schist	10	Creek				Culvert		
5231.0	1.9	5232.9	Colluvium	Schist	10		2.5:1	Standard	1			
5232.9				Schist	10	Creek				Culvert		
5232.9	4.6	5237.5	Colluvium	Schist	10		2.5:1	Standard	1			
5237.5				Schist	5	Creek				Culvert		
5237.5	2.2	5239.7	Bedrock	Schist	0		1.5:1					
5239.7	1.0	5240.7	Colluvium	Schist	10		0.5:1	Standard/Rippable	1			
5240.7				Schist	10	Creek				Culvert		
5240.7	2.1	5242.8	Colluvium	Schist	10		0.5:1	Standard/Rippable	1			
5242.8				Schist	5	Creek				Culvert		
5242.8	2.0	5244.8	Bedrock	Schist	0		0.5:1	Rippable				
5244.8	0.9	5245.7	Fluvial	Gneiss	5		2.5:1	Standard	0.3			
5245.7				Gneiss	5	Creek				Culvert		
5245.7	0.4	5246.1	Fluvial	Gneiss	5		2.5:1	Standard	0.3			
5246.1				Gneiss	5	Creek				Culvert		
5246.1	0.9	5247.0	Colluvium	Gneiss	10		2:1	Standard	1			
5247.0				Gneiss	10	Creek				Culvert		
5247.0	2.1	5249.1	Colluvium	Gneiss	10		0.5:1	Standard/Rippable	1			
5249.1	0.2	5249.3	Glaciofluvial	Gneiss	10		2.5:1	Standard	0.6			
5249.3				Gneiss	10	Creek				Culvert		
5249.3	3.0	5252.3	Glaciofluvial	Quartzite	10		2.5:1	Standard	0.6			
5252.3				Quartzite	10	Creek				Culvert		
5252.3	1.1	5253.4	Glaciofluvial	Quartzite	10		3:1	Standard	0.6			
5253.4				Quartzite	10	Creek				Culvert		
5253.4	2.3	5255.7	Colluvium	Quartzite	10		2.5:1	Standard	1			
5255.7	2.3	5258.0	Bedrock	Schist	0		0.5:1	Rippable				
5258.0	0.6	5258.6	Colluvium	Schist	10		0.5:1	Standard/Rippable	1			
5258.6				Schist	0	Creek				Culvert		
5258.6	3.1	5261.7	Bedrock	Schist	0		0.5:1	Rippable				
5261.7				Schist	0	Creek				Culvert		
5261.7	1.5	5263.2	Bedrock	Schist	0		0.5:1	Rippable				
5263.2	0.3	5263.5	Fluvial	Schist	15		2.5:1	Standard	0.3			
5263.5		5263.6		Schist	15	White River channel				Bridge		Deep Piles
5263.6	0.9	5264.5	Fluvial	Schist	15		2.5:1	Standard	0.3			
5264.5	1.3	5265.8		Schist	15	White River				Bridge		Deep Piles with Piers
5265.8	0.4	5266.2	Fluvial	Schist	15		2.5:1	Standard	0.3			
5266.2	0.1	5266.3		Schist	15	White River channel				Bridge		Deep Piles
5266.3	1.2	5267.5	Fluvial	Volcanic- Basalt	15		3:1	Standard	0.3			
5267.5	3.6	5271.1	Colluvium	Volcanic- Basalt	10		2.5:1	Standard	1			
5271.1				Volcanic- Basalt	10	Creek				Culvert		
5271.1	1.7	5272.8	Colluvium	Volcanic- Basalt	10		2.5:1	Standard	1			
5272.8				Volcanic- Basalt	10	Creek				Culvert		
5272.8	2.3	5275.1	Colluvium	Volcanic- Basalt	10		2.5:1	Standard	1			
5275.1				Volcanic- Basalt	10	Creek				Culvert		
5275.1	0.9	5276.0	Colluvium	Volcanic- Basalt	10		3:1	Standard	1			
5276.0				Volcanic- Basalt	10	Creek				Culvert		
5276.0	5.1	5281.1	Colluvium	Volcanic- Basalt	10		3:1	Standard	1			
5281.1				Volcanic- Basalt	10	Creek				Culvert		
5281.1	1.7	5282.8	Colluvium	Volcanic- Basalt	10		3:1	Standard	1			
5282.8				Volcanic- Basalt	10	Creek				Culvert		

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
5282.8	2.0	5284.8	Colluvium	Volcanic- Basalt	10		3:1	Standard	1			
5284.8				Volcanic- Basalt	10	Creek				Culvert		
5284.8	1.8	5286.6	Colluvium	Volcanic- Basalt	10		2.5:1	Standard	1			
5286.6	0.4	5287.0	Fluvial	Volcanic- Basalt	5		2.5:1	Standard	0.3			
5287.0				Volcanic- Basalt	5	Lesaux Creek				Bridge		Shallow Piles
5287.0	1.0	5288.0	Fluvial	Schist	5		2.5:1	Standard	0.3			
5288.0				Schist	0	Creek				Culvert		
5288.0	0.7	5288.7	Bedrock	Schist	0		1.5:1					
5288.7	4.0	5292.7	Fluvial	Schist	5		0.5:1	Standard/Rippable	0.3			
5292.7				Schist	5	Creek				Culvert		
5292.7	4.8	5297.5	Colluvium	Schist	10		0.5:1	Standard/Rippable	1			
5297.5				Schist	10	Creek				Culvert		
5297.5	2.0	5299.5	Colluvium	Volcanic- Basalt	10		0.5:1	Standard/Blasting Close Pattern	1			
5299.5				Volcanic- Basalt	10	Creek				Culvert		
5299.5	1.6	5301.1	Colluvium	Volcanic- Basalt	10		3:1	Standard	1			
5301.1	2.2	5303.3	Organic	Gneiss	10		4:1	Standard	0.3		yes	
5303.3				Gneiss	10	McArthur Creek				Bridge		Shallow Piles
5303.3	0.3	5303.6	Organic	Gneiss	10		4:1	Standard	0.3		yes	
5303.6	1.3	5304.9	Colluvium	Granite	10		2.5:1	Standard	1			
5304.9	1.7	5306.6	Fluvial	Granite	10		3:1	Standard	0.3			
5306.6	2.6	5309.2	Colluvium	Granite	10		2.5:1	Standard	1			
5309.2	1.2	5310.4	Fluvial	Schist	10		3:1	Standard	0.3			
5310.4	2.6	5313.0	Colluvium	Schist	10		0.5:1	Standard/Rippable	1			
5313.0				Schist	10	Creek				Culvert		
5313.0	2.3	5315.3	Colluvium	Schist	10		3:1	Standard	1			
5315.3	0.1	5315.4	Fluvial	Schist	10		3:1	Standard	0.3			
5315.4				Schist	10	Creek				Culvert		
5315.4	0.3	5315.7	Fluvial	Schist	10		3:1	Standard	0.3			
5315.7	7.0	5322.7	Glaciofluvial	Schist	10		3:1	Standard	0.6			
5322.7				Schist	10	Creek				Culvert		
5322.7	0.3	5323.0	Glaciofluvial	Schist	10		3:1	Standard	0.6			
5323.0	1.7	5324.7	Colluvium	Schist	10		3:1	Standard	1			
5324.7				Schist	10	Creek				Culvert		
5324.7	5.6	5330.3	Colluvium	Schist	10		2.5:1	Standard	1			
5330.3				Schist	10	Creek				Culvert		
5330.3	3.3	5333.6	Colluvium	Schist	10		2.5:1	Standard	1			
5333.6				Schist	10	Creek				Culvert		
5333.6	5.9	5339.5	Colluvium	Schist	10		2:1	Standard	1			
5339.5				Schist	10	Creek				Culvert		
5339.5	0.8	5340.3	Colluvium	Schist	10		2.5:1	Standard	1			
5340.3	0.4	5340.7	Fluvial	Schist	10		2.5:1	Standard	0.3			
5340.7				Schist	10	South Fork Ladue River				Bridge		Shallow Piles
5340.7	0.7	5341.4	Fluvial	Schist	10		3:1	Standard	0.3			
5341.4	7.1	5348.5	Colluvium	Schist	10		3:1	Standard	1			
5348.5				Schist	10	Creek				Culvert		
5348.5	4.3	5352.8	Colluvium	Schist	10		2.5:1	Standard	1			
5352.8				Schist	10	Creek				Culvert		
5352.8	1.6	5354.4	Colluvium	Schist	10		2.5:1	Standard	1			
5354.4				Granite	10	Creek				Culvert		
5354.8	2.3	5357.1	Colluvium	Granite	10		3:1	Standard	1			
5357.1				Granite	10	Creek				Culvert		
5357.1	0.7	5357.8	Fluvial	Granite	10		3:1	Standard	0.3			
5357.8	1.4	5359.2	Colluvium	Granite	10		3:1	Standard	1			
5359.9				Granite	10	Creek				Culvert		

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
5359.9	1.5	5361.4	Colluvium	Granite	10		2.5:1	Standard	1			
5361.4	1.8	5363.2	Fluvial	Granite	10		3:1	Standard	0.3			
5363.2	1.1	5364.3	Colluvium	Granite	10		2.5:1	Standard	1			
5364.3	0.1	5364.4	Fluvial	Granite	10		2.5:1	Standard	0.3			
5364.4				Granite	10	Ladue River				Bridge		Shallow Piles
5364.5	0.4	5364.9	Fluvial	Granite	10		0.5:1	Standard/Blasting Close Pattern	0.3			
5364.9	0.8	5365.7	Colluvium	Granite	10		0.5:1	Standard/Blasting Close Pattern	1			
5365.7	0.3	5366.0	Eolian	Granite	10		2.5:1	Standard	0.3			
5366.0				Schist	10	Creek				Culvert		
5366.0	0.1	5366.1	Eolian	Schist	10		2.5:1	Standard	0.3			
5366.1	1.4	5367.5	Colluvium	Schist	10		3:1	Standard	1			
5367.5				Schist	10	Creek				Culvert		
5367.5	1.0	5368.5	Colluvium	Schist	10		2.5:1	Standard	1			
5368.5				Schist	10	Creek				Culvert		
5368.5	1.1	5369.6	Eolian	Schist	10		2:1	Standard	0.3			
5369.6				Schist	10	Creek				Culvert		
5369.6	2.3	5371.9	Eolian	Schist	10		2:1	Standard	0.3			
5371.9				Schist	10	Creek				Culvert		
5371.9	0.4	5372.3	Eolian	Granite	10		2:1	Standard	0.3			
5372.3	0.4	5372.7	Colluvium	Granite	10		2:1	Standard	1			
5372.7	2.4	5375.1	Eolian	Granite	10		2.5:1	Standard	0.3			
5375.1				Granite	10	Ladue River				Bridge		Shallow Piles
5375.1	3.1	5378.2	Eolian	Granite	10		2:1	Standard	0.3			
5378.2				Granite	10	Creek				Culvert		
5378.2	4.2	5382.4	Eolian	Granite	10		2:1	Standard	0.3			
5382.4				Granite	10	Creek				Culvert		
5382.4	9.7	5392.1	Colluvium	Granite	10		0.5:1	Standard/Blasting Close Pattern	1			
5392.1				Granite	10	Above ground pipeline						
5392.1	3.3	5395.4	Colluvium	Granite	10		3:1	Standard	1			
5395.4	0.3	5395.7	Eolian	Granite	10		3:1	Standard	0.3			
5395.7	2.1	5397.8	Colluvium	Granite	10		3:1	Standard	1			
5397.4				Granite	10	Above ground pipeline						
5397.4	0.4	5397.8	Colluvium	Granite	10		2.5:1	Standard	1			
5397.8				Granite	10	Above ground pipeline						
5397.8	6.2	5404.0	Eolian	Granite	10		0.5:1	Standard/Blasting Close Pattern	0.3			
5404.0				Granite	10	Highway				Level Crossing		
5404.0	0.8	5404.8	Eolian	Granite	10		3:1	Standard	0.3			
5404.8				Granite	10	Above ground pipeline						
5404.8	1.4	5406.2	Eolian	Granite	10		3:1	Standard	0.3			
5406.2				Granite	10	road				Level Crossing		
5406.2	1.7	5407.9	Eolian	Granite	10		0.5:1	Standard/Blasting Close Pattern	0.3			
5407.9	0.1	5408.0	Fluvial	Granite	20		3:1	Standard	0.3			
5408.0				Granite	20	road				Level Crossing		
5408.0	1.2	5409.2	Fluvial	Granite	20		3:1	Standard	0.3			
5409.2	0.2	5409.4		Granite	20	Tanana River				Bridge		Deep Piles with Piers
5409.5	1.4	5410.9	Fluvial	Granite	20		3:1	Standard	0.3			
5410.9	0.4	5411.3	Organic Deposits	Granite	20		4:1	Standard	0.3		yes	
5411.3	0.5	5411.8	Fluvial	Granite	20		2.5:1	Standard	0.3			
5411.8	0.2	5412.0	Organic Deposits	Granite	20		4:1	Standard	0.3		yes	
5412.0	0.4	5412.4	Fluvial	Granite	20		3:1	Standard	0.3			
5412.4	0.9	5413.3	Organic Deposits	Granite	20		4:1	Standard	0.3		yes	
5413.3	0.1	5413.4	Fluvial	Granite	20		2.5:1	Standard	0.3			
5413.7	0.5	5414.2	Organic Deposits	Granite	20		4:1	Standard	0.3		yes	
5414.2	0.3	5414.5	Fluvial	Granite	20		2.5:1	Standard	0.3			

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
5414.5	0.5	5415.0	Organic Deposits	Granite	20		4:1	Standard	0.3		yes	
5415.0	1.6	5416.6	Fluvial	Granite	20		2:1	Standard	0.3			
5416.6	0.1	5416.7		Granite	20	Tok River				Bridge		Shallow Piles
5416.7	2.2	5418.9	Fluvial	Granite	20		2.5:1	Standard	0.3			
5418.9	0.7	5419.6	Organic Deposits	Schist	20		4:1	Standard	0.3		yes	
5419.6	1.6	5421.2	Fluvial	Schist	20		2.5:1	Standard	0.3			
5421.2				Schist	20	road				Level Crossing		
5421.2	20.6	5441.8	Fluvial	Schist	20		2.5:1	Standard	0.3			
5441.8				Schist	20	road				Level Crossing		
5441.8	1.5	5443.3	Fluvial	Schist	20		2.5:1	Standard	0.3			
5443.3				Schist	20	road				Level Crossing		
5443.3	0.2	5443.5	Fluvial	Schist	20		2.5:1	Standard	0.3			
5443.5				Schist	20	road				Level Crossing		
5443.5	3.2	5446.7	Fluvial	Schist	20		2:1	Standard	0.3			
5446.7				Schist	20	road				Level Crossing		
5446.7	0.1	5446.8	Fluvial	Schist	20		2:1	Standard	0.3			
5446.8	4.5	5451.3	Colluvium	Schist	10		2.5:1	Standard	1			
5451.6	1.4	5453.0	Organic Deposits	Schist	20		4:1	Standard	0.3		yes	
5453.0	0.2	5453.2	Glaciofluvial	Schist	20		2:1					
5453.2	0.1	5453.3	Fluvial	Schist	20		2:1	Standard	0.3			
5453.3				Schist	20	Creek				Culvert		
5453.3	0.1	5453.4	Fluvial	Schist	20		2:1	Standard	0.3			
5453.4	0.7	5454.1	Glaciofluvial	Schist	20		3:1	Standard	0.6			
5454.1	1.0	5455.1	Fluvial	Schist	20		2.5:1	Standard	0.3			
5455.1	0.8	5455.9	Glaciofluvial	Schist	20		2.5:1	Standard	0.6			
5455.9	0.1	5456.0	Fluvial	Schist	20		2.5:1	Standard	0.3			
5456.0	0.1	5456.1		Schist	20	Yerrick Creek				Bridge		Shallow Piles
5456.1	0.1	5456.2	Fluvial	Schist	20		2.5:1	Standard	0.3			
5456.2	6.1	5462.3	Glaciofluvial	Schist	20		2.5:1	Standard	0.6			
5462.3	1.2	5463.5	Fluvial	Schist	20		2.5:1	Standard	0.3			
5463.5				Schist	20	Cathedral Rapids Creek No 1				Bridge		Shallow Piles
5463.5	0.6	5464.1	Fluvial	Schist	20		2.5:1	Standard	0.3			
5464.1	0.2	5464.3	Glaciofluvial	Schist	20		2.5:1	Standard	0.6			
5464.3	0.1	5464.4	Fluvial	Schist	20		2.5:1	Standard	0.3			
5464.4				Schist	20	Cathedral Rapids Creek No 2				Bridge		Shallow Piles
5464.4	1.4	5465.8	Fluvial	Schist	20		2.5:1	Standard	0.3			
5465.8	1.1	5466.9	Glaciofluvial	Schist	20		2.5:1	Standard	0.6			
5466.9				Schist	20	Creek				Culvert		
5466.4	1.5	5467.9	Glaciofluvial	Schist	20		2:1	Standard	0.6			
5467.9				Schist	20	Creek				Culvert		
5467.9	1.6	5469.5	Glaciofluvial	Schist	20		2.5:1	Standard	0.6			
5469.5	0.3	5469.8	Fluvial	Schist	20		2.5:1	Standard	0.3			
5469.8				Schist	20	Sheep Creek				Bridge		Shallow Piles
5469.8	0.3	5470.1	Fluvial	Schist	20		2.5:1	Standard	0.3			
5470.1	3.1	5473.2	Glaciofluvial	Schist	20		2.5:1	Standard	0.6			
5473.2				Schist	20	Creek				Culvert		
5473.2	6.0	5479.2	Glaciofluvial	Schist	20		3:1	Standard	0.6			
5479.2	0.6	5479.8		Schist	20	Robertson River				Bridge		Deep Piles with Piers
5479.8	1.7	5481.5	Glaciofluvial	Schist	20		3:1	Standard	0.6			
5481.5	0.2	5481.7	Fluvial	Schist	20		3:1	Standard	0.3			
5481.7	2.2	5483.9	Glaciofluvial	Schist	20		2:1	Standard	0.6			
5483.9	0.1	5484.0	Organic Deposits	Schist	20		4:1	Standard	0.3		yes	
5484.0	0.3	5484.3	Glaciofluvial	Schist	20		3:1	Standard	0.6			
5484.3	0.2	5484.5	Organic Deposits	Schist	20		4:1	Standard	0.3		yes	

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
5484.5	0.8	5485.3	Glaciofluvial	Schist	20		2.5:1	Standard	0.6			
5485.3	0.8	5486.1	Fluvial	Schist	20		3:1	Standard	0.3			
5486.1	0.2	5486.3	Organic Deposits	Schist	20		4:1	Standard	0.3		yes	
5486.3	8.1	5494.4	Glaciofluvial	Schist	20		2.5:1	Standard	0.6			
5494.4	0.3	5494.7	Fluvial	Schist	20		2:1	Standard	0.3			
5494.7				Schist	20	Bear Creek				Bridge		Shallow Piles
5494.7	0.1	5494.8	Fluvial	Schist	20		2.5:1	Standard	0.3			
5494.8	1.8	5496.6	Glaciofluvial	Schist	20		2:1	Standard	0.6			
5496.6	0.1	5496.7	Fluvial	Schist	20		2:1	Standard	0.3			
5496.7				Schist	20	Chief Creek				Bridge		Shallow Piles
5496.7	0.2	5496.9	Fluvial	Schist	20		2:1	Standard	0.3			
5496.9	2.6	5499.5	Glaciofluvial	Schist	20		2:1	Standard	0.6			
5499.5				Schist	20	Road				Level Crossing		
5499.5	1.5	5501.0	Glaciofluvial	Schist	20		2:1	Standard	0.6			
5501.0	0.4	5501.4	Fluvial	Schist	20		2:1	Standard	0.3			
5501.4				Schist	20	Creek				Culvert		
5501.4	5.6	5507.0	Fluvial	Schist	20		2.5:1	Standard	0.3			
5507.0	0.5	5507.5	Colluvium	Granite	5		2:1	Standard	1			
5507.5	1.0	5508.5	Fluvial	Granite	2		2:1	Standard	0.3			
5508.5	5.2	5513.7	Fluvial	Granite	2		2:1	Standard	0.3			
5513.7	0.9	5514.6	Colluvium Veneer	Granite	2		2:1	Standard	1			
5514.6	3.3	5517.9	Fluvial	Granite	2		0.5:1	Standard/Blasting Close Pattern	0.3			
5517.9				Granite	2	Berry Creek						
5517.9	1.2	5519.1	Fluvial	Granite	2		2:1	Standard	0.3			
5519.1				Granite	2	Creek				Culvert		
5519.1	1.2	5520.3	Colluvium	Granite	5		3:1	Standard	1			
5520.3				Granite	5	Creek				Culvert		
5520.3	2.0	5522.3	Colluvium	Granite	5		2:1	Standard	1			
5522.3				Granite	5	Sears Creek				Bridge		Shallow Piles
5522.3	0.6	5522.9	Colluvium	Granite	5		2:1	Standard	1			
5522.9				Granite	5	Highway				Level Crossing with Signals		
5522.9	3.5	5526.4	Colluvium	Granite	5		0.5:1	Standard/Blasting Close Pattern	1			
5526.4				Schist	5	Creek				Culvert		
5526.4	1.7	5528.1	Glaciofluvial	Schist	20		3:1	Standard	0.6			
5528.1	0.1	5528.2	Fluvial	Schist	20		3:1	Standard	0.3			
5528.2				Schist	20	Dry Creek				Bridge		Shallow Piles
5528.2	0.1	5528.3	Fluvial	Schist	20		3:1	Standard	0.3			
5528.3	1.5	5529.8	Glaciofluvial	Schist	20		2.5:1	Standard	0.6			
5529.8				Schist	20	Road				Level Crossing		
5529.8	1.3	5531.1	Glaciofluvial	Schist	20		3:1	Standard	0.6			
5531.1				Schist	20	Above ground pipeline						
5531.1	1.0	5532.1	Glaciofluvial	Schist	20		3:1	Standard	0.6			
5532.1	0.3	5532.4		Schist	20	Johnson River				Bridge		Deep Piles with Piers
5532.4	2.6	5535.0	Glaciofluvial	Schist	30		3:1	Standard	0.6			
5535.0				Schist	30	Road				Level Crossing		
5535.0	2.3	5537.3	Glaciofluvial	Schist	30		2.5:1	Standard	0.6			
5537.3				Schist	30	Road				Level Crossing		
5537.3	3.7	5541.0	Glaciofluvial	Schist	30		2:1	Standard	0.6			
5541.0				Schist	30	Above ground pipeline				Pipeline flyover		
5541.0	3.2	5544.2	Glaciofluvial	Schist	30		2.5:1	Standard	0.6			
5544.2	0.1	5544.3	Fluvial	Schist	30		2:1	Standard	0.3			
5544.3				Schist	30	Creek				Culvert		
5544.3	0.3	5544.6	Fluvial	Schist	30		2:1	Standard	0.3			
5544.6				Schist	30	Creek				Culvert		

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
5544.6	0.4	5545.0	Fluvial	Schist	30		2.5:1	Standard	0.3			
5545.0				Schist	30	Little Gerstle River				Bridge		Shallow Piles
5545.0	0.8	5545.8	Fluvial	Schist	30		2.5:1	Standard	0.3			
5545.8	2.5	5548.3	Glaciofluvial	Schist	30		2:1	Standard	0.6			
5548.3				Schist	30	Creek				Culvert		
5548.3	2.2	5550.5	Fluvial	Schist	30		2:1	Standard	0.3			
5550.5				Schist	30	Road				Level Crossing		
5550.5	1.3	5551.8	Fluvial	Schist	30		2:1	Standard	0.3			
5551.8	0.6	5552.4		Schist	30	Gerstle River				Bridge		Deep Piles with Piers
5552.4	0.5	5552.9	Fluvial	Schist	30		2.5:1	Standard	0.3			
5552.9				Schist	30	Road				Level Crossing		
5552.9	1.1	5554.0	Fluvial	Schist	30		2.5:1	Standard	0.3			
5554.0	1.4	5555.4	Eolian	Schist	30		2.5:1	Standard	0.3			
5555.4	3.6	5559.0	Glaciofluvial	Schist	30		3:1	Standard	0.6			
5559.0				Schist	30	Road				Level Crossing		
5559.0	3.1	5562.1	Glaciofluvial	Schist	30		3:1	Standard	0.6			
5562.1	2.1	5564.2	Eolian	Schist	30		3:1	Standard	0.3			
5564.2				Schist	30	Road				Level Crossing		
5564.2	0.8	5565.0	Eolian	Schist	30		3:1	Standard	0.3			
5565.0				Schist	30	Road				Level Crossing		
5565.0	0.5	5565.5	Eolian	Schist	30		3:1	Standard	0.3			
5565.5				Schist	30	Road				Level Crossing		
5565.5	1.6	5567.1	Eolian	Schist	30		2.5:1	Standard	0.3			
5567.1				Schist	30	Road				Level Crossing		
5567.1	2.2	5569.3	Glaciofluvial	Schist	30		2.5:1	Standard	0.6			
5569.3	0.9	5570.2	Fluvial	Schist	30		2:1	Standard	0.3			
5570.2				Schist	30	Sawmill Creek				Bridge		Shallow Piles
5570.2	0.7	5570.9	Glaciofluvial	Schist	30		2:1	Standard	0.6			
5570.9	0.1	5571.0	Fluvial	Schist	30		2:1	Standard	0.3			
5571.0	4.7	5575.7	Glaciofluvial	Schist	30		2.5:1	Standard	0.6			
5575.7	0.1	5575.8	Fluvial	Schist	30		2.5:1	Standard	0.3			
5575.8	0.6	5576.4	Glaciofluvial	Schist	30		2:1	Standard	0.6			
5576.4				Schist	30	Rhoade Creek				Bridge		Shallow Piles
5576.4	0.4	5576.8	Glaciofluvial	Schist	30		2:1	Standard	0.6			
5576.8	0.2	5577.0	Fluvial	Schist	30		2:1	Standard	0.3			
5577.0				Schist	30	Road				Level Crossing		
5577.0	0.3	5577.3	Glaciofluvial	Schist	30		2:1	Standard	0.6			
5577.3	1.1	5578.4	Glaciofluvial	Schist	30		2:1	Standard	0.6			
5578.4	0.1	5578.5	Fluvial	Schist	30		2:1	Standard	0.3			
5578.5	1.2	5579.7	Glaciofluvial	Schist	30		2:1	Standard	0.6			
5579.7	0.1	5579.8	Fluvial	Schist	30		2:1	Standard	0.3			
5579.8	0.6	5580.4	Glaciofluvial	Schist	30		2:1	Standard	0.6			
5580.4				Schist	30	Road				Level Crossing		
5580.4	0.8	5581.2	Glaciofluvial	Schist	30		2:1	Standard	0.6			
5581.2				Schist	30	Road				Level Crossing		
5581.2	1.0	5582.2	Glaciofluvial	Schist	30		2:1	Standard	0.6			
5582.2				Schist	30	Road				Level Crossing		
5582.2	0.2	5582.4	Glaciofluvial	Schist	30		2:1	Standard	0.6			
5582.4	0.1	5582.5	Fluvial	Schist	30		2:1	Standard	0.3			
5582.5	2.4	5584.9	Glaciofluvial	Schist	30		2:1	Standard	0.6			
5584.9				Schist	30	Road				Level Crossing		
5584.9	0.5	5585.4	Glaciofluvial	Schist	30		2.5:1	Standard	0.6			
5585.4				Schist	30	Road				Level Crossing		
5585.4	0.6	5586.0	Glaciofluvial	Schist	30		3:1	Standard	0.6			

Terrain Analysis							Civil Design Features					
Start Km Post	Mileage (km)	End Km Post	Surficial Terrain	Bedrock Geology	Depth to Bedrock (m)	Features Requiring Civil Structures	Cut or Fill Slope (H:V)	Excavatability assessment	Topsoil Depth (m)	Civil Structure	Geotextile Required under Base	Foundations
5586.0				Schist	30	Road				Level Crossing		
5586.0	0.3	5586.3	Glaciofluvial	Schist	30		3:1	Standard	0.6			
5586.3	0.6	5586.9	Moraine	Schist	30		2.5:1	Standard	1			
5586.9				Schist	30	Road				Level Crossing		
5586.9	0.2	5587.1	Moraine	Schist	30		2.5:1	Standard	1			
5587.1				Schist	30	Highway				Level Crossing with Signals		
5587.2	0.1	5587.3	Glaciofluvial	Schist	30		2.5:1	Standard	0.6			
5587.3				Schist	30	pipeline						
5587.3	0.3	5587.6	Glaciofluvial	Schist	30		2.5:1	Standard	0.6			
5587.6				Schist	30	Road				Level Crossing		
5587.6	0.5	5588.1	Moraine	Schist	30		2:1	Standard	1			
5588.1				Schist	30	Road				Level Crossing		
5588.1	3.2	5591.3	Moraine	Schist	30		2.5:1	Standard	1			
5591.3	0.3	5591.6	Glaciofluvial	Schist	30		2.5:1	Standard	0.6			
5591.6	0.5	5592.1	Moraine	Schist	30		2:1	Standard	1			
5592.1	1.3	5593.4	Glaciofluvial	Schist	30		2.5:1	Standard	0.6			
5593.4				Schist	30	Road				Level Crossing		
5593.4	1.9	5595.3	Glaciofluvial	Schist	30		2.5:1	Standard	0.6			
5595.3				Schist	30	Road				Level Crossing		
5595.3	0.6	5595.9	Glaciofluvial	Schist	30		2.5:1	Standard	0.6			
5595.9	1.4	5597.3	Fluvial	Schist	30		2:1	Standard	0.3			
5597.3				Schist	30	Road				Level Crossing		
5597.3	0.5	5597.8	Fluvial	Schist	30		2:1	Standard	0.3			
5597.8	0.6	5598.4	Glaciofluvial	Schist	30		2:1	Standard	0.6			
END												