

WCSA-12

Mr. A. M. Toys,
Bridge Engineer.
Materials & Research Section.

August 4, 1960.

D.H.O. FOUNDATION INVESTIGATION

W.J. 60-F-53 -- W.P. 203-58.

Attention: Mr. E. McCombie.

Re: Proposed Crossing of Hwy. 403 and Hwy. 2,
Twp. of Ancaster, Cty. of Wentworth,
District No.4.

Accompanying this memo, is our detailed report on
the subsoil conditions existing at the above site.

The conclusions and recommendations to be followed
in your future design work, are summarized in the report,
and are self-explanatory.

Should any questions arise in connection with this
project that you would like to discuss, please feel free to
contact our Office.

L. G. Soderman,
PRINCIPAL FOUNDATIONS ENGR.
Per:

Altman

(A. Sternac,
FOUNDATIONS OFFICE ENGR.)

AS/MGP
attach.

cc: Messrs. A. M. Toys (2)
H. A. Tregaskes
D. C. Ramsay
I. Campbell
W. E. Richardson
E. J. Kovich
A. Watt
Foundations Office
Gen. Files.

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FOUNDATION INVESTIGATION

For

Proposed Crossing of Hwy. 403 and Hwy. 2,
Twp. of Ancaster, Cty. of Wentworth,
W.J. 60-F-53 -- W.P. 203-58 -- Dist. No.4.

1. INTRODUCTION:

A bridge structure has been planned for construction over Hwy. 2, approximately 1 1/2 miles W. of Ancaster in the County of Wentworth, (Station 291+70.72, Plan No. 15B 85). At this location proposed Hwy. 403, Line 'B', underpasses the revised Hwy. 2 Line 'A', between Lots 37 and 38, Con. III.

A subsoil investigation was carried out at the site of this intersection and this report contains the field and laboratory findings and recommendations for the foundation of the underpass structure.

2. DESCRIPTION OF SITE AND GEOLOGY:

The area on either side of Hwy. 2, which is at a raised elevation, is generally level to undulating and is uncultivated pastureland. An R.C. culvert running underneath Hwy. 2, drains the water of a shallow creek, running North to South.

The site under consideration, is located between the Horeshore Moraines and the Norfolk Sand Plain. According to the available geological information, the area under investigation contains much less clay than sand and gravel; consequently, less land is cultivated.

3. DESCRIPTION OF FIELD AND LABORATORY WORK:

Field work consisted of six sampled boreholes with dynamic cone penetration tests adjacent to each borehole. After some initial changes, the final locations of the boreholes were staked out by the survey crew of the Location Section.

cont'd. /2 ...

3. DESCRIPTION OF FIELD AND LABORATORY WORK: (cont'd.) ...

The exploration programme was carried out by standard coredrill machines adapted for soil sampling. Conventional wash boring procedure was followed. Samples were recovered at depths required, by means of a 2" O.D. split-spoon sampler. The dimensions of this spoon sampler and the energy used in driving it, conform to the requirements of the Standard Penetration Test. Drawing No. 60-F-53A shows the borehole locations, their respective elevations, and the estimated subsoil stratigraphy.

Samples were visually examined and identified in the field before being transported to the laboratory. Upon receipt in the laboratory, moisture contents and the grain distribution curves of a few typical samples were determined. Laboratory and field test results have been summarized in Table No. 1 and are included in this report under Appendix I.

4. SUBSOIL CONDITIONS:

4.1 General:

In Borings 1, 2, 3 and 5, which were drilled from a higher elevation (802'), road fill material was found in the top 10' to 12'. This fill material consists of a heterogeneous mixture of silty sand, gravel and a small amount of clay and organic material, which is generally in a loose to compact state of packing.

In Borings 4 and 6, below the 2' to 4' of the top soil, lies a layer of sandy silt and silty sand with decayed wood and organic material, of approximately 6' thickness. It is in a very loose to loose state of packing. The presence of this layer is also evident in Borings 3 and 5, due to the presence of the creek passing underneath Hwy. 2.

Below the above-mentioned layers, a distinct layer of silty sand and sandy silt was encountered in all the borings. At further depths, a layer of silt and clay silt was encountered.

In Boring 6, which was explored to a further depth of 81', a layer of silt and sandy silt was encountered.

4. SUBSOIL CONDITIONS: (cont'd.) ...

In the order of stratigraphic succession, the following soil types are defined:-

4.2 Sandy Silt and Silty Sand:

Below the top soil and road fill material, a layer of sandy silt, silty sand and silt was encountered. It is very irregular in bedding. In Borings 1, 3 and 5, the thickness of this layer is 30' (Approx. Elev. 787' to 757').

The density increases from compact to very dense with depth up to approximately Elev. 775', then again decreases to dense and compact at further depth. It contains, on the average, 67% silt and 33% sand. Moisture content is approximately 19%.

In Borings 2, 4 and 6, the thickness of this layer is 35' to 40' (Approx. Elev. 785' to 740'). The density increases from compact to dense up to an approx. Elev. 760', then again decreases to compact at further depths. On the average, it contains 65% silt, 32% sand and 3% gravel. Moisture content is 20.5%.

4.3 Silt:

In Borings 1, 3 and 5, a layer of silt of low compressibility was encountered at an Elev. of 757'. This layer was explored to a depth of 72' (Elev. 730.5') in Boring 1. The density varies from compact to dense. The average value of 'N' is 24.

4.4 Clayey Silt:

In Borings 2 and 6, this layer of clayey silt was encountered at Elev. 747'. In Boring 2, it extends to an Elev. of 739' where the boring was stopped. In Boring 6, it extends to an Elev. of 730'. The density of this layer varies from compact to very dense.

4.5 Sandy Silt:

In Boring 6, a layer of silt to sandy silt with some clay and gravel was encountered from Elev. 730' to 708'. It is very dense; the average value of 'N' is above 100.

cont'd. /4 ...

5. GROUND WATER CONDITIONS:

Observations and measurements carried out during boring and sampling operations indicate that the water table is at the approx. Elev. 790'.

Exact water level elevations for each borehole are given on the log sheets appended to this report.

No artesian water condition was observed during the sub-soil investigation.

6. DISCUSSION AND RECOMMENDATIONS:

First, considering the East Abutment footing and referring to the bore logs for Borings 1 and 2 appended to this report, it can be seen that the upper layer of silt material is competent to take the load of the proposed structure.

From the average 'N' value of 50, considering this layer as a cohesionless material, an allowable bearing load of 3.0 T/sq.ft. can be applied to spread footings approx. 6' wide, at Elev. 786' or below, and taking into account a factor of safety of 3.

Considering the West Abutment footing and referring to Borings 5 and 6, it is found that the layer of silt material is competent to take the load of the proposed structure. From the average minimum 'N' value of 30 and considering it as a cohesionless layer, an allowable bearing load of 2.5 T/sq.ft. can be applied to spread footings approx. 6' wide at an elevation 781' or below, and taking into account a factor of safety of 3.

Similarly, for the centre support (Borings 3 and 4), an allowable bearing load of 2.5 T/sq.ft. can be applied to spread footings founded at Elev. 784' or below.

Settlements resulting from the application of a bearing pressure of 2.5 T/sq.ft. as recommended, will be within tolerable limits.

cont'd. /5 ...

6. DISCUSSION AND RECOMMENDATIONS: (cont'd.) ...

Depending on the ground water conditions during construction, ground water control will be necessary during footing excavations. Use of sheet piles driven below the bottom of the footings is recommended to facilitate the pumping out of water.

No approach fill stability problems will be encountered with the standard 2:1 slopes.

7. SUMMARY:

a) The subsoil at the investigated site below the topsoil and road fill material consists of interlayers of sandy silt, silty sand and clayey silt.

b) Subsoil conditions are such that spread footing support can be obtained in the upper silt layer.

Recommended footing elevations are:-

786' or below - on the East side.

784' or below - at the centre support.

781' or below - on the West side.

c) An allowable bearing pressure of 2.5 and 3.0 T/sq.ft. can be used for the West abutment and the pier and the East abutment, respectively. Settlement consequent upon application of these bearing pressures will be within tolerable limits.

d) Depending upon the ground water conditions during construction, water control will be necessary during the excavation. The use of sheet piles is recommended for facilitating the removal of water.

e) No approach fill stability problems are anticipated.

cont'd. /6 ...

8. MISCELLANEOUS:

The field work was commenced on June 21, 1960 by our Project Engineer, Mr. W. Kulmatickas, and was taken over by Mr. B. Ghadiali and completed by June 28, 1960, using D.H.O. drilling machines.

August 1960.

REPORT PREPARED BY:

B. M. Ghadiali
B. Ghadiali,
Project Foundation Engr.

REPORT APPROVED BY:

A. Stermac
A. Stermac,
Foundations Office Engr.

APPENDIX I.

SUMMARY OF FIELD & LABORATORY TESTS

JOB 60-F-53

W.P. 203-58

HOLE NO.	SAMP NO.	SAMPLE DEPTH (FEET)	MATERIAL DESCRIPTION	PENET'N REGIST. BLOWS/FT.	MOIST. CONT. %	PLASTIC LIMIT %	LIQUID LIMIT %	SHEAR STRENGTH p.s.f.	UNIT WEIGHT p.c.f.	REMARKS
1	S1	3'-4.5'	Road Fill (Sand-silt-organic material Loose, brown	4	-	-	-	-	-	
	S2	6'-7.5'	" " " "	3	-	-	-	-	-	
	S3	10'-11.5'	" " " "	5	-	-	-	-	-	
	S4	15'-16.5'	Silt, Silty Sand. Compact, brown.	14	-	-	-	-	-	
	S5	20'-21.5'	Silty Sand. V. Dense, br. grey.	92	-	-	-	-	-	
	S6	30'-31.5'	Silt, sandy silt. V. dense, br. grey	62	-	-	-	-	-	
	S7	40'-41.5'	Silt, silty sand. Dense, br. grey.	32	-	-	-	-	-	
	S8	50'-51.5'	Silt. Compact Brownish Grey.	22	-	-	-	-	-	
	S9	70'-71.5'	Silt, compact, grey.	27	-	-	-	-	-	
2	S1	3'-4.5'	Road Fill (Sand-silt-org. material) Loose, brown.	6	-	-	-	-	-	
	S2	6'-7.5'	Road Fill (Sand-silt-gravel) v. dense brown.	98	-	-	-	-	-	
	S3	10'-11.5'	" " " "	115	-	-	-	-	-	
	S4	15'-16.5'	Silt, silty sand. V. dense brown.	102	-	-	-	-	-	
	S5	20'-21.5'	" " " "	83	-	-	-	-	-	
	S6	30'-31.5'	Silt, silty sand. Compact grey.	22	-	-	-	-	-	
	S7	40'-41.5'	" " " "	22	-	-	-	-	-	

SUMMARY OF FIELD & LABORATORY TESTS

JOB 60-F-53

W.P. 203-58

HOLE NO.	SAMP NO.	SAMPLE DEPTH (FEET)	MATERIAL DESCRIPTION	PENET'N RESIST. BLOWS/FT.	MOIST. CONT. %	PLASTIC LIMIT %	LIQUID LIMIT %	SHEAR STRENGTH p.s.f.	UNIT WEIGHT p.c.f.	REMARKS
2	S8	50'-51.5'	Silt, sandy silt. V. dense, grey.	81	-	-	-	-	-	
	S9	60'-61.5'	Clayey silt. V. dense grey.	82	-	-	-	-	-	
3	S1	5'-6.5'	Road Fill (Silt-sand) Loose brown,	3	13.6	-	-	-	-	
	S2	10'-11.5'	Road Fill (Silt-sand-org. material) Compact, brown,	20	-	-	-	-	-	
	S3	15'-16.5'	Decayed org. & wood material. Loose Black	11	-	-	-	-	-	
	S4	20'-21.5'	Silt, silty sand Compact br. grey.	23	-	-	-	-	-	
	S5	25'-26.5'	Silt, silty sand. V. dense, br. grey	60	17.6	-	-	-	-	
	S6	30'-31.5'	Silt, sandy silt. V. dense, grey.	88	19.4	-	-	-	-	
	S7	40'-41.5'	Silt, silty sand, dense br. grey	29	-	-	-	-	-	
	S8	50'-51.5	Silt, compact grey.	23	-	-	-	-	-	
4	S1	3'-4.5'	Topsoil (Silt-sand-org. material) V. loose, black.	P	-	-	-	-	-	
	S2	6'-7.5'	Silt-sand-org. material V. loose, br.	P	29.2	-	-	-	-	
	S3	10'-11.5'	Silt, sandy silt, silty sand, dense, brownish grey.	34	-	-	-	-	-	
	S4	15'-16.5	Silt, silty sand compact br. grey	28	23.0	-	-	-	-	

SUMMARY OF FIELD & LABORATORY TESTS

JOB 60-F-53

W.P. 203-58

HOLE NO.	SAMP NO.	SAMPLE DEPTH (FEET)	MATERIAL DESCRIPTION	PENET'N RESIST. BLOWS/FT.	MOIST. CONT. %	PLASTIC LIMIT %	LIQUID LIMIT %	SHEAR STRENGTH p.s.f.	UNIT WEIGHT p.c.f.	REMARKS
4	S5	20'-21.5'	Silt, silty sand, sandy silt, compact grey.	28	-	-	-	-	-	
	S6	25'-26.5'	Silt, silty sand dense, br. grey.	36	-	-	-	-	-	
	S7	30'-31.5'	Silt, silty sand, trace of gravel, V. dense, brown, grey.	50	19.4	-	-	-	-	
	S8	40'-41.5'	Silt, sandy silt, compact br. grey	19	19.9	-	-	-	-	
	S9	50'-51.5'	Silt, silty sand, dense, br. grey.	34	-	-	-	-	-	
5	S1	5'-6.5'	Road Fill (Silt-sand-org. material) Loose, brown.	2	-	-	-	-	-	
	S2	10'-11.5'	Road Fill (Silt-sand-gravel-org. material) Compact. brown	18	15.3	-	-	-	-	
	S3	15'-16.5'	Silt-sand-decayed org. material, loose, Black	10	-	-	-	-	-	
	S4	20'-21'	Silt, silty sand. V. dense, grey, brown.	99	15.4	-	-	-	-	
	S5	25'-26.5'	" " " "	137	-	-	-	-	-	
	S6	30'-31.5'	" " " "	96	-	-	-	-	-	
	S7	40'-41.5'	Silt, silty sand, sandy silt. Dense brown, grey.	40	24.0	-	-	-	-	
	S8	50'-51.5'	Silt, compact, grey.	24	-	-	-	-	-	

SUMMARY OF FIELD & LABORATORY TESTS

JOB 60-F-53

W.P. 203-58

HOLE NO.	SAMP NO.	SAMPLE DEPTH (FEET)	MATERIAL DESCRIPTION	PENET'N RESIST. BLOWS/FT.	MOIST. CONT. %	PLASTIC LIMIT %	LIQUID LIMIT %	SHEAR STRENGTH p.s.f.	UNIT WEIGHT p.c.f.	REMARKS
6	S1	3'-4.5'	Silt-sand-org. decayed material, v. loose. Brown, black	P	-	-	-	-	-	
	S2	6'-7.5'	" " "	2	-	-	-	-	-	
	S3	10'-11.5'	Silt, silty sand, compact br. grey	11	20.2	-	-	-	-	
	S4	15'-16.5'	Silt, silty sand. Dense brown grey	52	-	-	-	-	-	
	S5	20'-21.5'	Silt, silty sand, sandy silt, very dense, grey.	66	17.0	-	-	-	-	
	S6	25'-26.5'	Silt, silty sand, compact grey	15	-	-	-	-	-	
	S7	30'-31.5'	Silt, silty sand and sandy silt, loose brown grey	7	25.6	-	-	-	-	
	S8	35'-36.5'	Silt, sandy silt, compact br. grey.	14	-	-	-	-	-	
	S9	40'-41.5'	Silt, sandy silt, loose, br. grey.	9	-	-	-	-	-	
	S10	50'-51.5'	Clayey silt & some gravel, compact grey.	23	21.0	-	-	-	-	
	S11	60'-61.3'	Silt to sandy silt with clay & gravel v. dense, grey.	56	-	-	-	-	-	
	S12	67'-67.4'	" " "	51-5"	-	-	-	-	-	Lost sample
	S13	70'-71.5'	" " "	85	12.2	-	-	-	-	
	S14	80'-81'	" " "	109	17.9	-	-	-	-	
			S denotes Split Spoon Sample							

DEPARTMENT OF HIGHWAYS - ONTARIO MATERIALS AND RESEARCH SECTION

W.P. 203-58 BORE HOLE NO. 1

JOB 60-F-53 STATION See Drawing

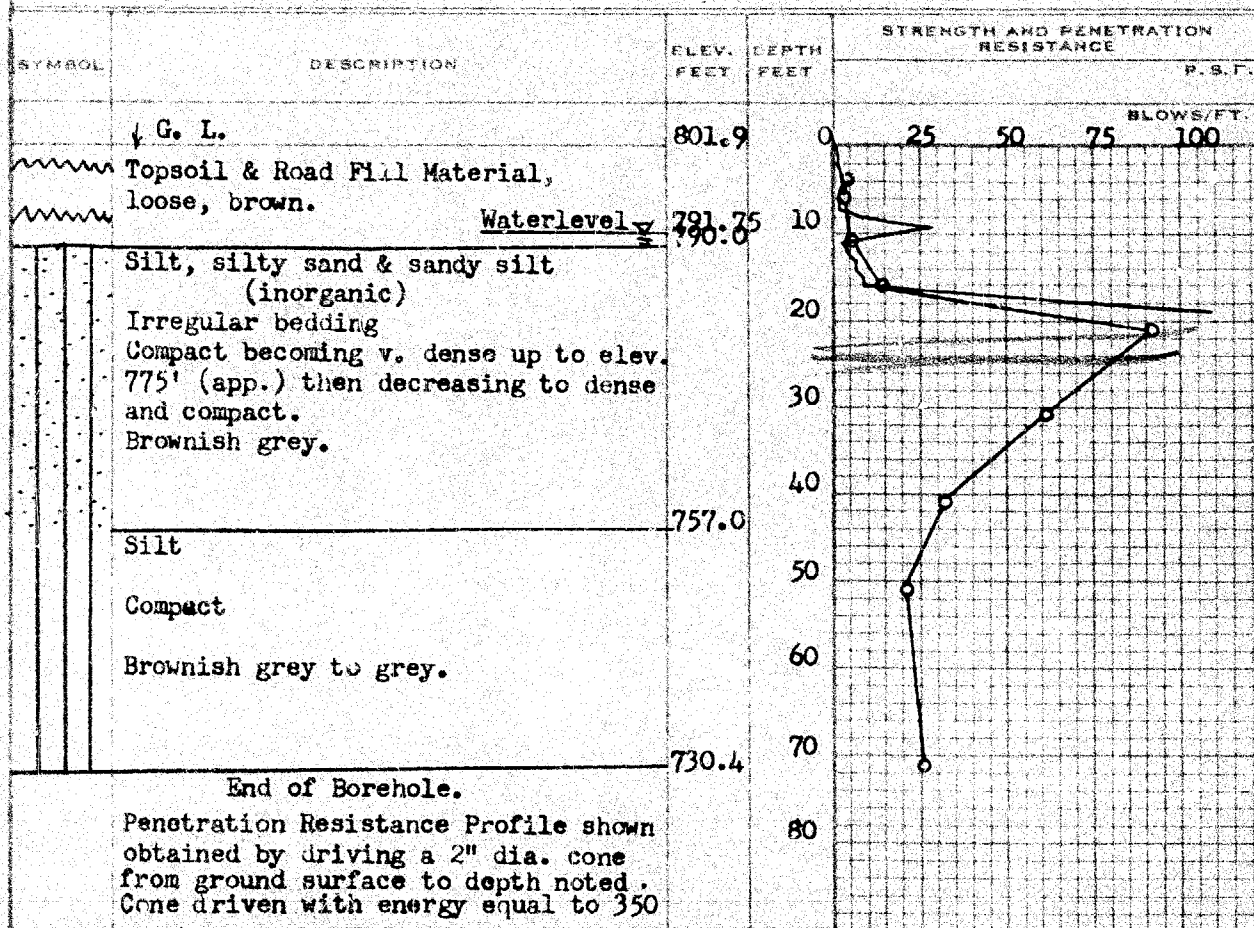
DATUM 801.9' COMPILED BY B. K.

BORING DATE June 21/60. CHECKED BY B. M. G.

2" DIA. SPLIT TUBE
 2" SHELBY TUBE
 2" SPLIT TUBE
 2" DIA. CONE
 2" SHELBY
 CASING

LEGEND

1/2 UNCONFINED COMPRESSION (Q_u) — O
 VANE TEST (C) AND SENSITIVITY (S) — +
 NATURAL MOISTURE AND LIQUIDITY INDEX — LI
 LIQUID LIMIT — X
 PLASTIC LIMIT —



CONSISTENCY	SAMPLE	NATURAL UNIT WT. P.C.F.
MOIST. CONTENT - % DRY WT.		
	S1	-
	S2	-
	S3	-
	S4	-
	S5	-
	S6	-
	S7	-
	S8	-
	S9	-

DEPARTMENT OF HIGHWAYS - ONTARIO MATERIALS AND RESEARCH SECTION

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JOB 60-F-53 STATION See Drawing

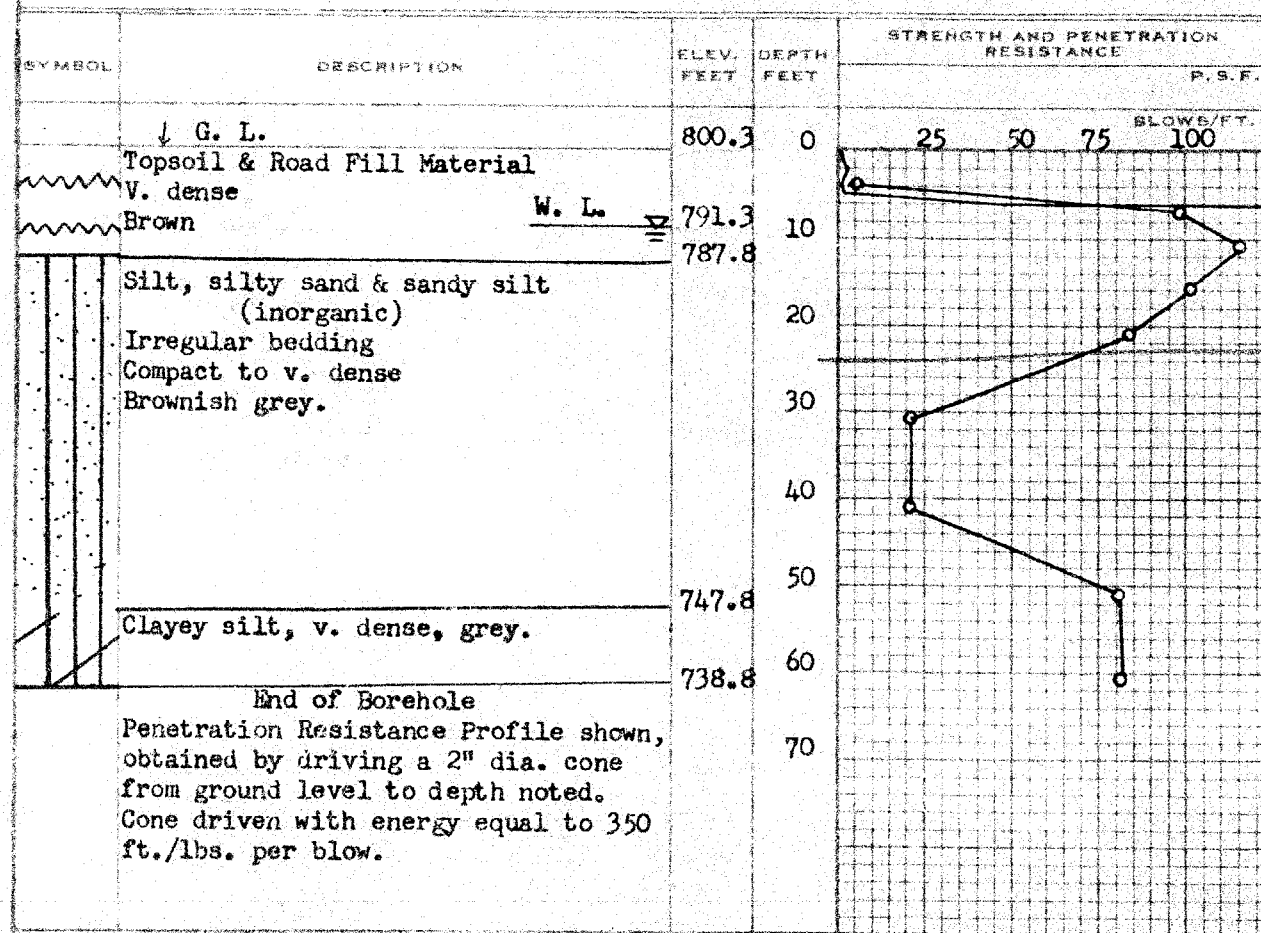
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BORING DATE June 21/60. CHECKED BY B. M. G.

2" DIA. SPLIT TUBE
 2" SHELBY TUBE
 2" SPLIT TUBE
 2" DIA. CONE
 2" SHELBY
 CASING

LEGEND

1/2 UNCONFINED COMPRESSION (Q_u)
 VANE TEST (C) AND SENSITIVITY (S)
 NATURAL MOISTURE AND LIQUIDITY INDEX
 LIQUID LIMIT
 PLASTIC LIMIT



CONSISTENCY	SAMPLE	NATURAL UNIT WT. P. C. F.
MOIST. CONTENT - % DRY WT.		
	S1	-
	S2	-
	S3	-
	S4	-
	S5	-
	S6	-
	S7	-
	S8	-
	S9	-

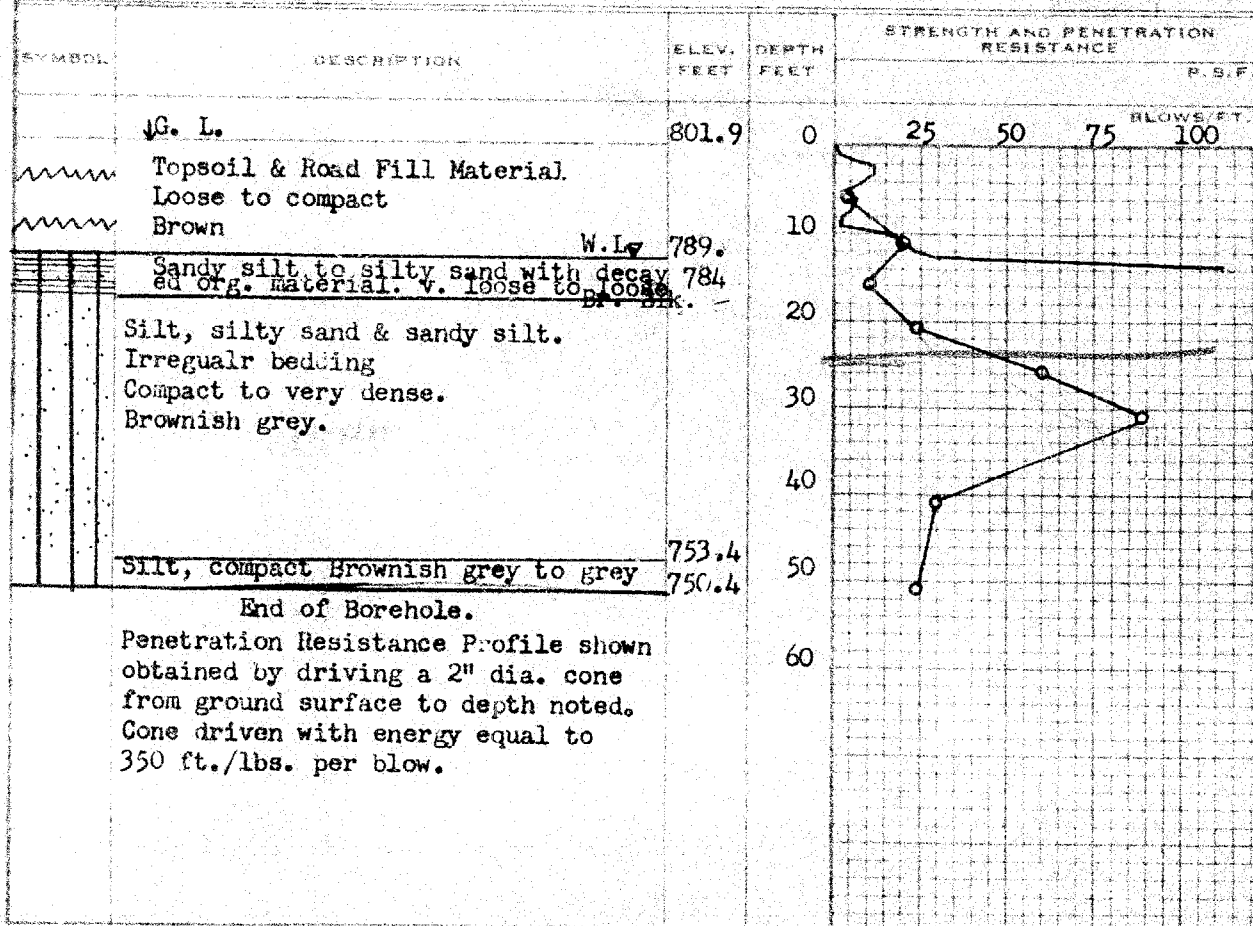
DEPARTMENT OF HIGHWAYS - ONTARIO MATERIALS AND RESEARCH SECTION

W.P. 203-58 BORE HOLE NO. 3
 JOB 60-P-53 STATION See Drawing
 DATUM 801.9' COMPILED BY B. K.
 BORING DATE June 22/60. CHECKED BY B. M. G.

2" DIA. SPLIT TUBE
 2" SHELBY TUBE
 2" SPLIT TUBE
 2" DIA. CONE
 2" SHELBY
 CASING

LEGEND

1/2 UNCONFINED COMPRESSION (Qu) O
 VANE TEST (C) AND SENSITIVITY (S) +
 NATURAL MOISTURE AND LIQUIDITY INDEX LI
 LIQUID LIMIT X
 PLASTIC LIMIT



CONSISTENCY		SAMPLE	NATURAL UNIT WT. P.C.F.
MOIST. CONTENT - % DRY WT.			
10 20 30			
		S1	-
		S2	-
		S3	-
		S4	-
		S5	-
		S6	-
		S7	-
		S8	-

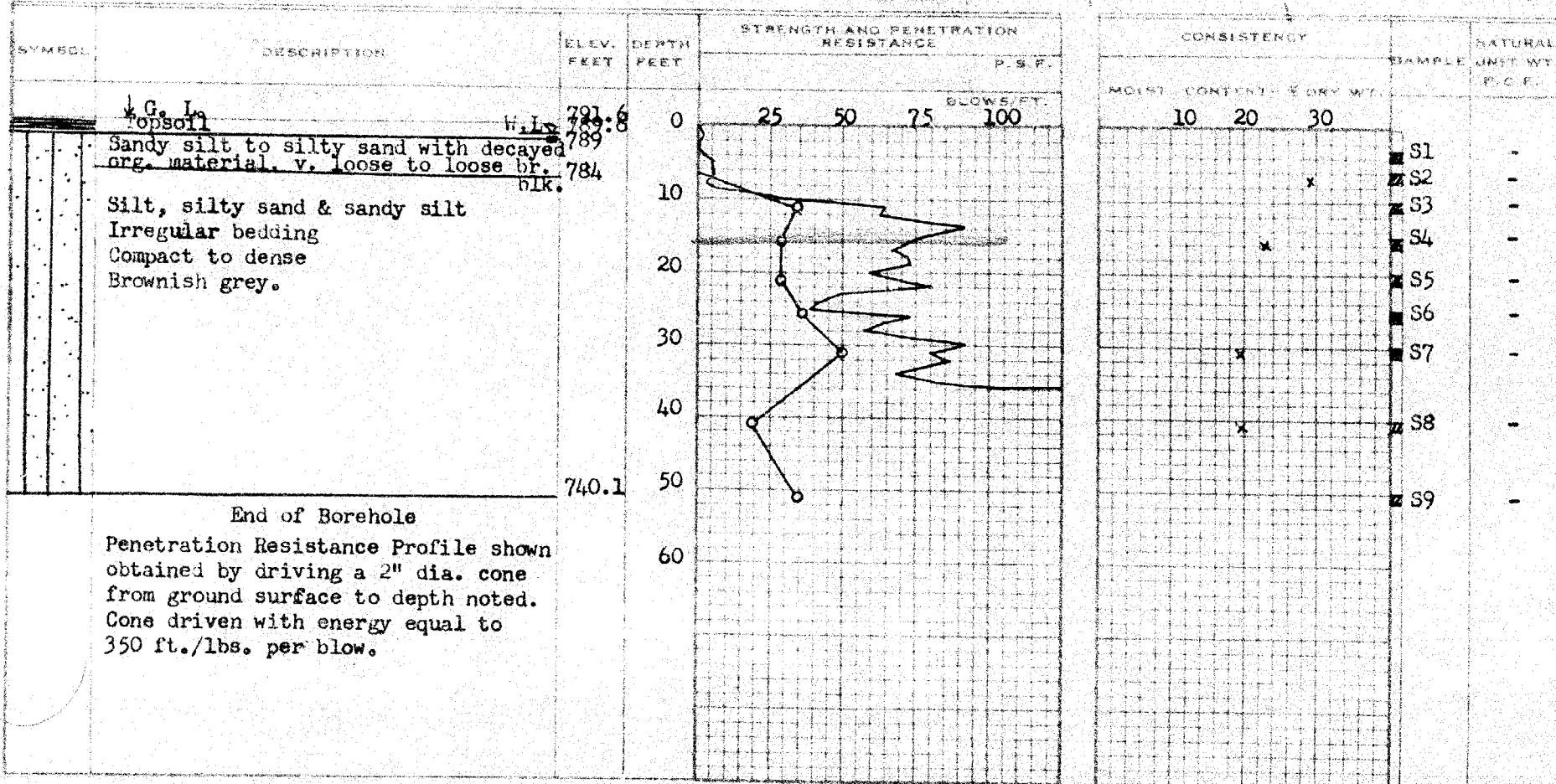
DEPARTMENT OF HIGHWAYS - ONTARIO MATERIALS AND RESEARCH SECTION

W.P. 203-58 BORE HOLE NO. 4
 JOB 60-F-53 STATION See Drawing
 DATUM 791.6 COMPILED BY B. K.
 BORING DATE June 23/60. CHECKED BY B. M. G.

2" DIA. SPLIT TUBE
 2" SHELBY TUBE
 2" SPLIT TUBE
 2" DIA. CONE
 2" SHELBY
 CASING

LEGEND

1/2 UNCONFINED COMPRESSION (Q_u)
 VANE TEST (C) AND SENSITIVITY (S)
 NATURAL MOISTURE AND LIQUIDITY INDEX
 LIQUID LIMIT
 PLASTIC LIMIT



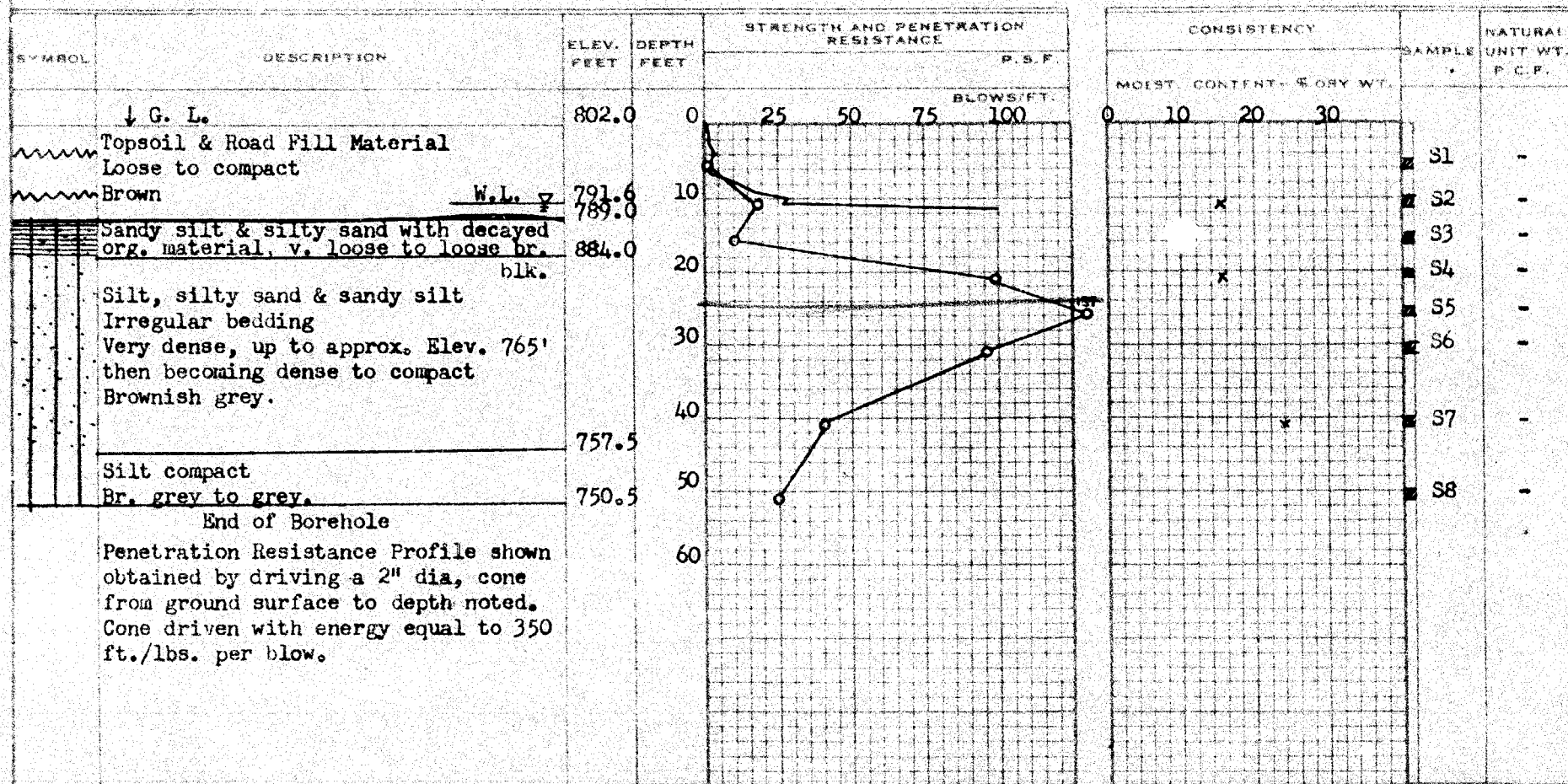
DEPARTMENT OF HIGHWAYS - ONTARIO MATERIALS AND RESEARCH SECTION

W.P. 203-58 BORE HOLE NO. 5
JOB 60-F-53 STATION See Drawing
DATUM 802.0 COMPILED BY B. K.
BORING DATE June 24/60. CHECKED BY B. M. G.

2" DIA SPLIT TUBE
2" SHELBY TUBE
2" SPLIT TUBE
2" DIA CONE
2" SHELBY
CASING

LEGEND

1/2 UNCONFINED COMPRESSION (Qu) O
VANE TEST (C) AND SENSITIVITY (S) +
NATURAL MOISTURE AND LIQUIDITY INDEX X
LIQUID LIMIT
PLASTIC LIMIT



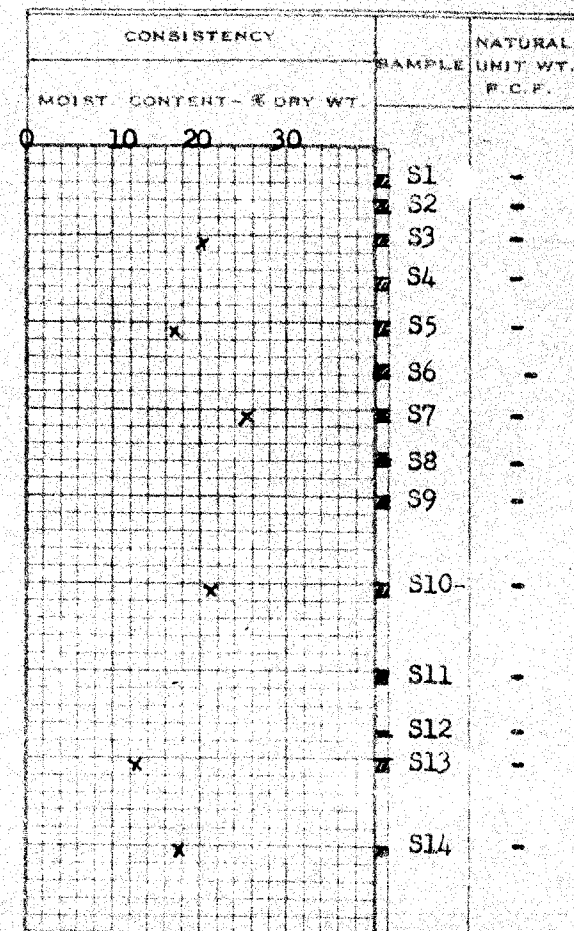
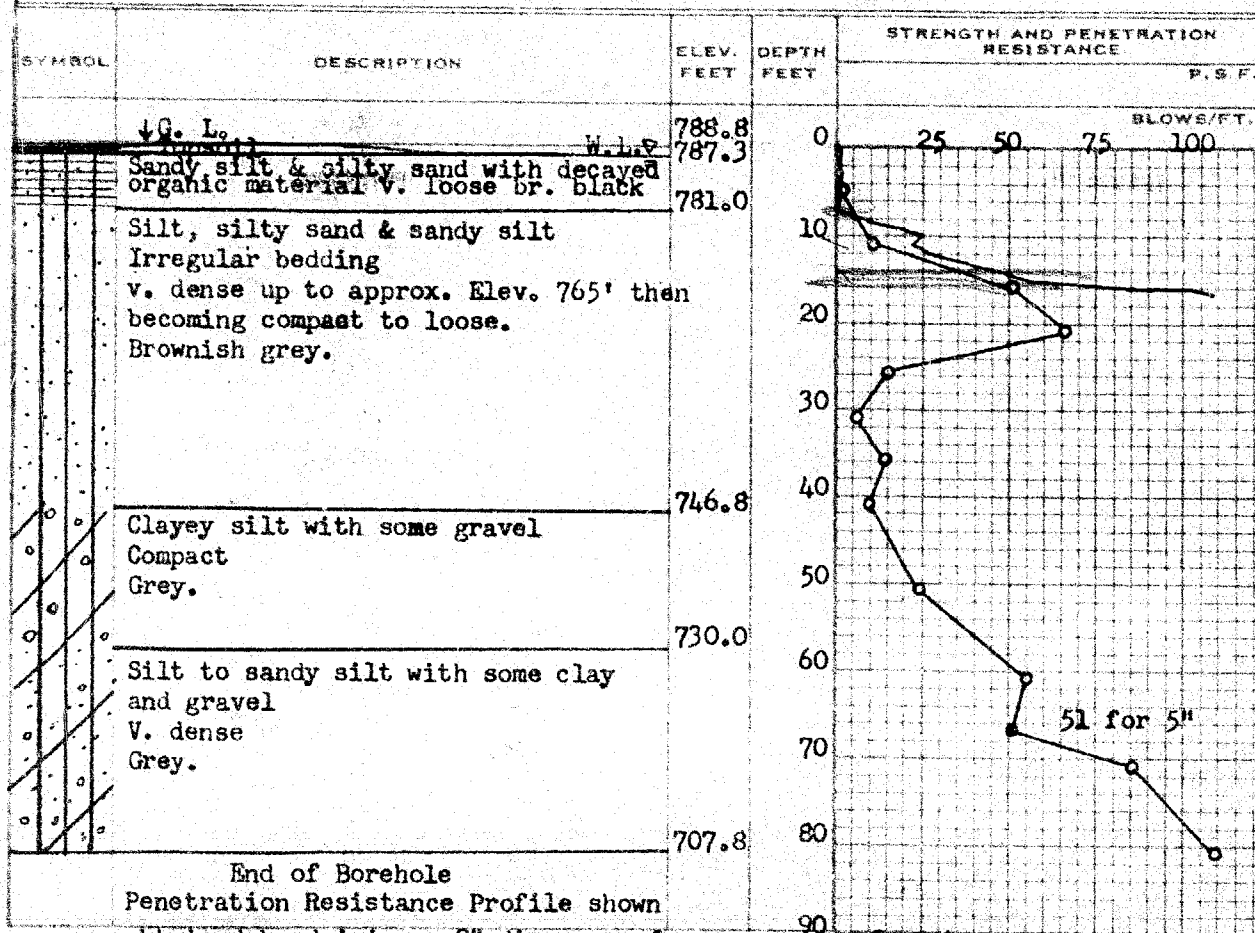
DEPARTMENT OF HIGHWAYS - ONTARIO MATERIALS AND RESEARCH SECTION

W.P. 203-58 BORE HOLE NO. 6
JOB 60-F-53 STATION See Drawing
DATUM 788.8' COMPILED BY B. K.
BORING DATE June 24/60. CHECKED BY B. H.G.

2" DIA. SPLIT TUBE
2" SHELBY TUBE
2" SPLIT TUBE
2" DIA. CONE
2" SHELBY
CASING

LEGEND

1/2 UNCONFINED COMPRESSION (Q_u) O
VANE TEST (C) AND SENSITIVITY (S) +
NATURAL MOISTURE AND LIQUIDITY INDEX X
LIQUID LIMIT
PLASTIC LIMIT



obtained by driving a 2" dia. cone from ground surface to depth noted. Cone driven with energy equal to 350 ft./lbs. per blow.

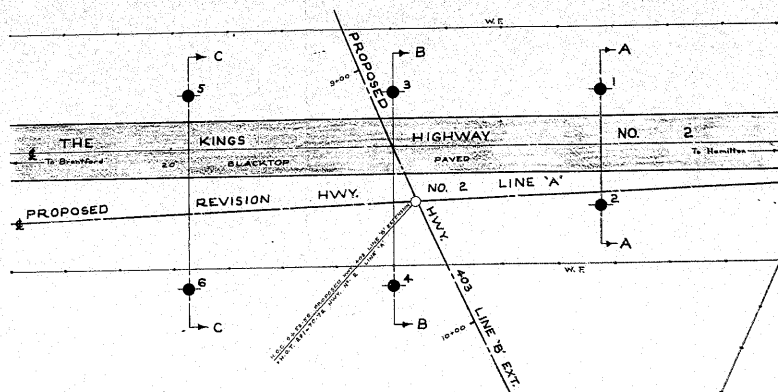
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W.P. #203-58

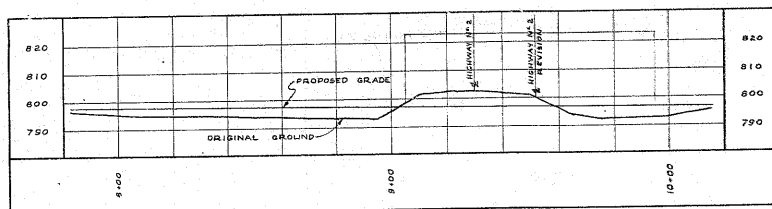
HWY #2 &

PROP. CROSSING

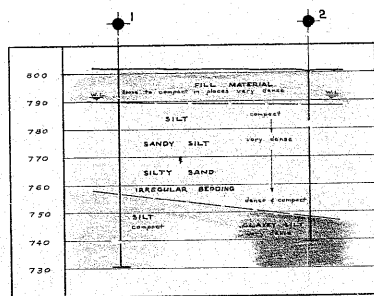
HWY. #403



PLAN
 SCALE: 1"=20'

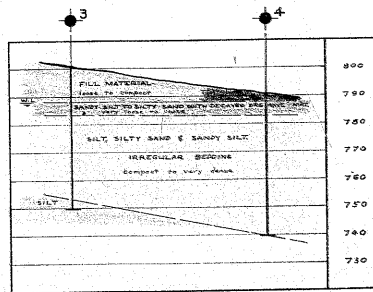


PROFILE OF LINE 'B' EXTENSION
 SCALE: HORIZ. 1"=20' VERT. 1"=20'



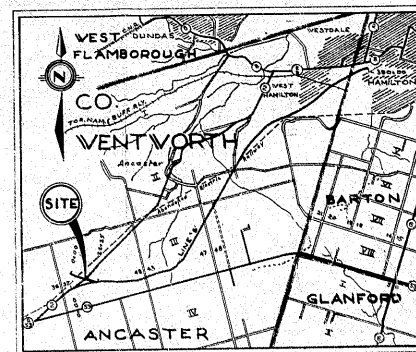
A-A

HORIZ. SCALE: 1"=12'

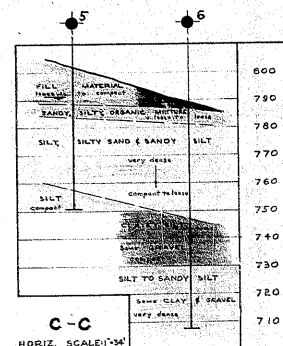


B-B

HORIZ. SCALE: 1"=20'



KEY PLAN
 SCALE: 1"=1 MILE



C-C
 HORIZ. SCALE: 1"=20'

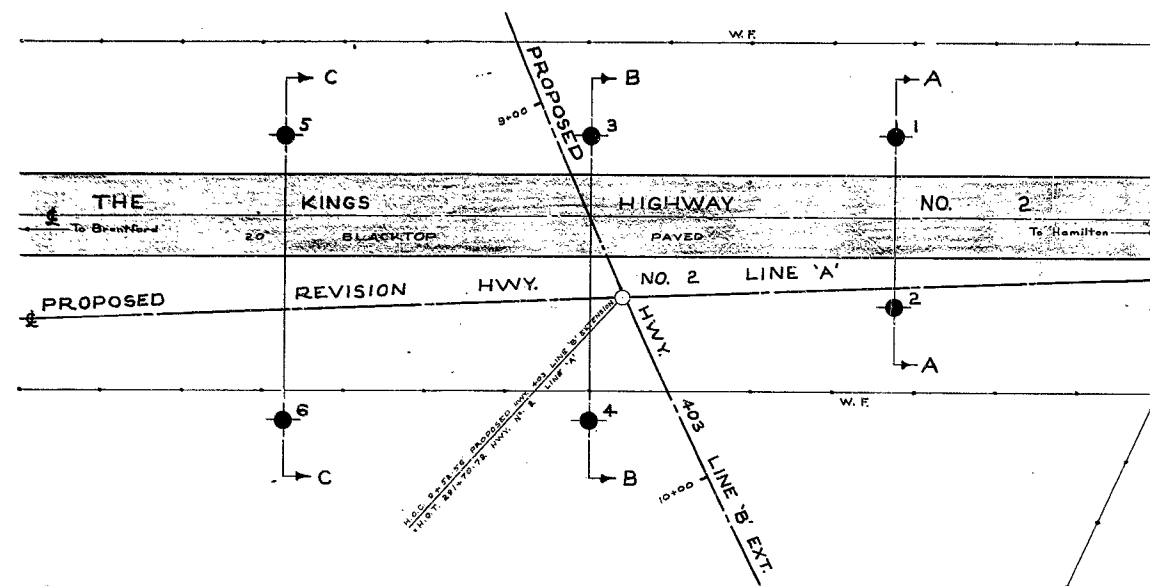
LEGEND			
CORE HOLE			
HOLE ELEVATION	STATION	DISTANCE FROM #	
1	801.5	9+44	77' LT.
2	800.5	9+83	55' LT.
3	801.2	9+12	8' LT.
4	791.6	9+75	20' RT.
5	802.0	9+88	11' RT.
6	788.6	9+44	85' RT.

NOTE:
 THE BOUNDARIES BETWEEN SOIL STRATA HAVE BEEN ESTABLISHED ONLY AT BORE HOLE LOCATIONS. BETWEEN BORE HOLES THE BOUNDARIES ARE ASSUMED FROM GEOLOGICAL EVIDENCE AND MAY BE SUBJECT TO CONSIDERABLE ERROR.

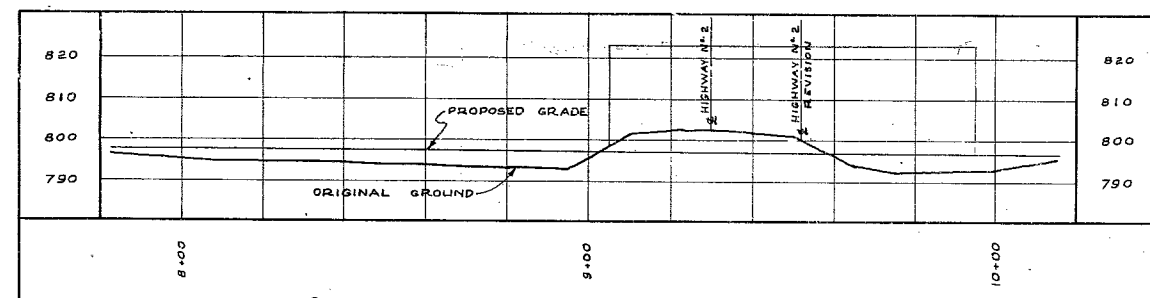
DEPARTMENT OF HIGHWAYS - ONTARIO			
MATERIALS & RESEARCH SECTION			
HIGHWAY 2 AND PROPOSED LINE 'B' EXTENSION			
SHOWING POSITIONS & ELEVATIONS OF HOLES			
HWY. 403	DISTRICT 4	COUNTY WENTWORTH	
TOWNSHIP ANCASTER	LOT 38	CON. 31	
LOCATION 7 MILES S.W. OF HAMILTON			
DRAWN BY C. HUNFORD	CHECKED BY [Signature]	W.P. 2-03-58	
DATE 11 AUG. 1960	APPROVED BY [Signature]		
BOAT AS SHOWN			60-F-53A

#60-F-53
W.P. #203-58
HWY #2 &
PROP. CROSSING
HWY. #403

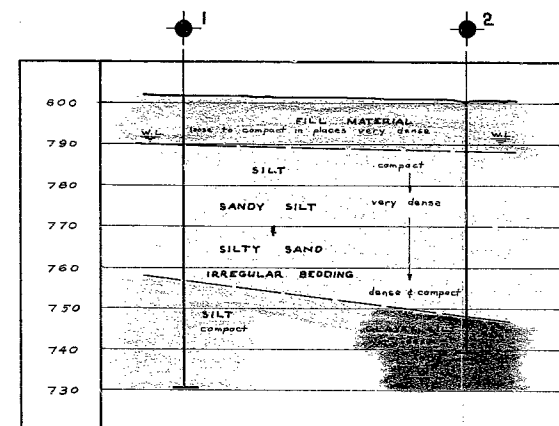
401E
E. 5-80740
2 473890
2. 17



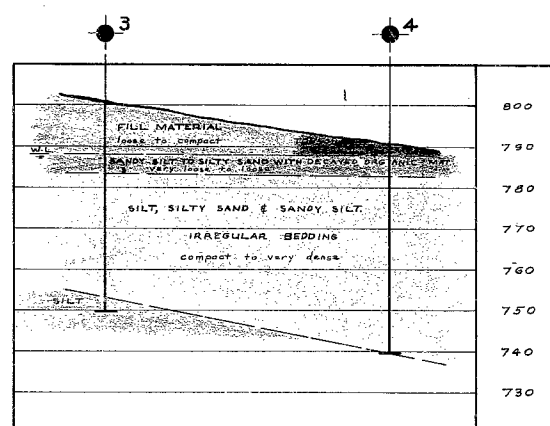
PLAN
SCALE: 1"=20'



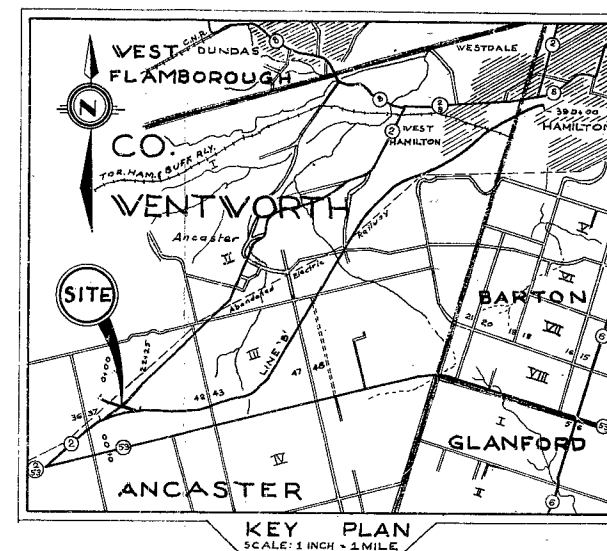
PROFILE OF LINE 'B' EXTENSION
SCALE: HORIZ. & VERT. 1"=20'



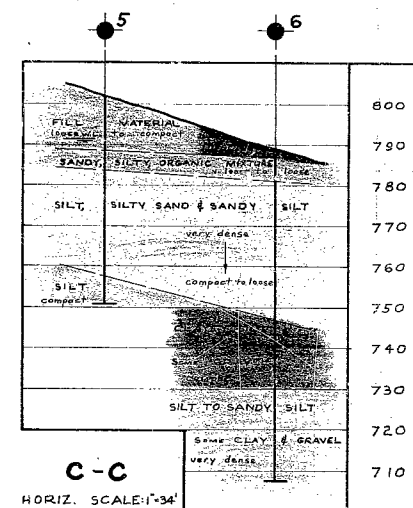
A-A
HORIZ. SCALE: 1"=12'



B-B
HORIZ. SCALE: 1"=20'



KEY PLAN
SCALE: 1 INCH = 1 MILE



C-C
HORIZ. SCALE: 1"=34'

LEGEND			
BORE HOLE			
HOLE	ELEVATION	STATION	DISTANCE FROM 1
1	801.9	9+44	77' LT.
2	800.3	9+83	59' LT.
3	801.9	9+12	8' LT.
4	791.6	9+75	20' RT.
5	802.0	8+82	61' RT.
6	788.8	9+44	89' RT.

- NOTE -
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DEPARTMENT OF HIGHWAYS - ONTARIO
MATERIALS & RESEARCH SECTION

**HIGHWAY 2 AND
PROPOSED LINE 'B' EXTENSION**

SHOWING POSITIONS & ELEVATIONS OF HOLES

HWY. 403 DISTRICT 4 COUNTY WENTWORTH
TOWNSHIP ANCASTER LOT 28 CON. III
LOCATION 7 Miles S.W. of HAMILTON

DRAWN BY: D. MUMFORD CHECKED BY: [Signature] W.P. 203-58
DATE 11 AUG. 1960 APPROVED BY: [Signature] DRAWING NO. 60-F-53A
SCALE AS SHOWN