

Mr. A. M. Toye,

March 15, 1961.

Bridge Engineer.

ADDITIONAL FOUNDATION
INVESTIGATION REPORT -

Materials & Research Section.

W.J. 61-F-17 -- W.P. 120-58.

Attention: Mr. S. McCumbie.

Re: Darlington Twp. Bridge No. 21,
Bennett Road Underpass at Hwy. 401
Intersection -- District No. 7.

An additional investigation has been carried out at the above mentioned site in order to complete the subsoil information already available. On the basis of the results of this investigation, the following recommendations are forwarded for your consideration:-

On the Preliminary Plan, Drawing No. D-4837-1, a four-span continuous structure is shown. The proposed structure can be founded on spread footings. For footings of an average width of 6 - 8 ft., placed at 5 ft. below the existing ground elevation, a safe load of 4 T/sq.ft. can be used.

Because of very convenient subsoil conditions, it is recommended that a two-span structure with retaining wall type abutments be also considered as a solution. No approach fill stability problems are anticipated.

REPORT PREPARED BY:

.....*V. Korlu*.....
V. Korlu,
Project Foundation Engineer.

REPORT APPROVED BY:

.....*A. G. Stermac*.....
A. G. Stermac,
Supervising Foundation Engineer.

VK/MeeF

cc: Messrs. A. M. Toye (2)
H. A. Tregaskes
H. D. McMillan
I. C. Campbell
G. F. Wetherall
T. J. Kovich
Foundations Office ✓
Gen. Files.

WFO 120-58

NO.	STOP NO.	DEPTH (Feet)	DESCRIPTION OF SOIL	TEST NO.	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTIC LIMIT (%)	PLASTICITY INDEX (%)	REMARKS
1	S1	5'-5.4'	Brown pebbly fine to medium sand.	100-5"	5.8	-	-	-	
	S2	10'-10.5'	" " " "	86-6"	1.5	-	-	-	
	S3	15'-15.4'	" " " "	100-5"	8.9	-	-	-	
2	S1	5'-5.5'	Brown pebbly fine to medium sand.	90-6"	7.1	-	-	-	
	S2	10'-10.5'	Light brown fine to medium sand.	96-6"	9.8	-	-	-	
	S3	15'-15.2'	Grey gravelly silty sand till.	80-2"	4.4	-	-	-	
	S4	20'-20.2'	Grey gravelly silty sand till.	100-2"	3.6	-	-	-	
3	S1	5'-5.5'	Brown gravelly sand.	90-6"	7.3	-	-	-	
	S2	10'-10.4'	Brown fine to medium sand.	100-5"	7.8	-	-	-	
	S3	15'-15.4'	Brown fine to medium sand.	100-5"	13.6	-	-	-	
	S4	20'-20.5'	Brown fine to medium sand.	80-6"	17.4	-	-	-	
3 denotes split spoon sample.									

DEPARTMENT OF HIGHWAYS - ONTARIO MATERIALS AND RESEARCH SECTION

W.P. 120-58

BORE HOLE NO. 1

JOB 61-F-17

STATION 16+12.25 (9' West)

DATUM 357.0'

COMPILED BY B.K.

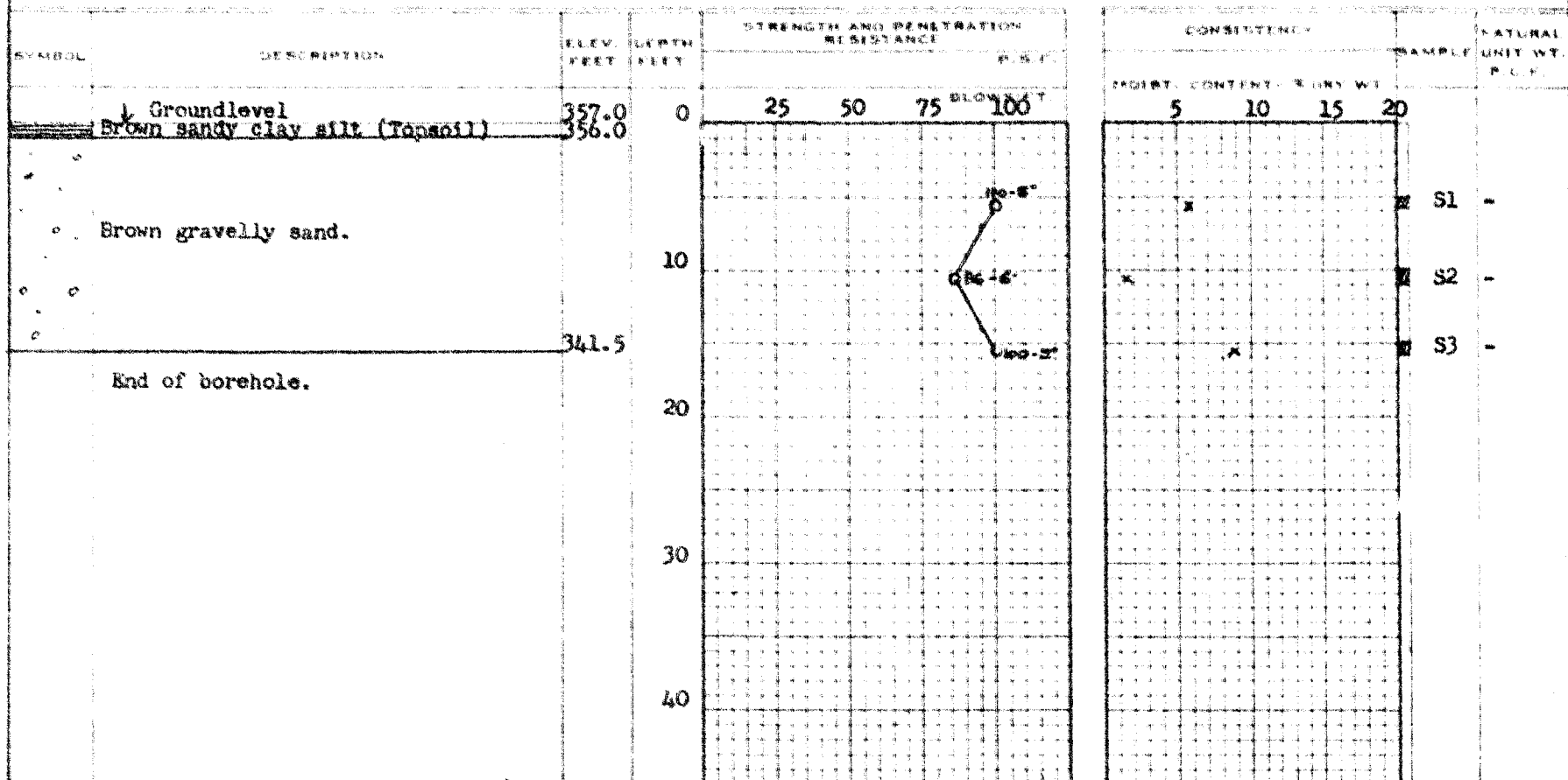
BORING DATE Mar. 9/61

CHECKED BY V.K.

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

LEGEND

1/2 UNCONFINED COMPRESSION (QU) \bigcirc
VANE TEST (C) AND SENSITIVITY (S) \times
NATURAL MOISTURE AND LIQUIDITY INDEX Δ
LIQUID LIMIT ∇
PLASTIC LIMIT \square



DEPARTMENT OF HIGHWAYS - ONTARIO MATERIALS AND RESEARCH SECTION

W. P. 120-58

BORE HOLE NO. 2

JOB 61-F-17

STATION 15+00 (1/2 West)

DATUM 354.0'

COMPILED BY B.K.

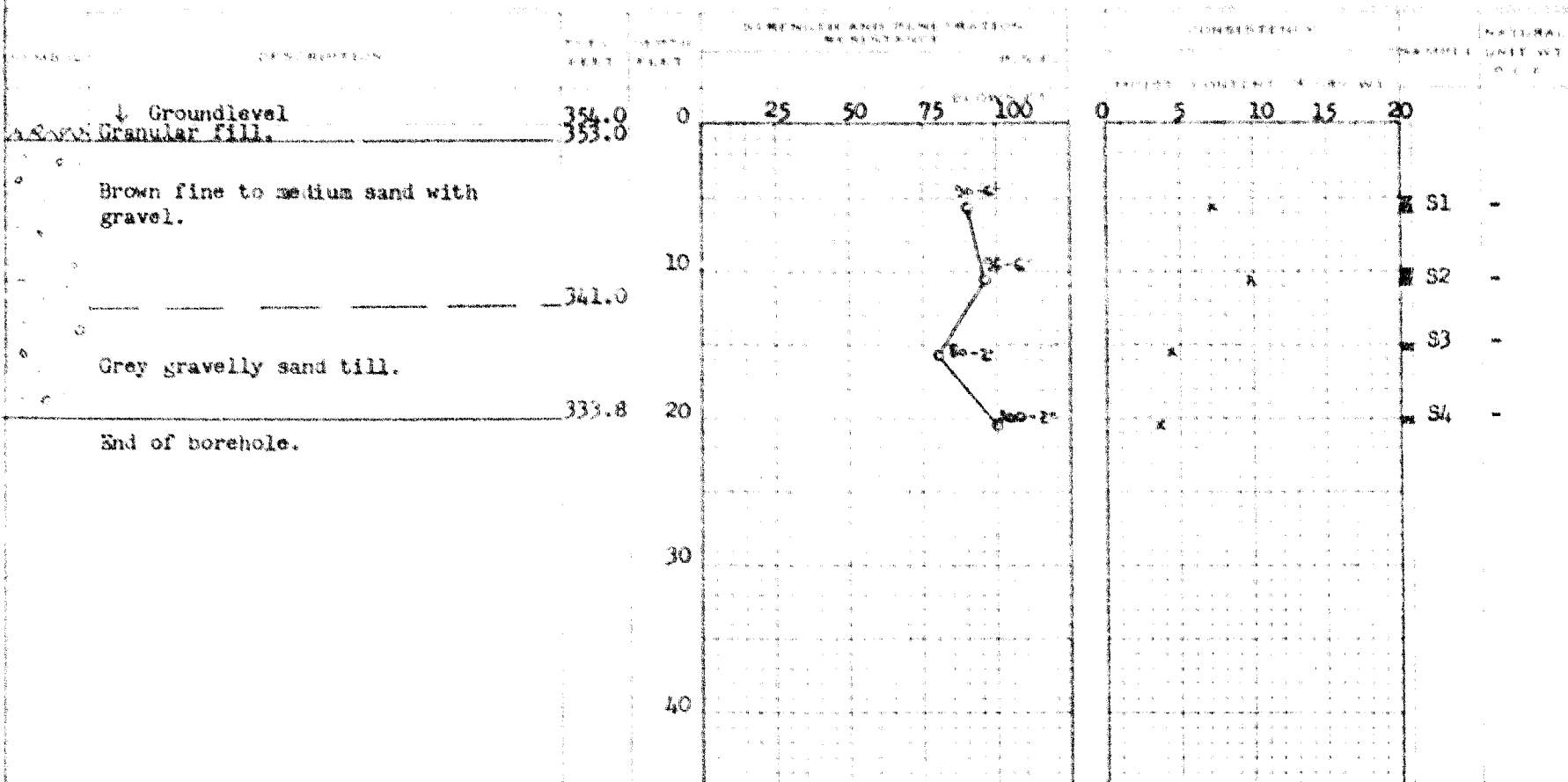
BORING DATE Mar. 7/61

CHECKED BY V.K.

4" DIA. SPLIT TUBE
2" SHERBY TUBE
2" SPLIT TUBE
2" DIA. CONE
2" SHERBY
LANTERN

LEGEND

UNCONSOLIDATED COMPRESSION (C_u)
VANE TEST (CAND. SENSITIVITY (S))
NATURAL MOISTURE AND
LIQUIDITY INDEX
CLAYE LIMIT
PLASTIC LIMIT

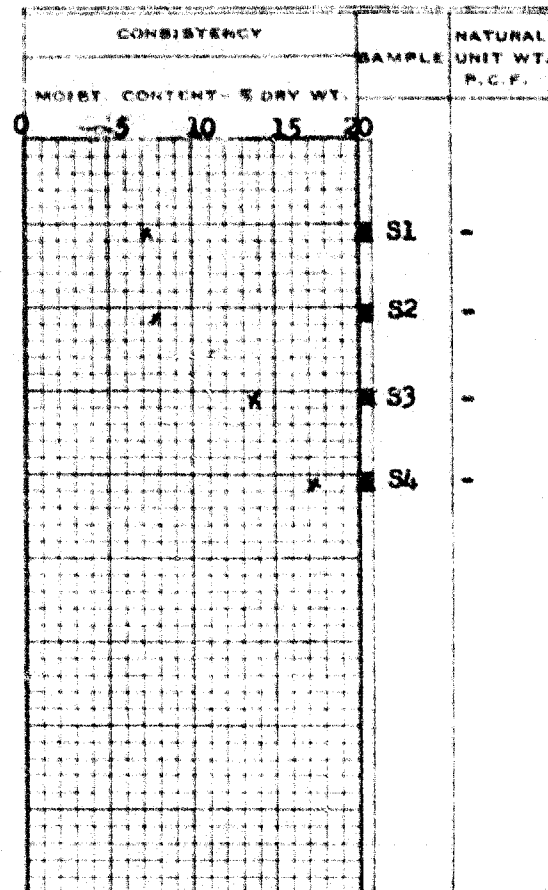
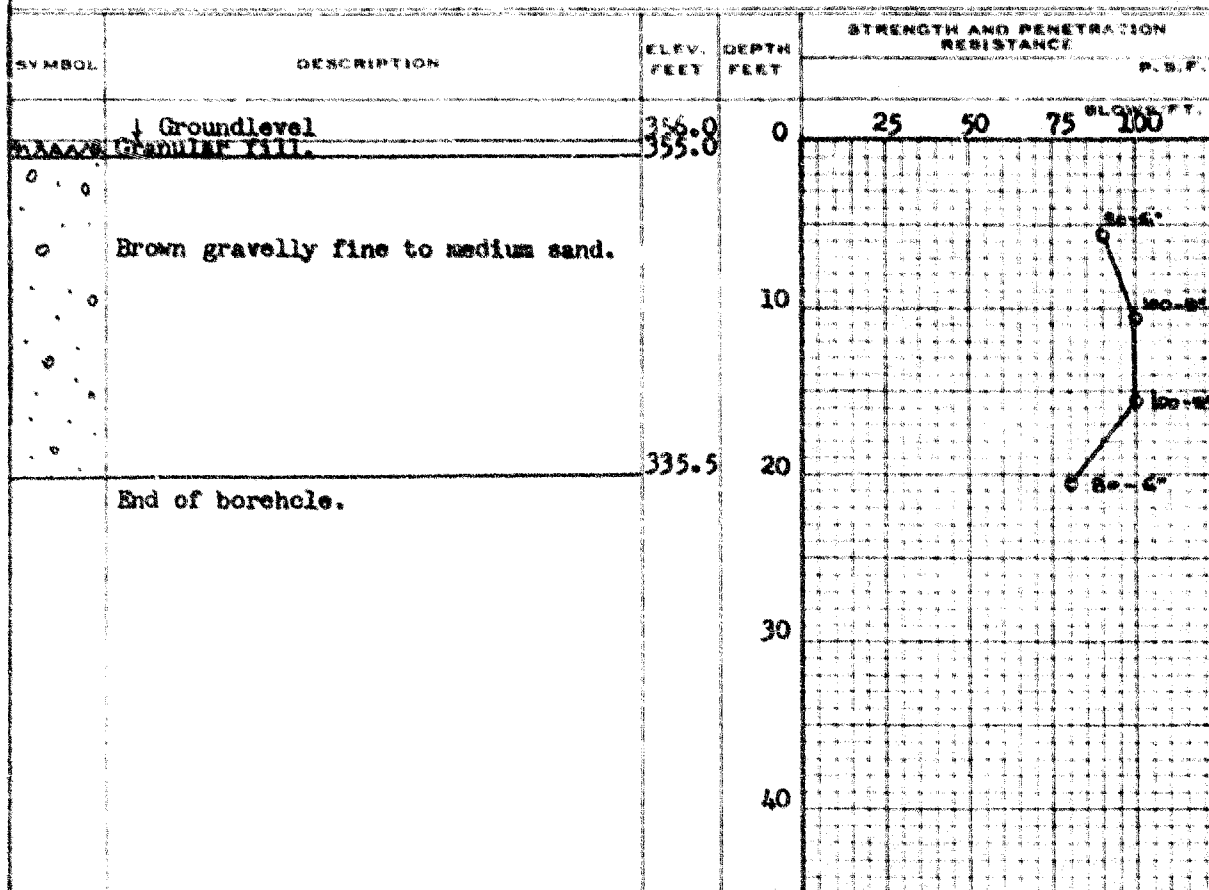


DEPARTMENT OF HIGHWAYS - ONTARIO MATERIALS AND RESEARCH SECTION

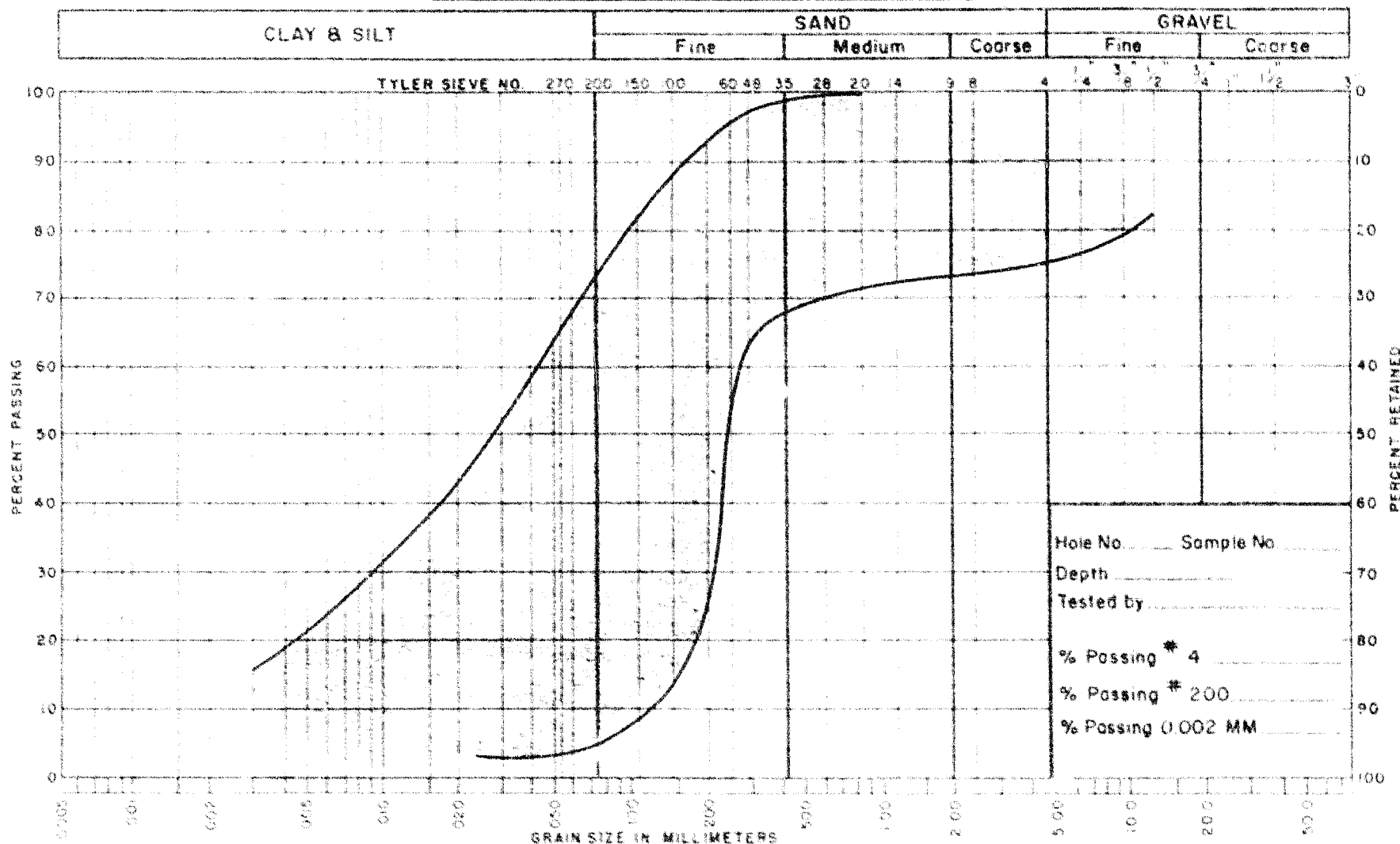
W.P. 120-58 BORE HOLE NO. 3
 JOB 61-F-17 STATION 13+87.75 (9' West)
 DATUM 356.0' COMPILED BY B.K.
 BORING DATE Mar. 9/61. CHECKED BY V.K.

LEGEND

1/2 UNCONFINED COMPRESSION (Q_u) — \bigcirc
 VANE TEST (C) AND SENSITIVITY (S) — $+$
 NATURAL MOISTURE AND LIQUIDITY INDEX — \times
 LIQUID LIMIT — \rightarrow
 PLASTIC LIMIT — \leftarrow



UNIFIED SOIL CLASSIFICATION SYSTEM



NOTES: GRAVELLY, SILTY SAND

DEPARTMENT OF HIGHWAYS - ONTARIO
MATERIALS & RESEARCH SECTION
GRAIN SIZE DISTRIBUTION

Job No. 61-F-17 WF No. 120-58
Location BENNETT RD. & HWY. 401

OFFICE LOCATION —

DOWNSVIEW AVE.
KEELE ST. — HIGHWAY 401
TORONTO, ONTARIO.



ONTARIO
DEPARTMENT OF HIGHWAYS

POSTAL ADDRESS —

DEPARTMENT OF HIGHWAYS,
PARLIAMENT BUILDINGS,
TORONTO 5, ONTARIO.

Bridge Division,
March 23, 1961.

MEMORANDUM TO:

Mr. L.G. Soderman,
Principal Soils & Foundation Engineer,
Department of Highways,
Room 107,
Downsview, Ontario.

RE: W.P. 120-58,
Darlington Br. #21,
Hwy. 401 - District #7.

Attached please find two prints of plan D 4837-P1
for the above noted structure. Kindly let us know any
comments that you may have.

No comment!

March 24, 1961

FDeV/eh

*EGG
ags.*

F. DeVisser

F. DeVisser,
Bridge Location Engineer.

#61-F-17

W.P. #120-58

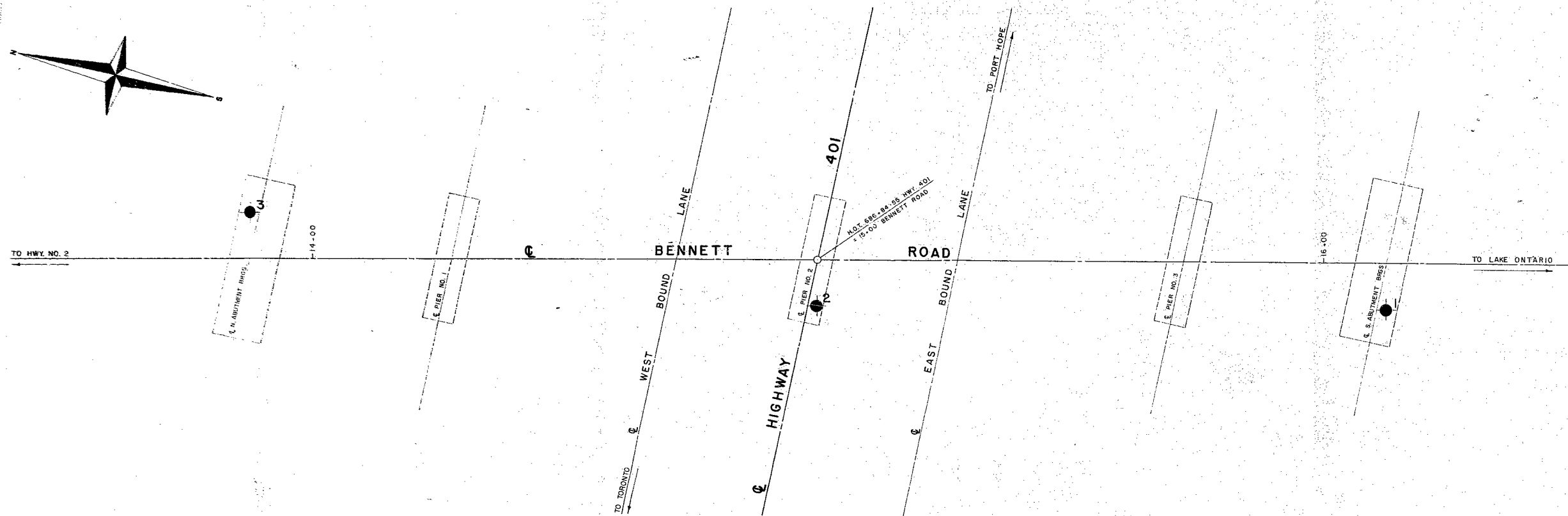
Hwy. #401

BENNETT RD.

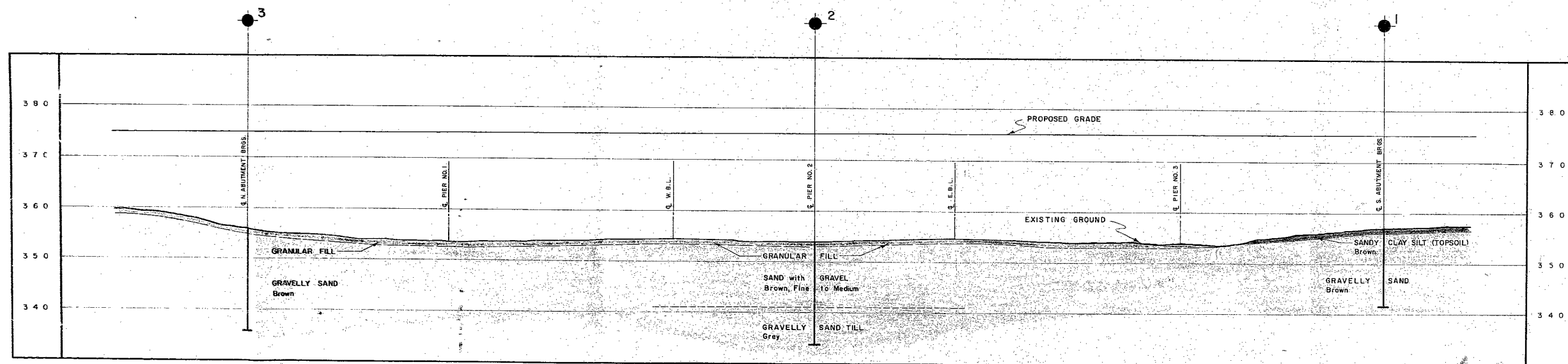
UNDERPASS

BR. #21

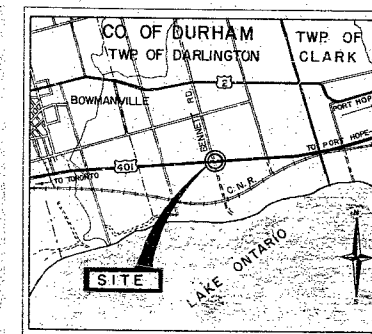
DARLINGTON TWP.



PLAN



SECTION



KEY PLAN
SCALE: 1 in. = 0.5 mi.

LEGEND			
● BORE HOLE			
HOLE No.	ELEVATION	BENNETT ROAD STATION	DISTANCE FROM €
1	357.0	16+12.25	9' WEST
2	354.0	15+00	9' WEST
3	356.0	13+87.75	9' EAST

DEPARTMENT OF HIGHWAYS - ONTARIO		
MATERIALS & RESEARCH SECTION		
DARLINGTON TWP. BRIDGE NO. 21		
AND		
HIGHWAY NO. 401		
(BENNETT ROAD UNDERPASS)		
ORIGINATED V. KORLI	DISTRICT NO. 7	DATE 11 APRIL 1961
DRAWN D. MUMFORD	W.P. NO. 120-58	JOB NO. 61-F-17
CHECKED <i>[Signature]</i>	SCALE	DRAWING NO.
APPROVED <i>[Signature]</i>	1 inch = 10 feet	61-F-17A

