

Ar. C. S. Grebski,
Bridge Design Engineer,
Bridge Division, Admin. Bldg.

Foundation Section,
Materials & Testing L.
Room 107, Lab. Bldg.

April 5, 1967

- (1) Willis Side Road, Underpass, Plan #D-6170-F1,
N.P. 59-59, Site #5-47, N.C. Freeway, Dist. #2.
 - (2) Coyne Road, Underpass, Plan #D-6169-F1,
N.P. 57-59, Site #5-125, N.C. Freeway, Dist. #2. ✓ 511
-

We have reviewed the above mentioned Preliminary Bridge Plans with regard to the structure foundations. Our comments which apply to both structures, are as follows:

(1) In general, the designer appears to have complied with the recommendations contained in the foundation reports.

(2) Beneath the abutments the fill should consist of well compacted granular material. Prior to placing this fill, all topsoil and soft material should be removed over an area at least twice as large as the abutment footings.

(3) In order to facilitate pile driving, it is recommended that the fill below the abutments be screened to exclude all grain-sizes larger than 3 inches.

(4) We intend to carry out some pile loading tests at a nearby structure site. The results of these tests may prompt us to revise our recommendations pertaining to the safe capacities of the piles at this structure.

KCS/adeF

cc: Messrs. S. McCombie

A. F. Watt

Foundations Files

Gen. Files

4-4-67
K. G. Selby,
SUPERVISING FOUNDATION ENGR.
for:
A. G. Starnes,
PRINCIPAL FOUNDATION ENGR.

Copy for the information of

Mr. A. Stermac, Principal Foundation Engineer,
Room 107, Lab. Building

Mr. A.P. Watt,
Regional Bridge Location Engineer,
London Regional Office,
London, Ontario

Bridge Division,
Downsview, Ontario

March 16, 1967

Coyne Road Underpass
4.7 Miles East of Hwy. #76
W.P. 57-59, Site 5-125
M.C. Freeway (401), District 2

Attached herewith are prints of the Preliminary Bridge
Plan Drawing D-6169-P1 for the above-mentioned structure.

The estimated cost of the proposed structure is \$85,000.
This cost includes tender, materials, engineering and sundry
construction.

Any comments or revisions you may have should be submitted
within three weeks.

CSG:rd

C.S. Grebski,
Bridge Design Engineer

Attach.

c.c. S. McCombie
A. Stermac
R. Forrest
E. Cross

Mr. S. McCombie,
Bridge Planning Engr.
Materials & Research Section.

May 9, 1960.
Review of Preliminary
Bridge Plan.

Attention: Mr. G. Scott.

Re: Dunwich Twp. Bridge #12,
Hwy. 401 -- District #2,
W.P. 57-59
W.J. F 59-94.

A review of the Preliminary Bridge plan for the above structure indicates that steel 'H' piles are proposed as support for the bridge abutments. As has been indicated for other structures in this area (W.P. 58-59) these steel 'H' piles are not the best type of pile to select. The foundation report prepared by this Section indicates a deep deposit of stiff clay. This clay will not provide end bearing for 'H' piles; thus, the 'H' piles are frequently driven to deep depths. For this reason, this Section recommends the use of steel tube piles.

Some concern has been expressed by the Bridge Department as to whether steel tube or displacement type piles can be driven through fill material placed for the bridge approaches. Only a few of these fills have been checked by the Foundation Section but the ones checked indicate that compaction is generally poor and if boulders and large stones are excluded, displacement piles can be driven. It should be remembered that if, by chance, the fill was compacted to the dense state where displacement piles could not be driven, these piles would not be required.

For the structure in question, if steel 'H' piles are a must, these piles should be driven to approx. elevation 680.0' and then tested by a pile loading test. The pile load test will determine the safe load-carrying capacity of these piles. An estimate of this pile capacity is 30 to 40 tons.

An alternative to steel 'H' piles, and the method recommended by the Foundation Section, is steel tube piles. Steel tube piles designed to carry a load of 40 tons/pile will meet refusal to driving at approx. elevation 696 \pm 5 ft.

We are enclosing a copy of similar recommendations made for W. P. 58-59.

If we can be of further assistance on this matter, please contact the Foundation Section.

L. G. Soderman,
PRINCIPAL SOILS & FOUNDATIONS ENGR.

Per:

K. Peaker

KP/MdeF
Attach.

(K. Peaker,
FIELD FOUNDATION SUPERVISING ENGR.)

cc: Foundations Office ✓
Gen. Files.

Mr. S. McCombie,

May 9, 1960.

Bridge Planning Engr.

Review of Preliminary

Materials & Research Section.

Bridge Plan.

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cont'd. /2 ...


- 2 -
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L. G. Soderman,
PRINCIPAL SOILS & FOUNDATIONS ENGR.

Per:



(K. Peaker,
FIELD FOUNDATION SUPERVISING ENGR.)

KP/MdeF
Attach.

cc: Foundations Office
Gen. Files.

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

March 10, 1960.

D.H.O. FOUNDATION INVESTIGATION
W.P. 57-59 -- W.J. F-59-94.

Attention: Mr. S. McCombie.

Re: Hwy. 401 Line 'A' & Gravel Road Crossing,
Township of Dunwich -- Approx. 2-1/2 Miles
West of Dutton. -- District No. 2.

We have completed a subsoil investigation at the above noted structure location where proposed Hwy. 401, Line 'A' underpasses the gravel road. Presented herein, are the results of our field and laboratory findings, as well as our recommendations for the foundation of the structure.

SITE INVESTIGATION:

The investigation, consisting of 4 sampled boreholes with accompanying cone tests, was carried out during the period of the 24th and the 29th of September, 1959. Borings 2, 3 & 4 were carried out by a continuous flight auger, while Boring 1 was carried out by a standard diamond drill. Both the flight auger and the diamond drill machines have been adapted for soil sampling. Results of the 4 borings have been presented in the borehole logs and summarized in Table No. 1, and are included in this report under Appendix I. The location plan and the subsoil profile, are shown in the accompanying Drawing No. F-59-94A.

Subsoil at the site consists of a shallow layer of fine sand and silt overlying a deep deposit of stiff, silty clay. This upper shallow layer of fine sand and silt is typical of the

cont'd. /2 ...

geological formation in the area. According to available geological information, the silty clay deposit extends to a considerable depth over shale or limestone bedrock. At this site, the stiff silty clay stratum has been explored to a depth of approx. 70 ft. below the existing ground surface (i.e., at elevation 639').

The upper portion of the silty clay stratum has been subjected to oxidation resulting in its present brownish colour. Below the oxidized zone, the colour is predominantly grey. The silty clay exists in a very stiff condition with an average shear strength of 3500 p.s.f. measured in the laboratory. It contains predominantly clay, approximately 25% silt, 8% sand, and very little gravel size particles. The average unit weight and moisture content were found to be 130 p.c.f. and 20%, respectively. It is of low plasticity and heavily over-consolidated.

Due to the impermeable nature of the clay, it was not feasible to accurately establish the ground water table at the site during the exploration programme. All the samples obtained below the ground surface were saturated, and the ground water table at the site has been assumed to be at or slightly below the existing ground surface.

FOUNDATION CONSIDERATIONS:

The stiff silty clay stratum is competent to provide adequate foundation support for the structure. Strength and compressibility characteristics are such that spread footing support can be obtained in the stiff silty clay at Elev. 705' or below. At this elevation or below, for footings 5' to 10' in width, a bearing pressure of 3 t.s.f., incorporating a safety factor of 3, can be used for design. Settlements will be within tolerable limits.

No serious ground water seepage problems with respect to footing excavations, are anticipated. If seepage does occur, the inflow will be local and of minor quantities, only.

FOUNDATION CONSIDERATIONS: (cont'd.) ...

The proposed grade line of Hwy. 401 or the gravel road, does not present any approach fill stability problems.

SUMMARY:

1. The site is underlain by a shallow layer of fine sand and silt followed by a deep deposit of stiff silty clay.
2. Subsoil conditions are such that spread footings founded in the stiff clay stratum at Elev. 705' or below, are recommended. A safe allowable bearing pressure of 3.0 t.s.f. can be used for design. Little differential settlements of any consequence, need be anticipated. To avoid softening of the stiff clay, if footing excavations are to be left open for any period of time, a lean concrete mix should be placed immediately upon excavations.
3. No serious ground water seepage problems during footing excavations are anticipated. If seepage does occur during construction, the amount of inflow can be readily handled by low-capacity pumps.
4. No approach fill stability problems are anticipated.

If we can be of further assistance in connection with the foundation design of this structure, do not hesitate to contact our Office.

AKL/MdeF
Attach.

cc: Messrs. A. M. Teye (2)
H. A. Tregaskes
D. G. Ramsay
A. Gater
W. L. Fraser
J. Roy
A. Watt
Foundations Office
Gen. Files.

L. G. SODERMAN,
PRINCIPAL SOILS & FOUNDATIONS ENGR.
PER:

AKL
(A.K. Loh,
PROJECT FOUNDATION ENGR.)

APPENDIX I.

SUMMARY OF FIELD & LABORATORY TESTS

JOB F 59-94

W.P. 57-59

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
1	T1	3'-4.5'	Dense br. fl. sand with clay	40	19.1	-	-	-	128.0	
	T2	5.5'-7'	5.5'-6' Fine Sand	86	4.5	-	-	-	135.8	
	T3	9'-10.5'	6'-7' Stiff br. silty clay	53	16.4	-	-	3470	131.0	
	T4	15'-16.5'	Stiff grey silty clay	30	16.4	-	-	2820	133.0	
	T5	20'-21.5'	"	38	20.6	-	-	-	-	
	T6	25'-26.5'	"	33	18.5	-	-	3670	131.8	
	T7	30'-31.5'	"	29	-	-	-	-	-	
	T8	40'-41.5'	"	21	-	-	-	-	-	
	T9	50'-51.5'	"	29	-	-	-	-	-	
2	T1	1'-3'	Brown fine sand & silt	P	21.6	-	-	-	126.0	P-pushed by flight auger head
	T2	6'-7'	Stiff brown silty clay	P	-	-	-	-	-	
	T3	9'-10.3'	Stiff grey silty clay	P	18.0	-	-	3960	130.6	
	T4	12'-13.5'	Stiff grey silty clay	P	-	-	-	-	-	
	T5	15'-16.5'	"	P	-	-	-	-	-	
	T6	20'-21.5'	"	P	19.2	-	-	4020	130.0	
	T7	25.5'-26.5'	"	P	-	-	-	-	-	
	T8	30.3'-31.5'	"	P	20.1	-	-	2940	130.2	
	T9	40.5'-41.7'	"	P	-	-	-	-	-	
	T10	50'-51.5'	Stiff grey silty clay	P	23.6	-	-	1530	125.0	
	T11	60'-61.5'	"	P	-	-	-	-	-	
	T12	70'-71.5'	"	P	23.0	-	-	2780	128.0	
3	S1	3'-4.5'	Br. fl. Sandy silt & silty Sa.	P	-	-	-	-	-	P-pushed by flight auger head
	T2	6'-7.5'	Stiff grey silty clay	P	19.2	-	-	3870	131.0	
	T3	9'-10.5'	"	P	19.5	-	-	3010	128.6	
	T4	15'-16.5'	"	P	20.9	-	-	3845	131.5	
	T5	20'-21.5'	"	P	-	-	-	-	-	
	T6	25'-26.5'	"	P	-	-	-	-	-	
	T7	30'-31.5'	"	P	21.5	-	-	2720	131.2	
	T7A	40'-41.5'	"	P	-	-	-	-	-	
	T8	50'-51.5'	"	P	-	-	-	-	-	

SUMMARY OF FIELD & LABORATORY TESTS

JOB F 59-94

W.P. 57-59

SOLE 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	T1	3'-4.5'	Stiff brown silty clay	P	-	-	-	-	-	P-pushed by flight auger head
	T2	6'-7.5'	"	P	18.5	-	-	*4735	129.5	
	T3	9'-10.5'	Stiff grey silty clay	P	-	-	-	-	-	
	T4	15'-16.5'	"	P	20.2	-	-	3095	130.7	
	T5	20'-21.5'	"	P	-	-	-	-	-	P-pushed by flight auger head
	T6	25'-26.5'	"	P	-	-	-	-	-	
	T7	30'-31.5'	"	P	21.1	-	-	3080	129.5	
	T7A	35'-36.5'	"	P	-	-	-	-	-	
	T8	40'-41.5'	"	P	-	-	-	-	-	
	T8	45'-46.5'	"	P	-	-	-	-	-	
	T9	50'-51.5'	"	P	-	-	-	-	-	
	T9A	60'-61.5'	"	P	-	-	-	-	-	
	S10	65'-66.5'	"	27	21.8	-	-	-	142.2	
	S11	70'-71.5'	"	20	-	-	-	-	-	
			T denotes Shelby tube sample S denotes split spoon sample							

DEPARTMENT OF HIGHWAYS - ONTARIO

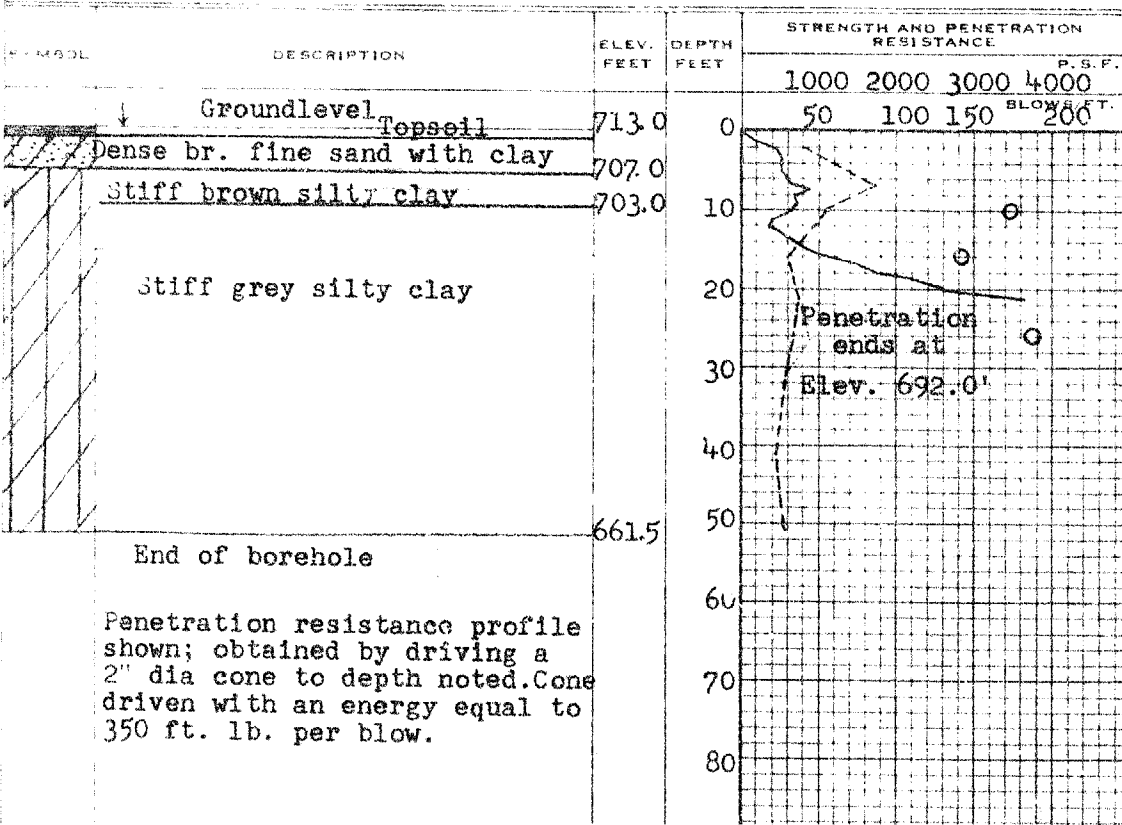
MATERIALS AND RESEARCH SECTION

W.P. 57-59 BORE HOLE NO. 1
 JOB P 59-94 STATION 410+50(64' LT)
 DATUM 713.0' COMPILED BY B.K.
 BORING DATE Sept. 24/59 CHECKED BY A.L.

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 (G) AND SENSITIVITY (S)
 NATURAL MOISTURE AND LIQUIDITY INDEX
 LIQUID LIMIT
 PLASTIC LIMIT



CONSISTENCY			SAMPLE	NATURAL UNIT WT. P.C.F.
MOIST. CONTENT - % DRY WT.				
10	20	30		
*	*	*	T 1	128.0
	*		T 2	135.8
	*		T 3	131.0
		*	T 4	133.0
			T 5	-
	*		T 6	131.8
			T 7	-
			T 8	-
			T 9	-

DEPARTMENT OF HIGHWAYS - ONTARIO

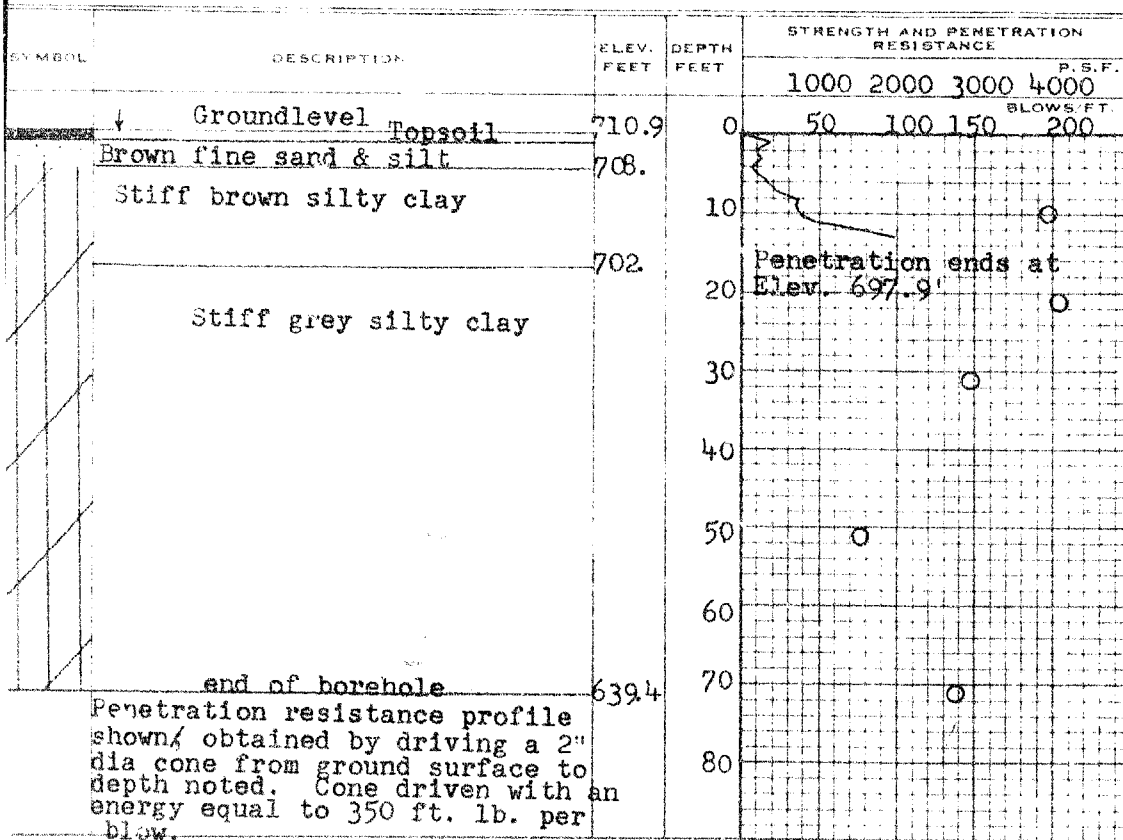
MATERIALS AND RESEARCH SECTION

W.P. 52-59 BORE HOLE NO. 2
 JGS F 52-94 STATION 410+50(65 RT)
 DATUM 710.9' COMPILED BY R.K.
 BORING DATE Sept. 25/59 CHECKED BY B.M. & A.L.

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
 PLASTIC LIMIT



CONSISTENCY			SAMPLE	NATURAL UNIT WT. P.C.F.
MOIST. CONTENT- % DRY WT.				
10	20	30		
	X		T 1	126.0
			T 2	-
	X		T 3	130.6
			T 4	-
			T 5	-
	X		T 6	130.0
			T 7	-
	X		T 8	130.2
			T 9	-
		X	T 10	125.0
			T 11	-
		X	T 12	128.0

DEPARTMENT OF HIGHWAYS - ONTARIO

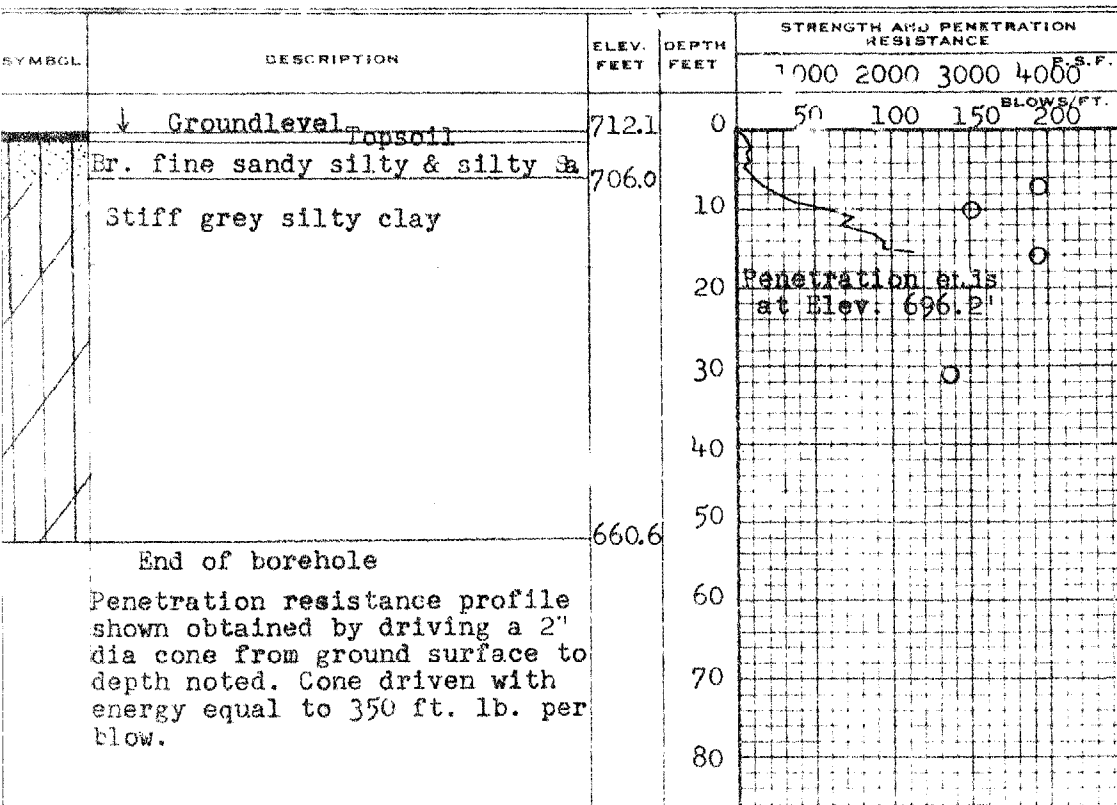
MATERIALS AND RESEARCH SECTION

W.P. 57-59 BORE HOLE NO. 3
 JOB F 59-94 STATION 410+20(50' RT)
 DATUM 712.1' COMPILED BY B.K.
 BORING DATE Sept. 28/59 CHECKED BY BMG & A.L.

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.				
10	20	30		
			S 1	-
	X		T 2	131.0
	X		T 3	128.6
		X	T 4	131.5
			T 5	-
			T 6	-
		X	T 7	131.2
			T7A	-
			8	-

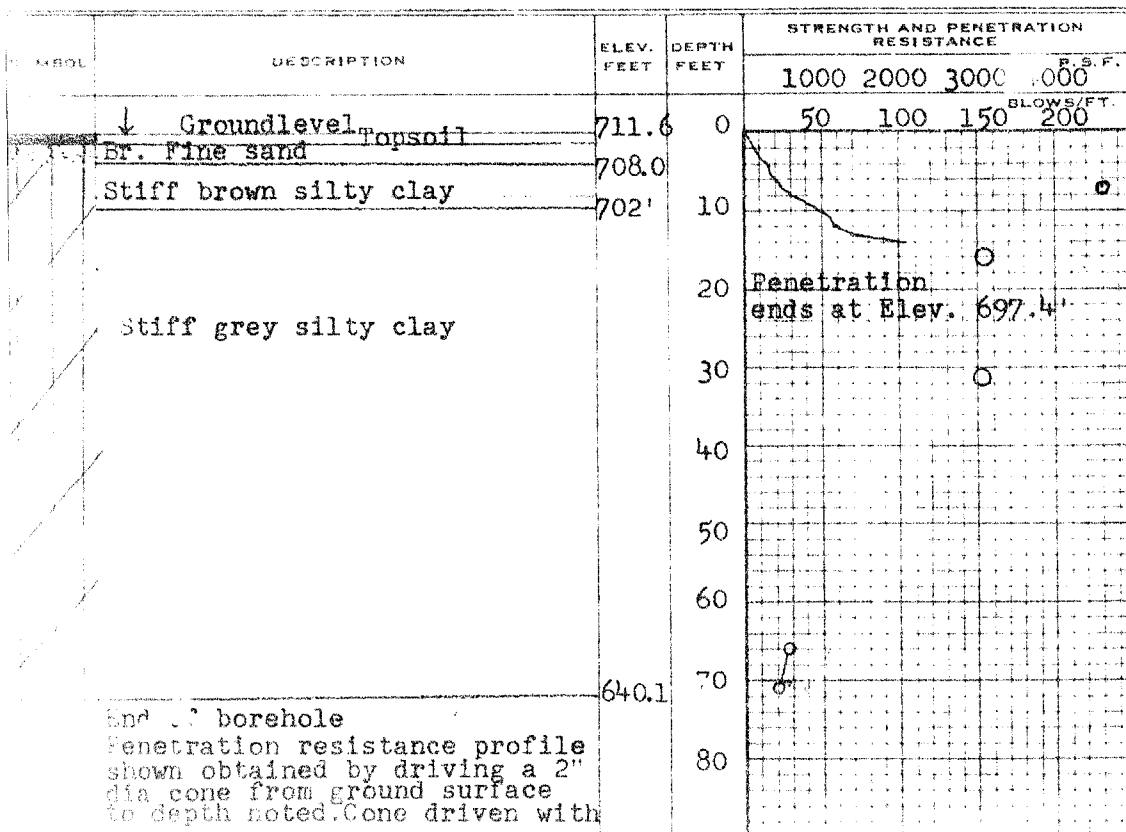
DEPARTMENT OF HIGHWAYS - ONTARIO

MATERIALS AND RESEARCH SECTION

W.P. 57-59 BORE HOLE NO. 4
 JOB F 59-24 STATION 410+20(50' LT)
 DATUM 711.6' COMPILED BY B.K.
 BORING DATE Sept. 29/59 CHECKED BY BMG & A.L.

LEGEND

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



End of borehole
 Penetration resistance profile shown obtained by driving a 2" dia cone from ground surface to depth noted. Cone driven with energy equal to 350 ft. lb. per blow.

CONSISTENCY			SAMPLE	NATURAL UNIT WT P.C.F.
MOIST. CONTENT- % DRY WT.				
10	20	30		
			T 1	-
	X		T 2	129.5
			T 3	-
	X		T 4	130.7
			T 5	-
			T 6	-
	X		T 7	129.5
			T7A	-
			T7B	-
			T 8	-
			T 9	-
			T9A	-
	X		S10	142.2
			S11	-

SHEAR STRENGTH IN P.S.F.

ELEV. IN FT.

1000 2000 3000 4000 5000

DEPTH

IN. FT.

0

720

B.H. 1
B.H. 2
B.H. 3
B.H. 4

710

700

690

680

670

660

650

640

10

20

30

40

50

60

70

80

SYMBOLS FOR SHEAR STRENGTH FOR B.H. 1 ○

B.H. 2 x

B.H. 3 ⊕

B.H. 4 +

59-F-94

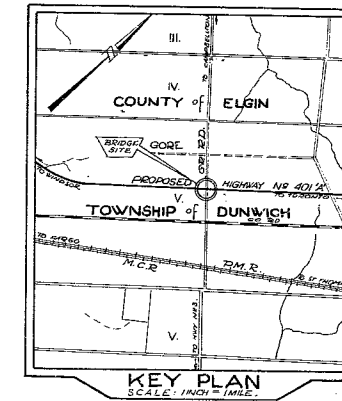
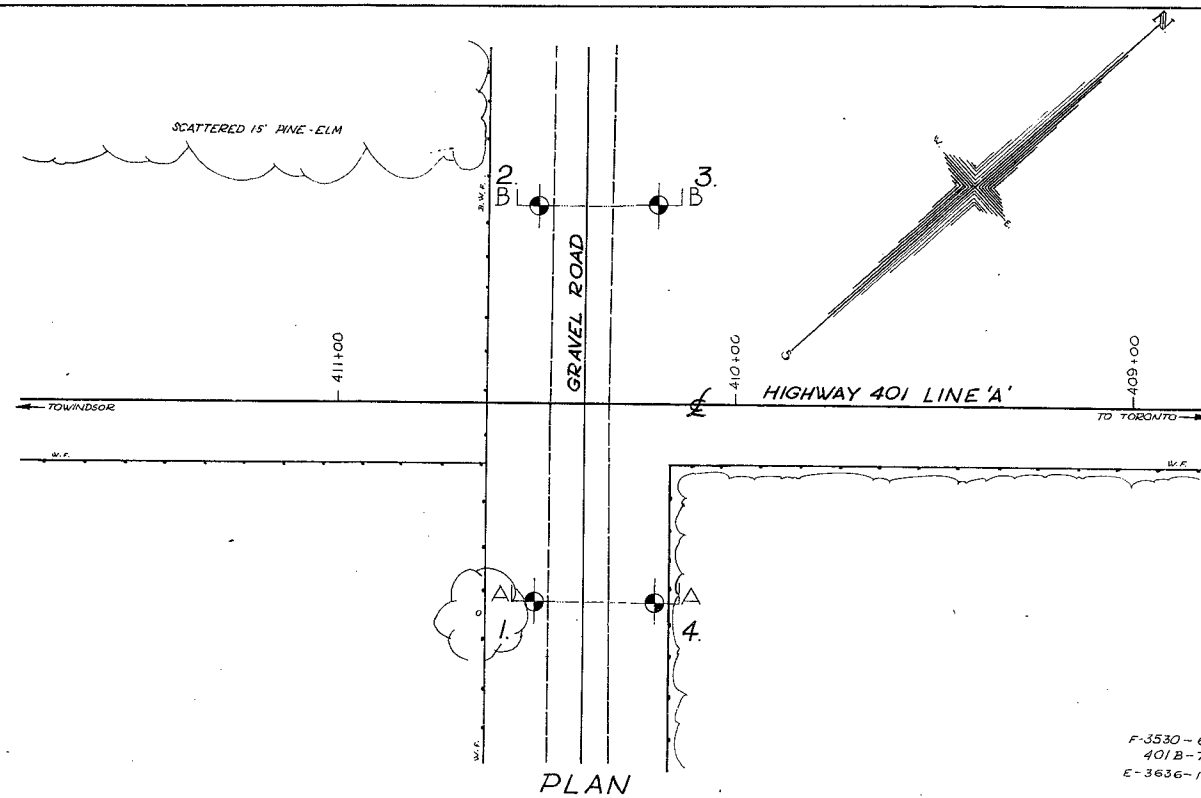
W.P. # 57-59

Hwy. # 401

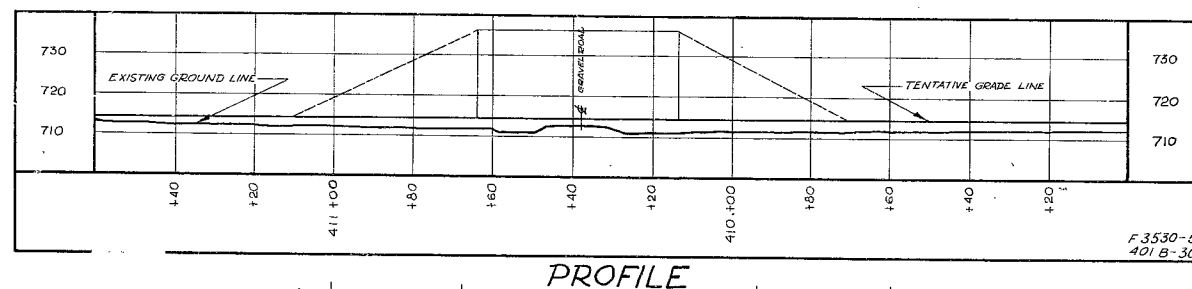
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BRIDGE # 12

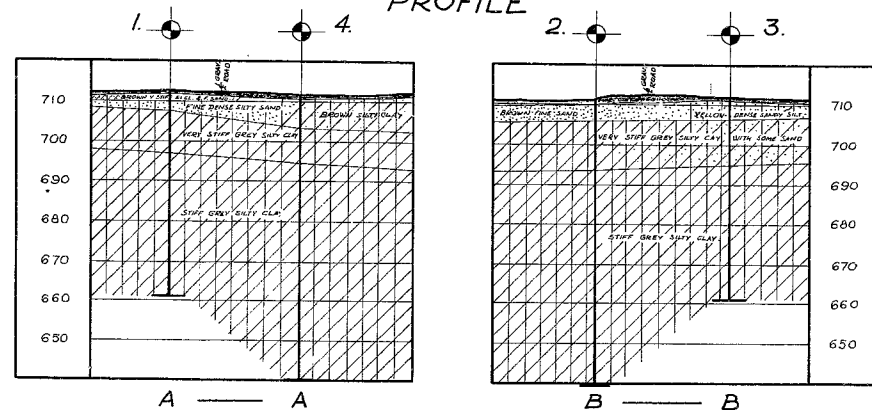
DUNWICH TWP.



F-3530-6
401B-7
E-3636-1



PROFILE

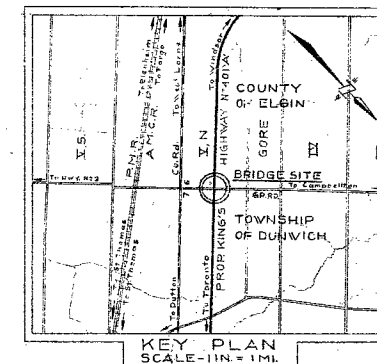
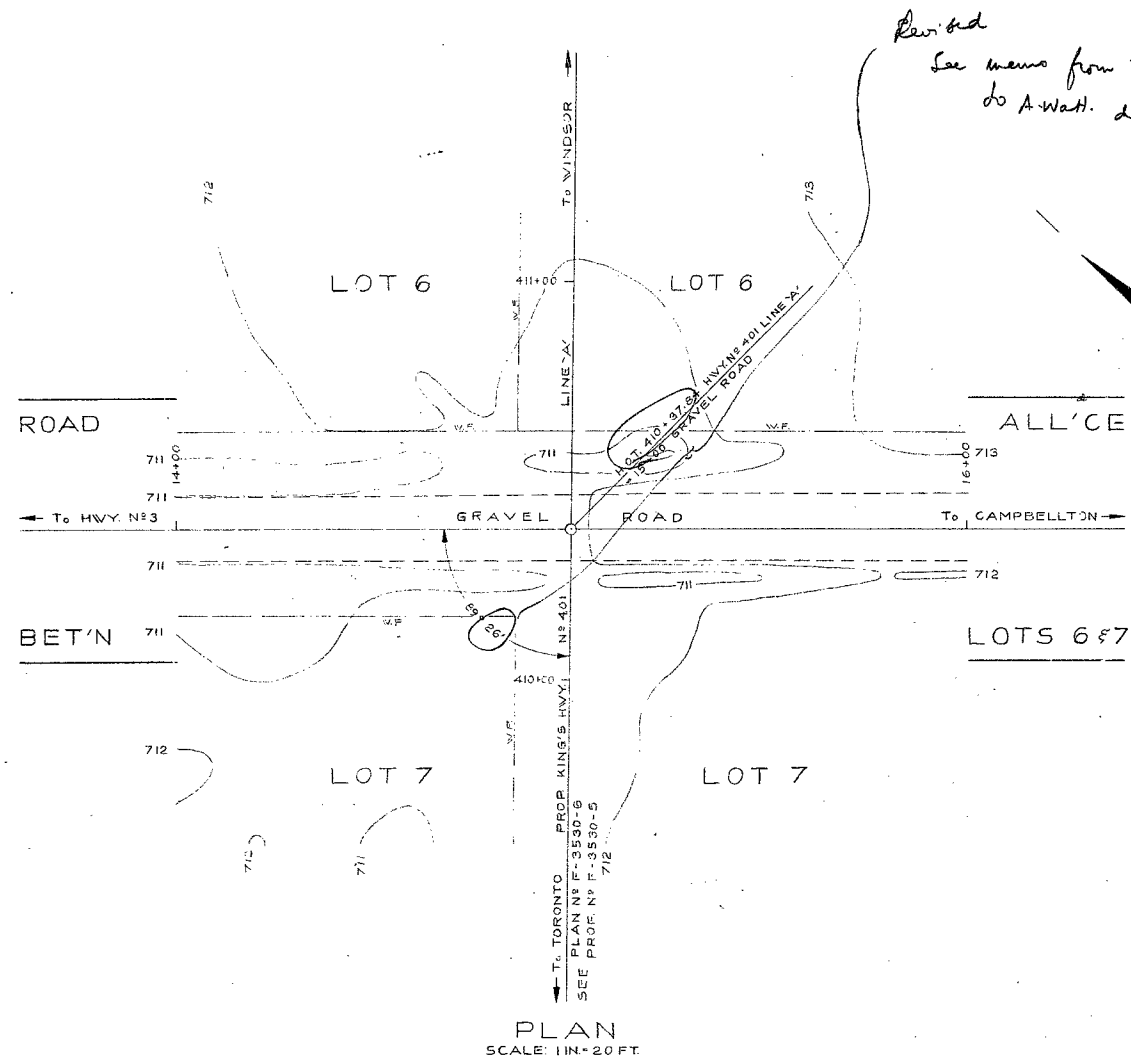


LEGEND				
BORE HOLE				
PENETRATION HOLE				
BORE & PENETRATION HOLE				
HOLE NO.	ELEVATION	STATION	DISTANCE FROM	
1.	713.0	410+50	64' LT.	
2	710.9	410+50	65' RT.	
3	712.1	410+20	50' RT.	
4.	711.6	410+20	50' LT.	

- 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.

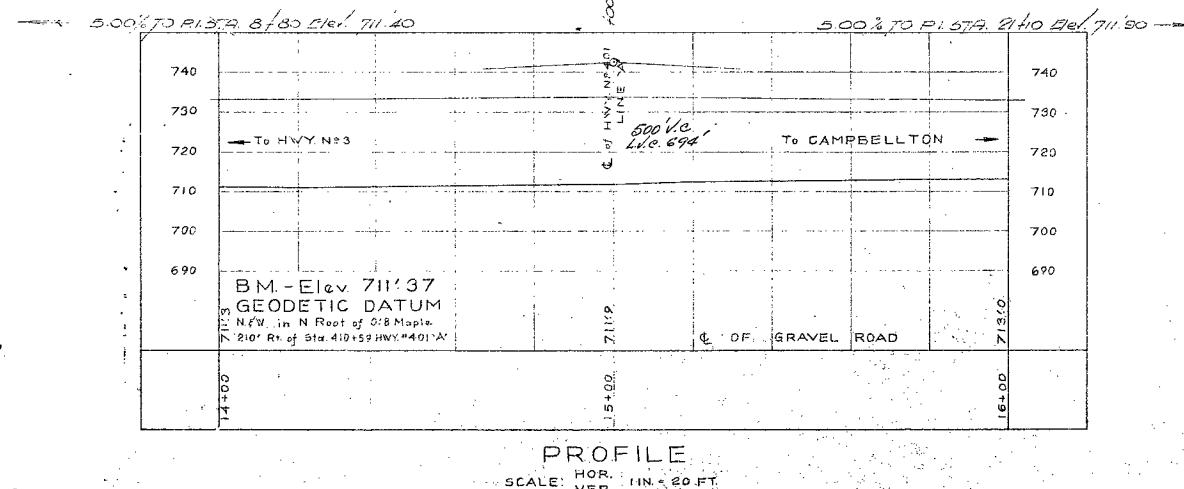
DEPARTMENT OF HIGHWAYS - ONTARIO			
MATERIALS & RESEARCH SECTION			
GRAVEL ROAD PROPOSED CROSSING			
SHOWING POSITIONS & ELEVATIONS OF HOLES			
HWY. 401	DISTRICT 2	COUNTY ELGIN	
TOWNSHIP DUNWICH	LOT 6 & 7	CON. V.	
LOCATION 2 1/2 mi. W. of DUTTON			
DRAWN BY: J. J. J.	CHECKED BY: J. J. J.	W.P. 57-59	
DATE 2 NOV 1959	APPROVED BY: J. J. J.	DRAWING NO. F-59-94 A.	
SCALE 1 in. = 20 ft.			

COUNTY of ELGIN
TOWNSHIP of DUNWICH
CON. V, N.



BRIDGE OFFICE DATA
APPROVED: *[Signature]*
DATE: March 3/60

APPROVED
Bridge Engineer: *[Signature]*
Planning Engineer: *[Signature]*



VP 57-59

DEPARTMENT OF HIGHWAYS ONTARIO
PLANNING & DESIGN BRANCH

DISTRICT N° 2

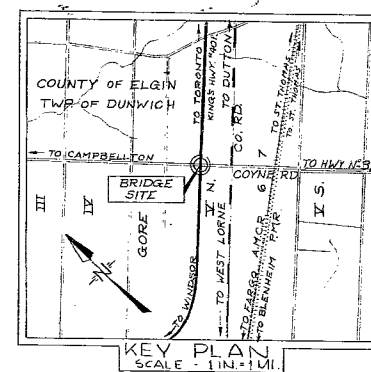
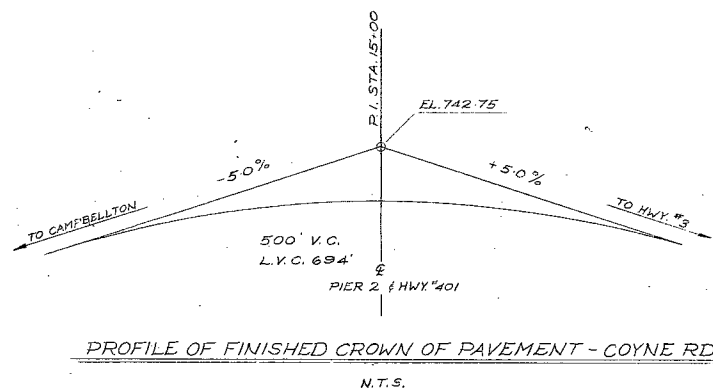
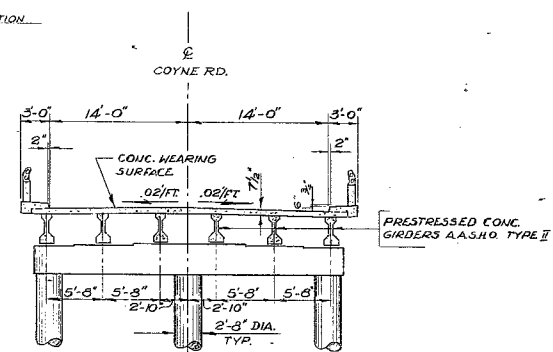
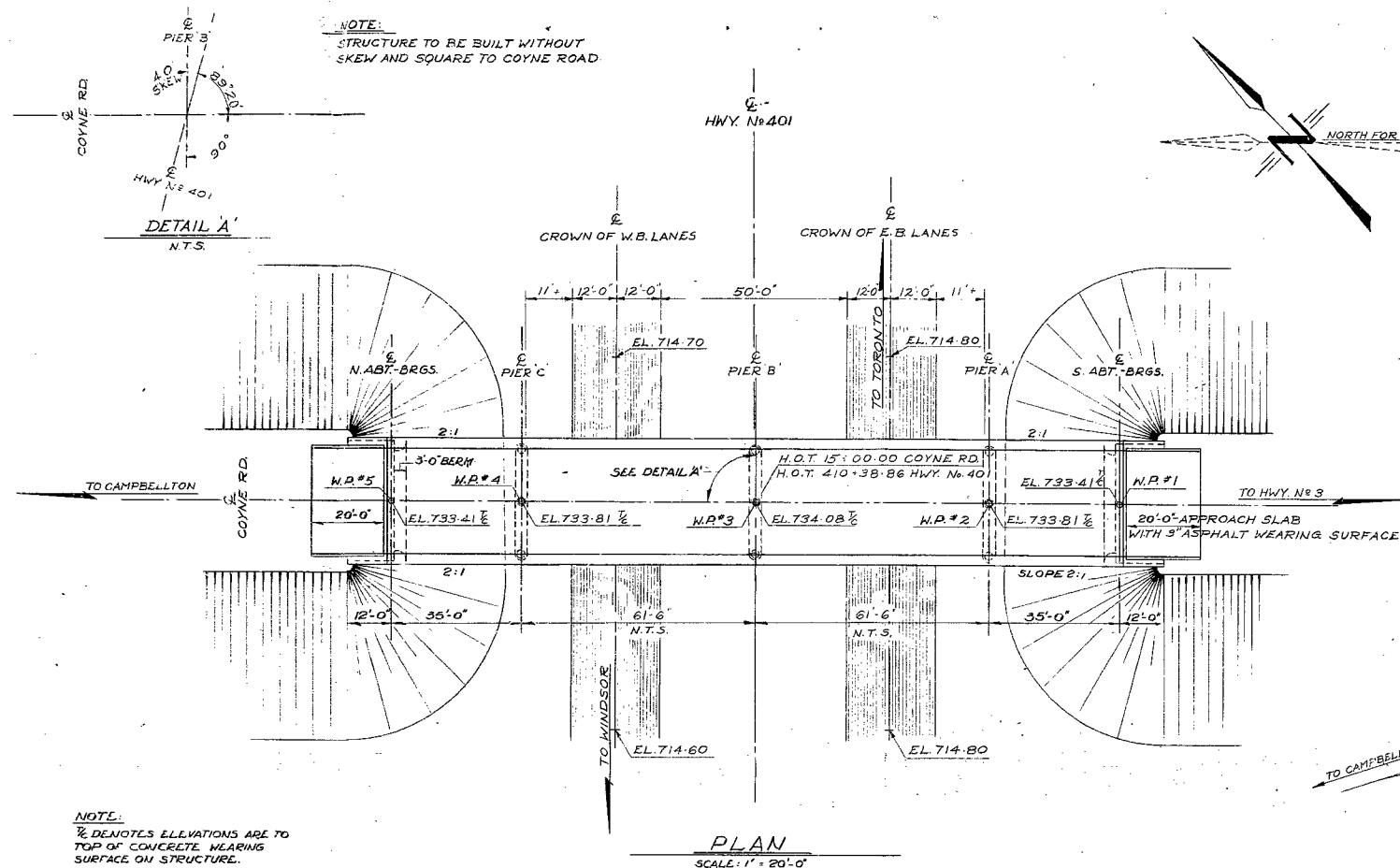
PROPOSED CROSSING
AT
GRAVEL ROAD
AND
PROP. KING'S HIGHWAY N° 401
LINE 'A'

LOTS 6 & 7
TOWNSHIP OF DUNWICH
COUNTY OF ELGIN

BRIDGE SITE

SURVEY BY CHIEF OF PARTY: A. BILLES SUPERVISOR: A. BOUCHER	APPROVED Director of Planning & Design
DRAWN BY DRAFTSMAN: G. PROOZIAN & FRANK SUPERVISOR: J. MCNILLER & BROWN	SCALE AS SHOWN DATE OF SURVEY: MARCH 1959 DATE OF PLAN: APRIL 1959
CHECKED BY DRAFTSMAN: G. FRANK SUPERVISOR: G. BROWN	PLAN 1 OF 1 PLAN E3636-1

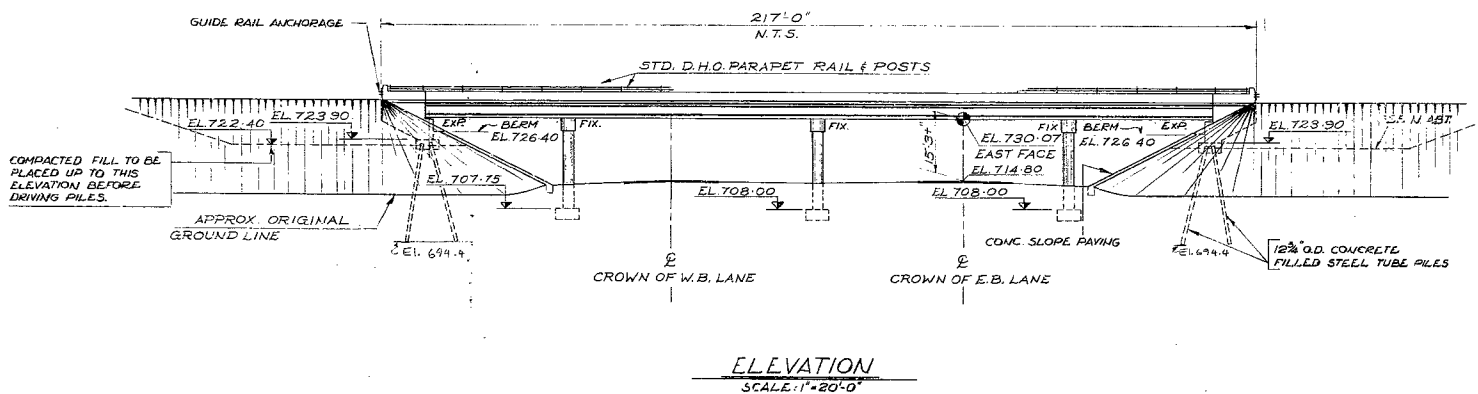
DUNWICH TWP. B.P. 12



- NOTES:**
- CLASS OF CONCRETE:**
DECK, CURB & PARAPET WALLS 4000 P.S.I.
PRESTRESSED CONC. GIRDERS 5000 P.S.I.
REMAINDER 3000 P.S.I.
- CLEAR COVER ON REINFORCING STEEL**
- FOOTING, ABUTMENTS, PIERS**
3" TOP 1 1/2"
2" BOT. 1"
- DIAPHRAGMS, CURBS, APPR. SLAB AND/OR AS NOTED**
1 1/2" 2" ON DRAWING
- CONSTRUCTION NOTES**
- THE CONTRACTOR IS RESPONSIBLE FOR FINISHING THE BEARING SEATS DEAD LEVEL TO THE SPECIFIED ELEVATIONS WITH A TOLERANCE OF ± 1/8" INCH.
 - NO CONCRETE SHALL BE PLACED ABOVE THE ABUTMENT BEARING SEATS UNTIL THE CONCRETE IN DECK HAS BEEN PLACED.

B.M. ELEV. 711.37
GEODETIC DATUM: N & W IN ROOT OF 0-8' MAPLE
210' RT. OF STA. 410 - 59 HWY 401

REVISIONS	DATE	BY	DESCRIPTION



LIST OF DRAWINGS

- D-6169-1 GENERAL LAYOUT
2- FOUNDATION LAYOUT & BOREHOLE DATA
3- ABUTMENTS
4- PIERS
5- PRESTRESSED GIRDERS AND BEARINGS
6- DECK
7- APPROACH SLABS
8- PARAPET WALL DETAILS
9- STANDARD STEEL PARAPET RAIL
10- DETAILS OF CONC. SLOPE PAVING
11- STANDARD DETAILS

DEPARTMENT OF HIGHWAYS ONTARIO BRIDGE DIVISION

COYNE ROAD UNDERPASS 4.7 MILES EAST OF HWY #76

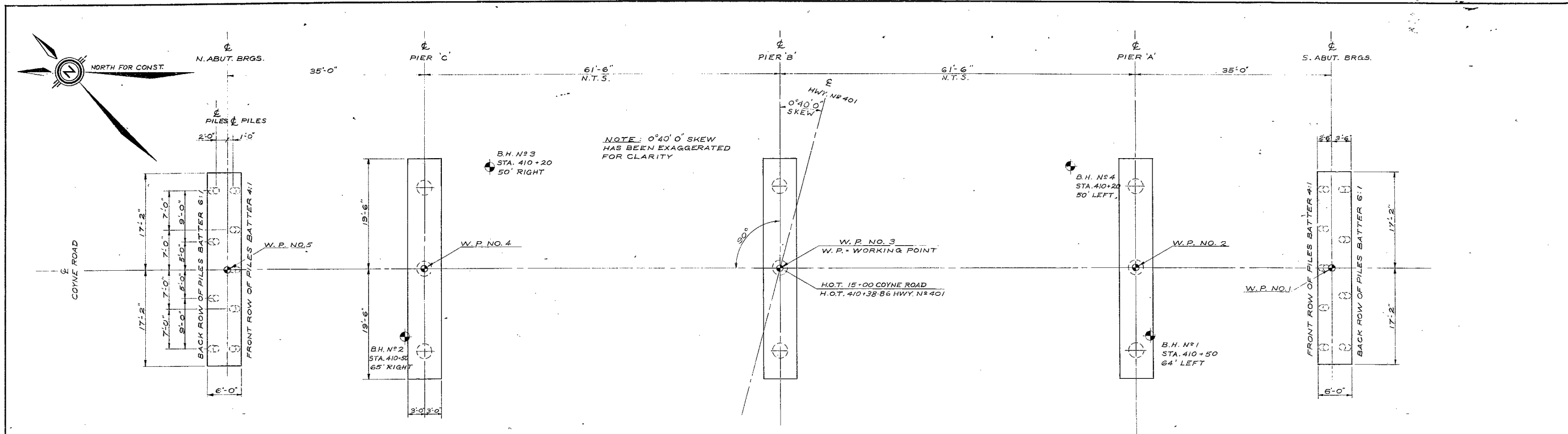
KING'S HIGHWAY No. 401 (M.C. FREEWAY) DIST. No. 2
CO. ELGIN DUNWICH TWP. BRIDGE #12
TWP. DUNWICH LOT 6 & 7 CON. V.N.

GENERAL LAYOUT

APPROVED	BRIDGE ENGINEER	SITE No. 5-125	W.P. No. 57-59
DESIGN	A.K. CHECK	CONTRACT	
DRAWING	A.A./R.A. CHECK	DRAWING	
DATE	DEC/67	LOADING	HS20-44



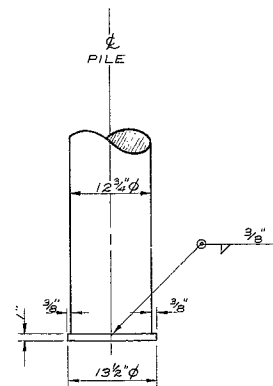
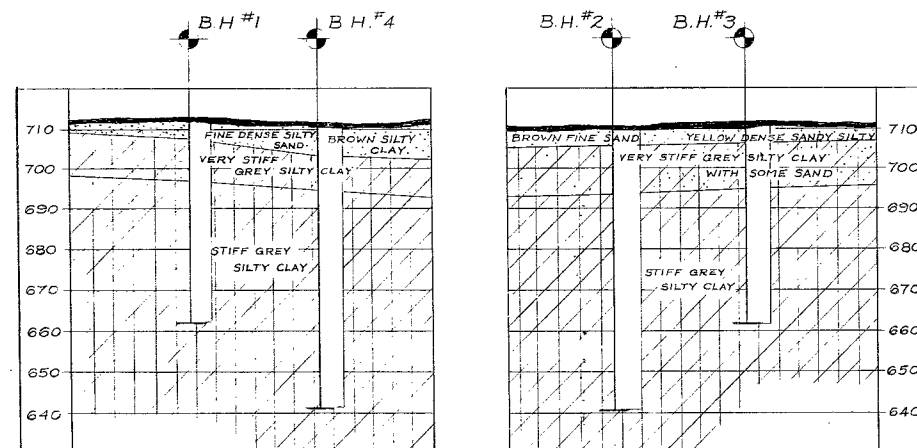
D-6169-1



NOTES:
 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.
 THE COMPLETE SOIL INVESTIGATION REPORT FOR THIS STRUCTURE MAY BE EXAMINED AT THE BRIDGE OFFICE AND FOUNDATION OFFICE AT DOWNSVIEW AND AT THE LONDON DISTRICT OFFICE.

FOUNDATION LAYOUT

SCALE - 1/8" = 1'-0"



PILES SUPPLIED

LOCATION	Nº	LENGTH	TYPE
S. ABUT.	9	28'-0"	12 3/4" O.D.
N. ABUT.	9	28'-0"	12 3/4" O.D.

DESIGN LOAD - 30 TONS PER PILE

- NOTE:**
- ALL PILES ARE 12 3/4" O.D. 0.203" MIN. WALL THICKNESS.
 - TUBE PILES TO BE FILLED WITH 3000 R.S.I. CONCRETE AFTER DRIVING HAS BEEN COMPLETED AND PILES INSPECTED.
 - ABUTMENT PILES SHALL BE DRIVEN IN ACCORDANCE WITH STD. DD 1219 OR DD 1218.
 - SPACING OF PILES IS MEASURED AT UNDERSIDE OF FOOTING.

REVISIONS	DATE	BY	DESCRIPTION

DEPARTMENT OF HIGHWAYS ONTARIO BRIDGE DIVISION

COYNE ROAD UNDERPASS

1.7 MILES EAST OF HWY #76

KING'S HIGHWAY No. M.C. FREEWAY (401) DIST. No. 2
 CO. ELGIN DUNWICH TWP. BRIDGE #12
 TWP. DUNWICH LOT 6 & 7 CON. Z.N.

FOUNDATION LAYOUT & BOREHOLE DATA			
DESIGN	A.K.	CHECK	AM
DRAWING	R.A.V.	CHECK	A.K.
DATE	JULY 67	LOADING	H520-44
APPROVED	BRIDGE ENGINEER		CONTRACT No.
SITE No.	5-125	W.P. No.	57-59
DRAWING No.	D-6169-2		



