DOCUMENT WEIGHT FILMING IDENTIFICATION

GEOCRES No. 40I 13-44

DIST 2 REGION Southwestern

W.P. No. 40-66-15

CONT. No. 79-51

W. O. No.

STR. SITE No. 19-526

HWY. No. 402

LOCATION Concession 8 Rd. Underpass, 7.1 miles west of Hwy. 2

OVERSIZE DRAWINGS TO BE INCLUDED WITH THIS REPORT. 7

REMARKS: documents to be unfolded before microfilming

G1-30 SEPT 1976

FOUNDATION INVESTIGATION REPORT

W.P. 40-66-15
Site No. 19-526
Hwy. 402 District 2
Concession 8 Road Underpass
7.1 Miles West of Hwy. 2

1. INTRODUCTION

This report is to provide information for the design and construction of the proposed structure and its approaches at the above mentioned site. The subsoil information is based on three sampled boreholes and three dynamic cone penetration tests.

2. SITE DESCRIPTION

The proposed site is located in the Township of Caradoc some five miles east of the Town of Strathroy. It is just west of the intersection of Concession Road 8 and the 20th Sideroad. The general area is a flat sand plain with occasional low ridges and is engaged in mixed agricultural production. The immediate area of the site is higher than much of the surrounding area and forms part of a complex of stationary sand dunes.

Physiographically, this site is located in an area referred to as the'Caradoc Sand Plain'.

3. SUBSOIL

(3.1) General

Subsoil in the area consists predominantly of a deep deposit of fine uniform sand which was laid down as a delta at an early outlet of the Thames River. A subsoil profile at this site shows a layer of 10 to 14 feet of fine sand some silt overlying 5 to 7 feet of silt to clayey silt. Underlying this is approximately 35 feet of fine sand with a trace of silt overlying silt with fine sand.

(3.2) Fine Sand

This deposit is split into an upper and lower portion by the layer of silt to clayey silt. The upper portion (10 to 14 feet in thickness) contains considerable silt with percentages ranging up to 40%. It has a compact relative density with Standard Penetration 'N' values ranging from 10 to 27 blows per foot.

The portion of the fine sand deposit (35 feet in thickness) below the silt to clayey silt layer generally contains less than 10% silt. Standard Penetration 'N' values range from 13 to in excess of 100, indicating a relative density ranging from compact to very dense. Grain size distribution plots of this fine sand deposit are shown as an envelope in Figure 1 of the Appendix. Laboratory tests show moisture contents of approximately 20% for samples taken below the water table.

(3.3) Silt to Clayey Silt

This stratum, found sandwiched between layers of fine sand, is from 5 to 7 feet in thickness. It is primarily silt but contains up to 27% clay giving it a low degree of plasticity. Its consistency ranges from very stiff to hard with Standard Penetration 'N' values varying from 18 to 74.

(3.4) Silt With Fine Sand

This stratum was penetrated to a shallow depth by the deepest borehole. It contains approximately 40% sand and 60% silt and is very dense.

(3.5) Groundwater

Groundwater was encountered in the fine sand at approximate elevation 779. It should be noted that this water level was recorded in August which probably represents its lowest level during the year.

4. DISCUSSION AND RECOMMENDATIONS

(4.1) General

The underpass as proposed will consist of a two span structure with each span being 102 feet in length. The approach embankments

will be approximately 20 feet in height.

(4.2) Franki Piles

Any or all of the footings may be supported on Franki type displacement caissons. To form these piles the drive tube should be advanced to elevation 775 with the bulb of the pile formed below this elevation. Piles with the following shaft diameters (irside diameter of drive tube) will develop the following desigr bearing capacities.

14 in. - 70 tons
18 in. - 125 tons
22 in. - 150 tons

The cost of installing these piles complete with all materials other than reinforcing steel may be estimated assuming $25.00, $28.00 and $32.00 per linear foot for the 14 inch, 18 inch and 22 inch types, respectively.

(4.3) Steel Tube Piles

The footings for the structure may be supported on steel tube piles (12-3/4" x ¼") driven to elevation 765 under the centre pier and elevation 780 under the abutments. A safe design load of 35 tons per pile should be assumed for design purposes. Any horizontal loading should be resisted by battered piles.

(4.4) Spread Footings

The abutments may be constructed within the approach fills supported on well compacted granular 'A'. A net safe load of 2.5 t.s.f. may be assumed. For calculation of sliding resistance a friction coefficient of .55 may be assumed to apply between the footing and granular 'A'. A construction scheme is outlined in Figure 2 of the Appendix.

The centre pier may be supported on a spread footing at elevation 786 with a net design load of 2 tons per square foot. For calculation of sliding resistance a friction coefficient of 0.4 may be assumed to apply between the base of the footing and the underlying subsoil.

(4.5) Settlements

Settlements in the case of piled footings will be less than 1 inch. The spread footings, if these are used, will settle approximately 1 inch. In all cases the settlement will take place upon application of the load.

(4.6) Dewatering

No dewatering problems are anticipated as all footings or pile caps will be above the groundwater level.

(4.7) Approach Embankments

No stability problems are anticipated with embankment fills (20 feet) if 2:1 slopes are employed. Cobbles exceeding a 3 inch diameter should be removed from fill placed at locations through which piles will have to be driven.

(4.8) Frost Protection

All pile caps or spread footings should be protected against frost action by a minimum 4 feet of cover.

P. STUART,
Project Engineer.

REGISTERED PROFESSIONAL ENGINEER
P. J. STUART
PROVINCE OF ONTARIO

K.G. SELBY,
Supervising Engineer.

November, 1975

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS - ONTARIO

ENGINEERING SERVICES BRANCH - GEOTECHNICAL OFFICE - SOIL MECHANICS SECTION

RECORD OF BOREHOLE No 1

WP 40-66-15 | LOCATION Co-ords. 15,611,425 N; 1,256,551 E. | ORIGINATED BY RD

DIST 2 HWY 402 | BORING DATE August 25, 1975 | COMPILED BY RD

DATUM Geodetic | BOREHOLE TYPE Hollow Stem Augers | CHECKED BY GP.

ELEV / DEPTH	DESCRIPTION	STRAT. PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES 'N' VALUES	GROUND WATER ELEV
797.6	Ground Level					
0.0	Fine sand with silt					
	Compact		1	SS	20	
			2	SS	15	790
783.6			3	SS	17	
14.0	Clayey silt		4	SS	18	
777.6	Very Stiff to Hard		5	SS	35	780
20.0	Fine sand, trace of silt.		6	SS	38	
			7	SS	31	
			8	SS	32	
	Dense to Very Dense		9	SS	41	770
			10	SS	76	
			11	SS	50	
756.1			12	SS	56	760
41.5	End of Borehole					

Note: W.L. not established

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)

SHEAR STRENGTH
○ UNCONFINED + FIELD VANE
● QUICK TRIAXIAL × LAB VANE

LIQUID LIMIT W_L
PLASTIC LIMIT W_P
WATER CONTENT W
W_P W W_L
WATER CONTENT % (10 20 30)

UNIT WEIGHT γ

REMARKS	% GR	SA	SI	CL
	0	62	(38)	
	0	0	73	27
	0	0	78	22
	0	93	(7)	

20
15 ○ 5 % STRAIN AT FAILURE
10

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS – ONTARIO

ENGINEERING SERVICES BRANCH – GEOTECHNICAL OFFICE – SOIL MECHANICS SECTION

RECORD OF BOREHOLE No 2

WP 40-66-15 LOCATION Co-ords. 15,611,516 N; 1,256,640 E. ORIGINATED BY RD

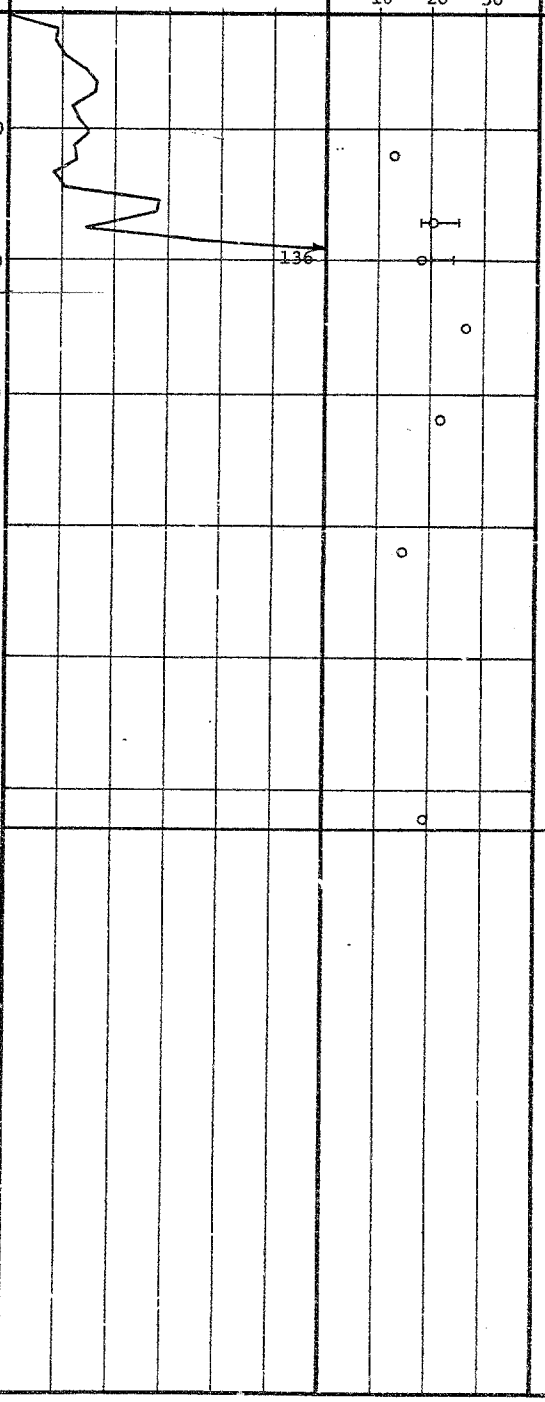
DIST 2 HWY 402 BORING DATE August 20, 1975 COMPILED BY RD

DATUM Geodetic BOREHOLE TYPE Hollow Stem Augers CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT. PLOT	SAMPLES NUMBER	TYPE	'N' VALUES	GROUND WATER ELEV
798.6	Ground Level					
0.0	Fine sand, some silt					
	Compact		1	SS	19	
			2	SS	27	
784.6			3	SS	25	
14.0	Silt to clayey silt		4	SS	20	
779.6	Very Stiff to Hard		5	SS	74	
19.0			6	SS	68	
	Fine sand, trace of		7	SS	24	
	silt.		8	SS	37	
			9	SS	50	
			10	SS	39	
	Compact to Very Dense		11	SS	146	
			12	SS	82	
			13	SS	34	
742.6						
56.0	Silt with fine sand.					
737.1	Very Dense		14	SS	58	
61.5	End of Borehole					

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)

SHEAR STRENGTH: ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × LAB VANE



LIQUID LIMIT w_L PLASTIC LIMIT w_P WATER CONTENT w (w_P — w — w_L)

WATER CONTENT % (10 20 30)

UNIT WEIGHT γ

REMARKS	% GR	SA	SI	CL
	0	83	(17)	
	0	96	(4)	
	0	94	(6)	
	0	38	(62)	

20
15 ○ 5 % STRAIN AT FAILURE
10

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS – ONTARIO

ENGINEERING SERVICES BRANCH – GEOTECHNICAL OFFICE – SOIL MECHANICS SECTION

RECORD OF BOREHOLE No 3

WP 40-66-15 LOCATION Co-ords. 15,611,606 N; 1,256,728 E. ORIGINATED BY RD

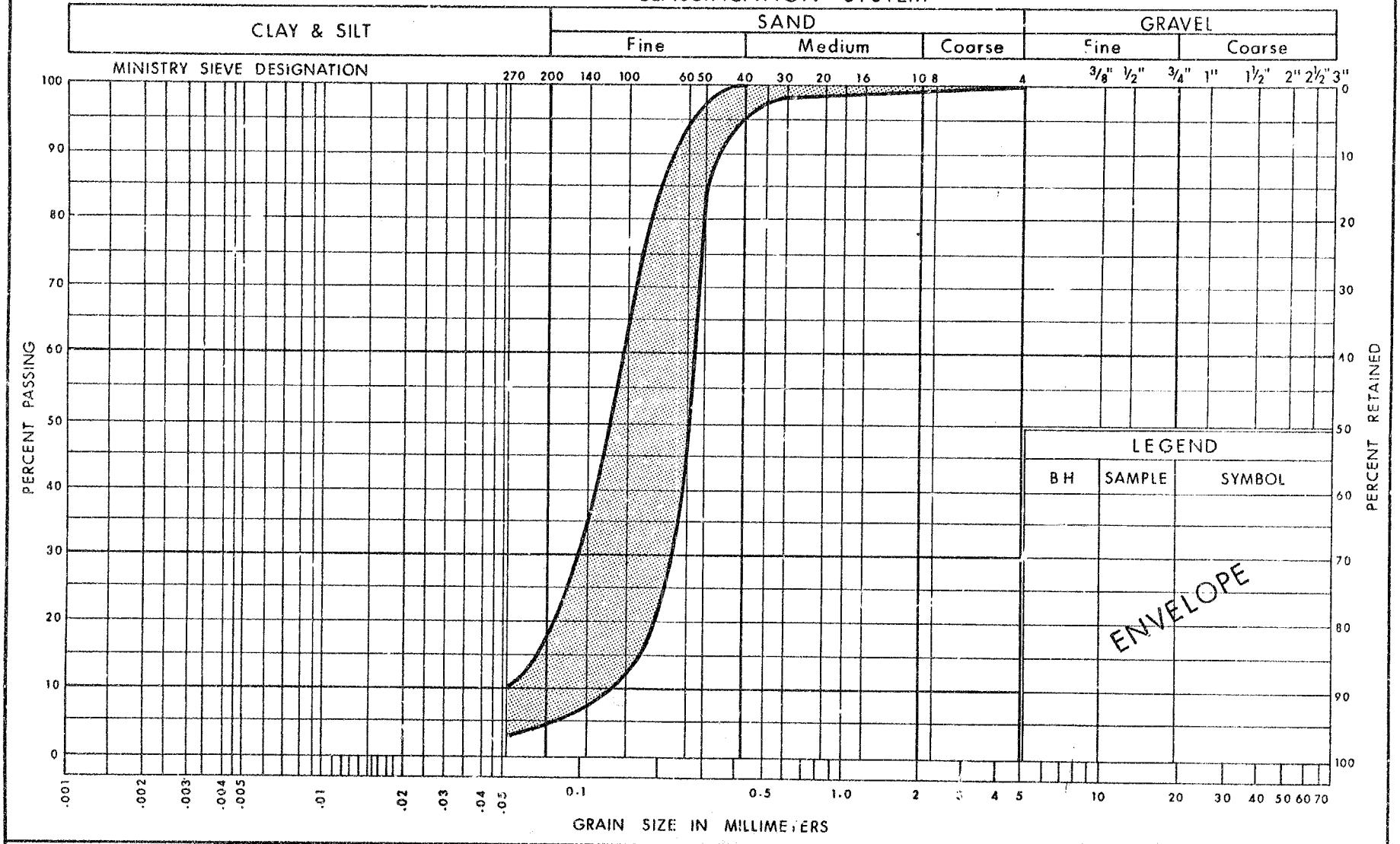
DIST 2 HWY 402 BORING DATE August 21 - 22, 1975 COMPILED BY RD

DATUM Geodetic BOREHOLE TYPE Hollow Stem Augers CHECKED BY

SOIL PROFILE			SAMPLES			GROUND WATER	DYNAMIC CONE PENETRATION RESISTANCE PLOT (2 0 40 60 80 100) / SHEAR STRENGTH (○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE × LAB VANE)	LIQUID LIMIT w_L / PLASTIC LIMIT w_P / WATER CONTENT w (w_P w w_L) WATER CONTENT % (10 20 30)	UNIT WEIGHT γ	REMARKS
ELEV / DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	'N' VALUES	ELEV				% GR SA SI CL
795.2	Ground Level									
0.0	Fine sand, some silt									
	Compact		1	SS	10	790				0 83 (17)
785.2										
10.0	Silt to clayey silt.		2	SS	20					
	Very Stiff		3	SS	27					
778.2			4	SS	24	780				0 0 89 11
17.0			5	SS	16					
	Fine sand, trace of		6	SS	36					
	silt.		7	SS	25					
			8	SS	37	770				
	Compact to Very Dense		9	SS	13					
			10	SS	169					
			11	SS	22	760				
753.7			12	SS	26					0 94 (6)
41.5	End of Borehole									

20
15 ⊹ 5 % STRAIN AT FAILURE
10

UNIFIED SOIL CLASSIFICATION SYSTEM



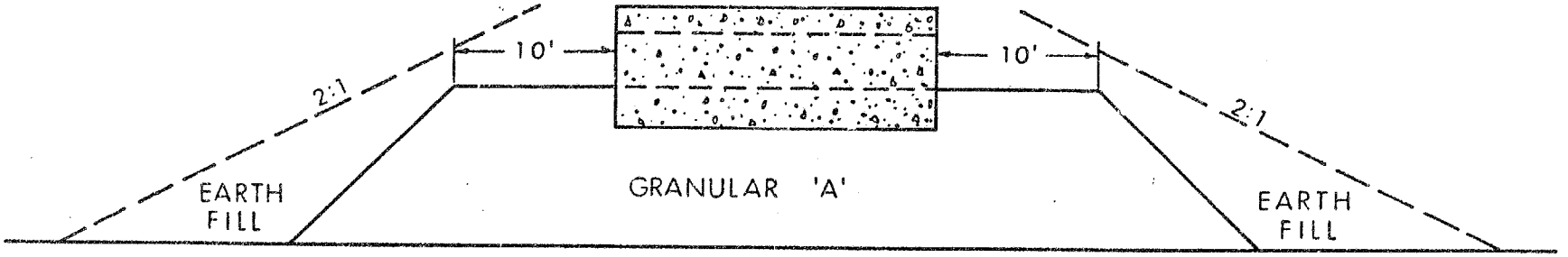
Ministry of Transportation and Communications
Ontario
ENGINEERING SERVICES BRANCH

GRAIN SIZE DISTRIBUTION
FINE SAND
TRACE OF SILT

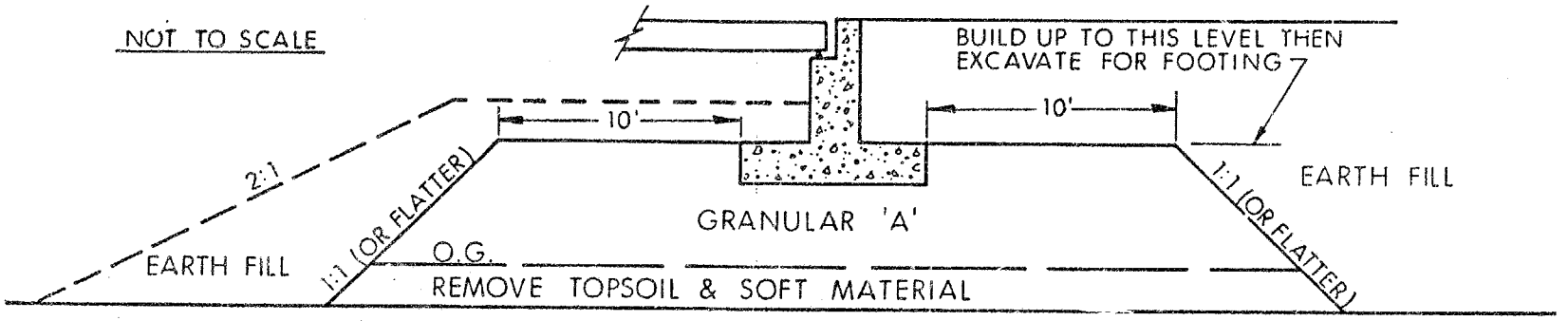
FIG No 1

W P 40-66-15

ABUTMENT ON COMPACTED FILL SHOWING GRANULAR 'A' CORE



X - SECTION



LONGITUDINAL SECTION

NOTES

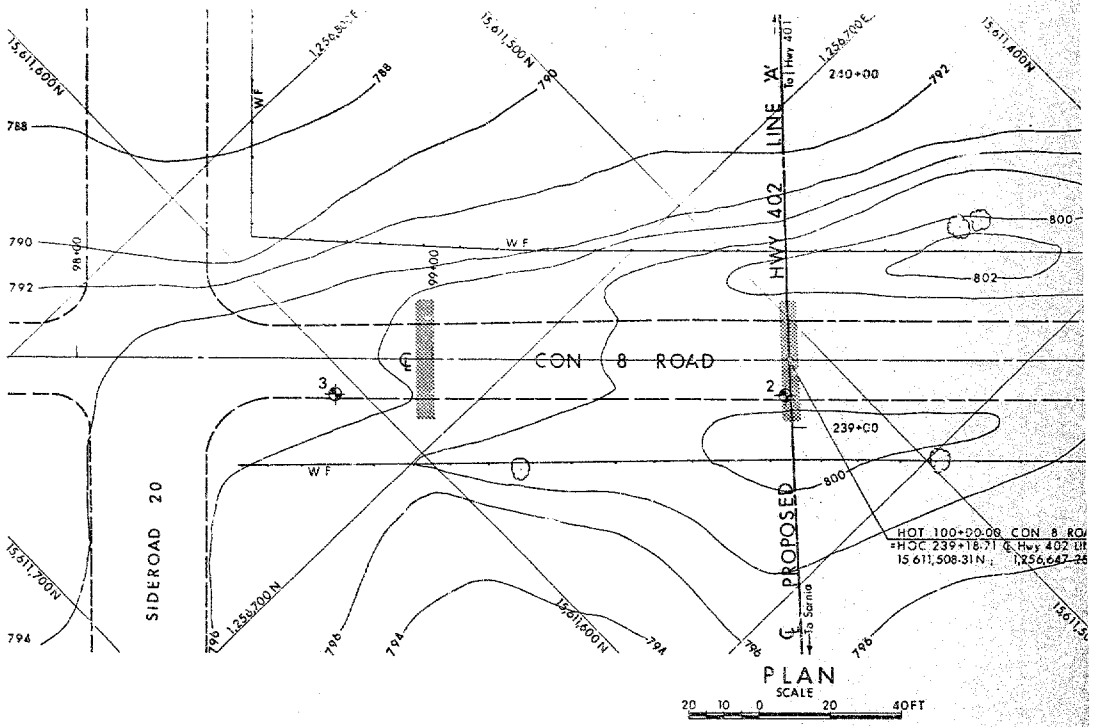
1 - REMOVE TOPSOIL &/OR SOFT SUBSOIL UNDER AREA OF COMPACTED GRANULAR 'A'.

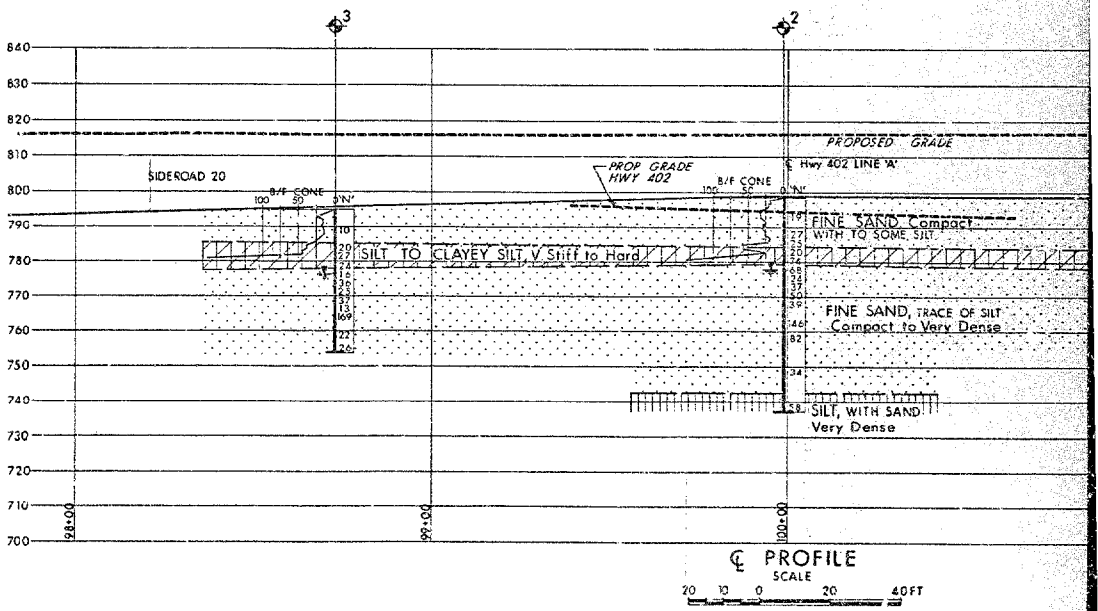
2 - PLACE GRANULAR 'A' TO TOP OF FOOTING LEVEL, COMPACTED ACCORDING TO CURRENT M.T.C. STANDARDS.

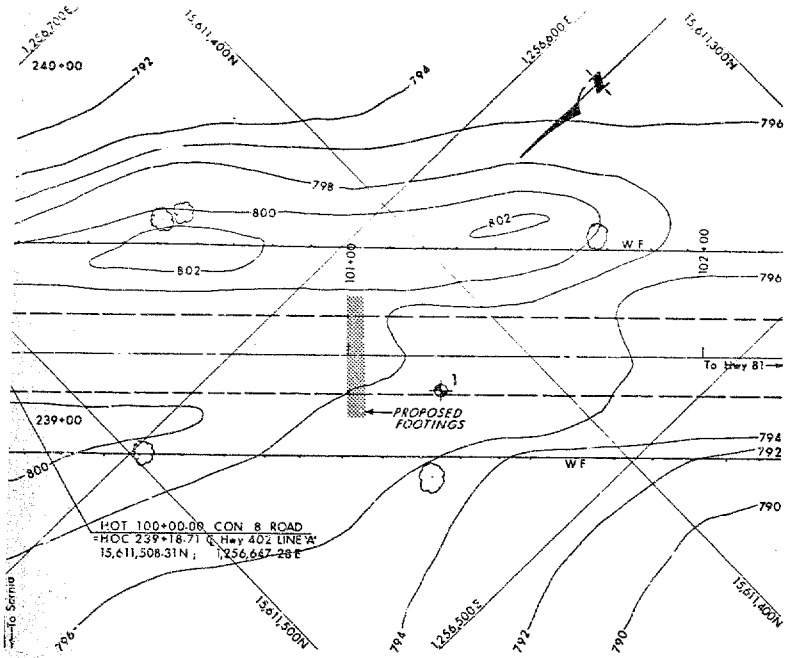
3 - EXCAVATE COMPACTED GRANULAR 'A' MATERIAL FOR FOOTING.

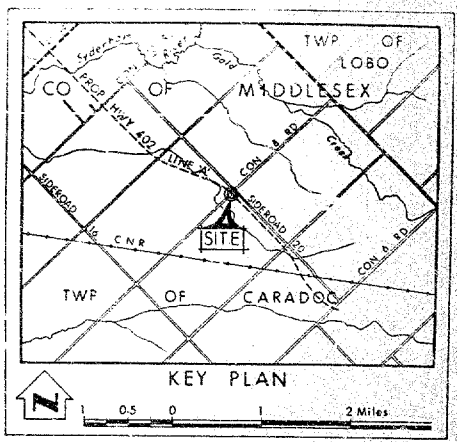
FIG. 2

W.P. 40-66-15


15,611,600N
1,256,800E
15,611,500N
1,256,700E
15,611,400N
788
790
792
794
796
798
800
802
W F
99+00
98+00
240+00
239+00
HWY 402
LINE 'A'
To Hwy 401
To Sarnia
CON 8 ROAD
SIDEROAD 20
PROPOSED
3
2
15,611,700N
1,256,700N
15,611,600N
HOT 100+00.00 CON 8 RO
=HOC 239+18.71 ℄ Hwy 402 LI
15 611,508.31 N
PLAN
SCALE
20 10 0 20 40FT


840
830
820
810
800
790
780
770
760
750
740
730
720
710
700
3
2
PROPOSED GRADE
SIDEROAD 20
PROP GRADE HWY 402
℄ Hwy 402 LINE 'A'
B/F CONE
100
50
0 'N'
FINE SAND Compact
WITH TO SOME SILT
SILT TO CLAYEY SILT, V Stiff to Hard
FINE SAND, TRACE OF SILT
Compact to Very Dense
SILT, WITH SAND
Very Dense
98+00
99+00
100+00
℄ PROFILE
SCALE
20 10 0 20 40FT





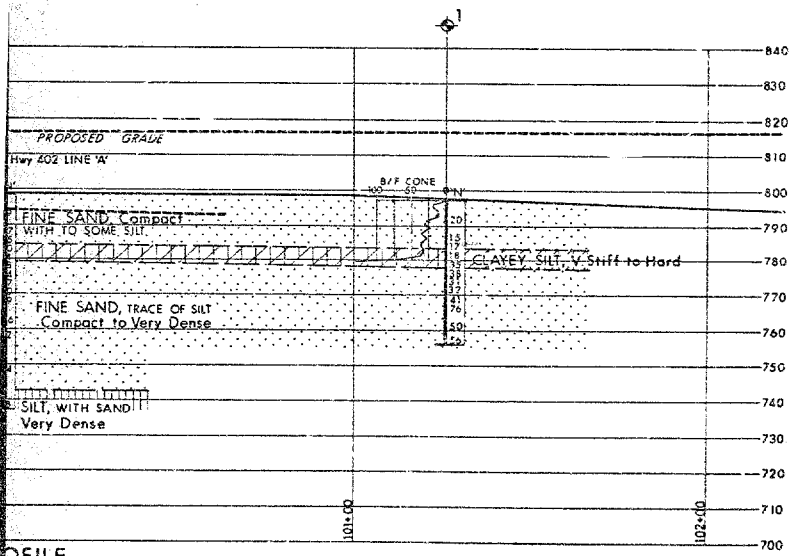
LEGEND

- Bore Hole
- Dynamic Cone Penetration Resistance Test B/F CONE - Blows/Ft. Cone Test (350 ft. lbs. energy/blow)
- Bore Hole & Cone Test
- Water Levels established at time of field investigation. Aug 1975

NO.	ELEVATION	CO-ORDINATES NORTH	CO-ORDINATES EAST
1	797.6	15,611,425	1,256,551
2	798.6	15,611,516	1,256,640
3	795.2	15,611,606	1,256,728

-NOTE-
WATER LEVEL WAS NOT ESTABLISHED IN BORE HOLE 1

AN
LE
20 40FT



OFILE
LE
20 40FT

NOTE: FOR CONTRACT DOCUMENT
The complete foundation investigation report for this structure may be examined at the Structural Office and Foundations Office, Downsview, and at the LONDON District Office.

- NOTE -
The boundaries between soil strata have been established only at Bore Hole locations. Between Bore Holes the boundaries are assumed from geological evidence.

REVISIONS			
	DATE	BY	DESCRIPTION

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS—ONTARIO
ENGINEERING SERVICES BRANCH - GEOTECHNICAL OFFICE - SOIL MECHANICS SECTION

CON 8 ROAD

HIGHWAY NO Prop. 402 LINE 'A' DIST. NO 2
CO MIDDLESEX
TWP CARADOC LOT 20 CON VII & VIII

BORE HOLE LOCATIONS & SOIL STRATA

SUBMD P.J.S.	CHECKED	W.P. NO 40-66-15	DRAWING NO. 406615-A
DRAWN	CHECKED	A.O. NO	
DATE Oct 23, 1975		SITE NO 19-526	BRIDGE DRAWING NO
APPROVED		CONT NO	

REF No E-5384-1, July 1975

December 29, 1977

Meeting of

Structural Review Committee

Time: 9:00 a.m., December 21, 1977

Place: Boardroom "B", West Building

Attending: Messrs. A. E. McKim - Structural Office
M. Stoyanoff - Structural Office
J. Keen - Structural Office
F. Gormek - Structural Office
N. Zoltay - Structural Office
P. Payer - Soil Mechanics Section

Project Reviewed:

Part of Group W.P. 40-66-21
W.P. 40-66-12, Site 19-528,
Concession #6 Road Underpass.
W.P. 40-66-15, Site 19-526,
Concession #8 Road Underpass.
W.P. 40-66-16, Site 19-525,
Concession #10 Road Underpass.
Highway 402, District #2.

Concession #6 Road Underpass (W.P. 40-66-12)

Foundations

The concrete caisson piling requirements were reviewed and the Committee recommended that the compacted fill (maximum grain size 2") to be placed to top of footing elevation before driving piles.

Structure

Drawing #1

(a) Note referring to organic top soil is to be changed to read "Excavate (up to 4'-6' thick) organic material".

(b) Note for "Formwork". Same note as for W.P. 40-66-16 is to be added to the drawing.

(c) All references for clear cover on reinforcing steel for barrier walls is to be deleted.

Drawing #6

The Committee recommended that the bearing seat should be flat and if time and manpower permit the abutment should be redesigned. If the redesign is not feasible then show a 6" gap between abutment and deck.

Drawing #10

Sequence of Deck Construction. Note is to be changed in effect that all cables (longitudinal and transverse) are grouted in one time.

Drawing #11. Barrier Walls

Drawing is to be updated.

Drawing #15

Standard SS-16-1 is to be updated.

Deck is to be machine finished.

Concession #8 Road Underpass (W.P. 40-66-15)

Foundations

The design complies with the recommendations of the foundation report.

Structure

Drawing #7.

Same comment as for W.P. 40-66-12, Drawing #6.

Drawing #9

Same comments as for W.P. 40-66-12, Drawing #10.

Drawing #11. Barrier Walls

Drawing is to be updated.

Deck is to be machine finished.

Special Provisions and D4

The Designer is to update special provisions and D4.

Concession #10 Road Underpass (W.P. 40-66-16)

Foundations

Same comments as for W.P. 40-66-12.

Structure

Drawing #4

Same comments as for W.P. 40-66-12, Drawing #6.

Drawing #8

Same comments as for W.P. 40-66-12, Drawing #10.

Drawing #10 Barrier Walls

Drawing is to be updated.

Drawing #14

The Designer is to review standard SS-5-1 and change it if necessary.

The deck is to be machine finished.

Special Provisions and D4

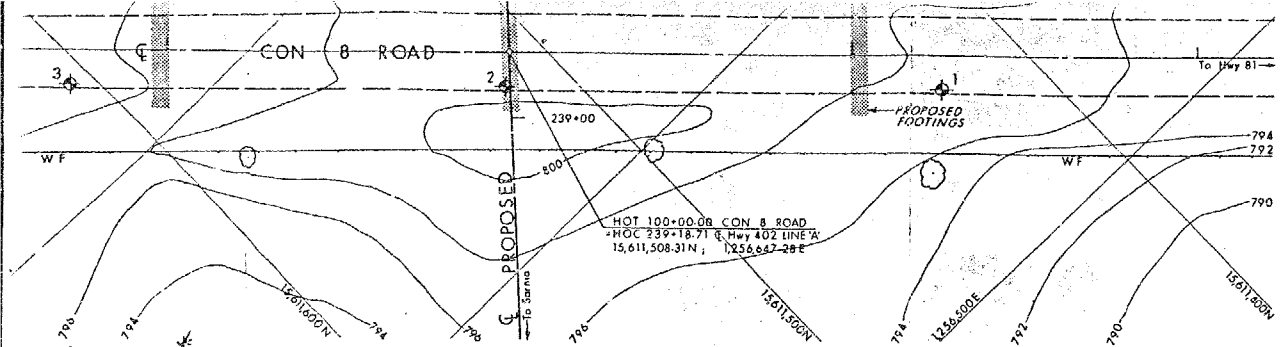
The Designer is to update special provisions and D4.

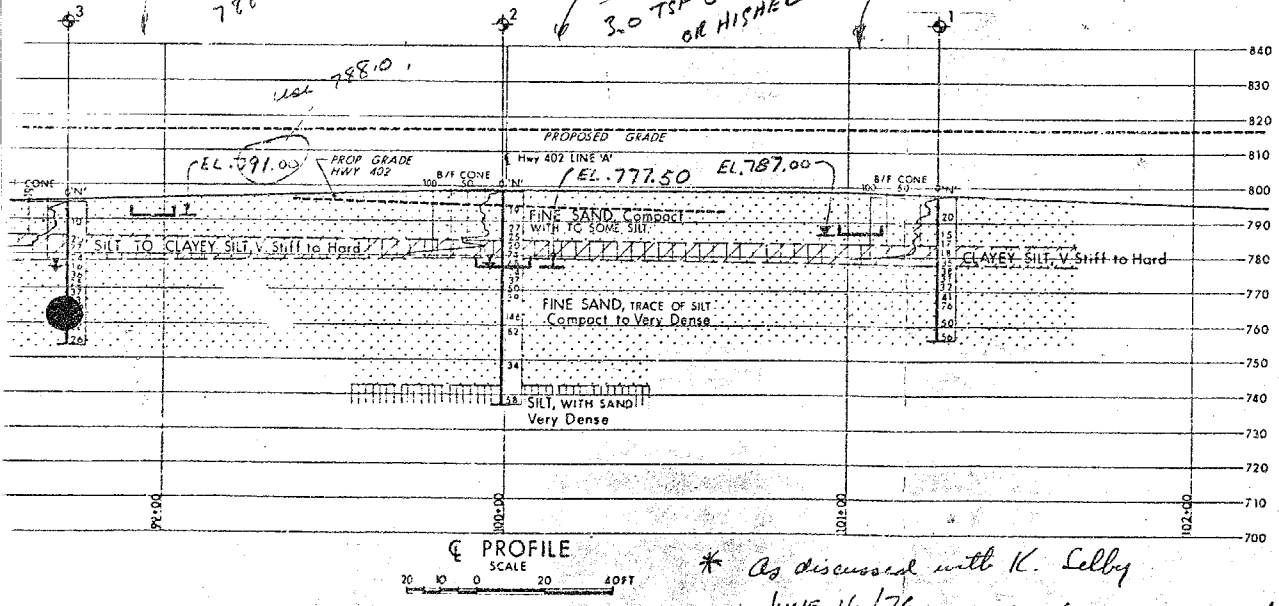
No other points were brought up and the meeting adjourned at 11:05 a.m.

NZ/im

N. Zoltay,
Structural Contract
Specifications Engineer.

c.c. All present
J. B. Wilkes
R. A. Dorton
A. E. McKim
C. S. Grobski
E. Van Beilen
K. Bassi
J. H. Blevins
A. Wittenberg
J. Keen





2.0 TSF AT or BELOW 788.0.

3.0 TSF @ 777.50 OR HIGHER

2.0 TSF @ OR BELOW 788.0.

-NOTE- WATER LEVEL WAS NOT ESTABLISHED IN BORE HOLE 1

KEY PLAN

N 1 0.5 0 1 2 Miles

LEGEND

- Bore Hole
- Dynamic Cone Penetration Resistance Test B/F CONE - Blows/ft Cone Test (350 ft lbs energy/blow)
- Bore Hole & Cone Test
- Water Levels established at time of field investigation. Aug 1975

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REVISIONS

DATE	BY	DESCRIPTION

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS—ONTARIO
ENGINEERING SERVICES BRANCH—GEOTECHNICAL OFFICE—SOIL MECHANICS SECTION

CON 8 ROAD

HIGHWAY NO Prop. 402 LINE 'A' DIST. NO 2
CO MIDDLESEX
TWP CARADOC LOT 20 CON VII & VIII

BORE HOLE LOCATIONS & SOIL STRATA

SUBMD P.J.S. CHECKED	W.P. NO 40-66-15	DRAWING NO 406615-A
DRAWN CHECKED	G.S. NO	
DATE Oct 23, 1975	SITE NO 19-526	BRIDGE DRAWING NO
APPROVED	CONT NO	

* As discussed with K. Selby June 16/76 J.C.L

Note: differential settlement will be less with spread footing throughout.

REF NO. 5384-1, July 1975

DOCUMENT [illegible] NUMBER [illegible] CLASSIFICATION

GEOCRES No. 40713-44

DIST. 2 REGION Southwestern

W.P. No. 40-66-15

CONT. No. 79-51

W. O. No.

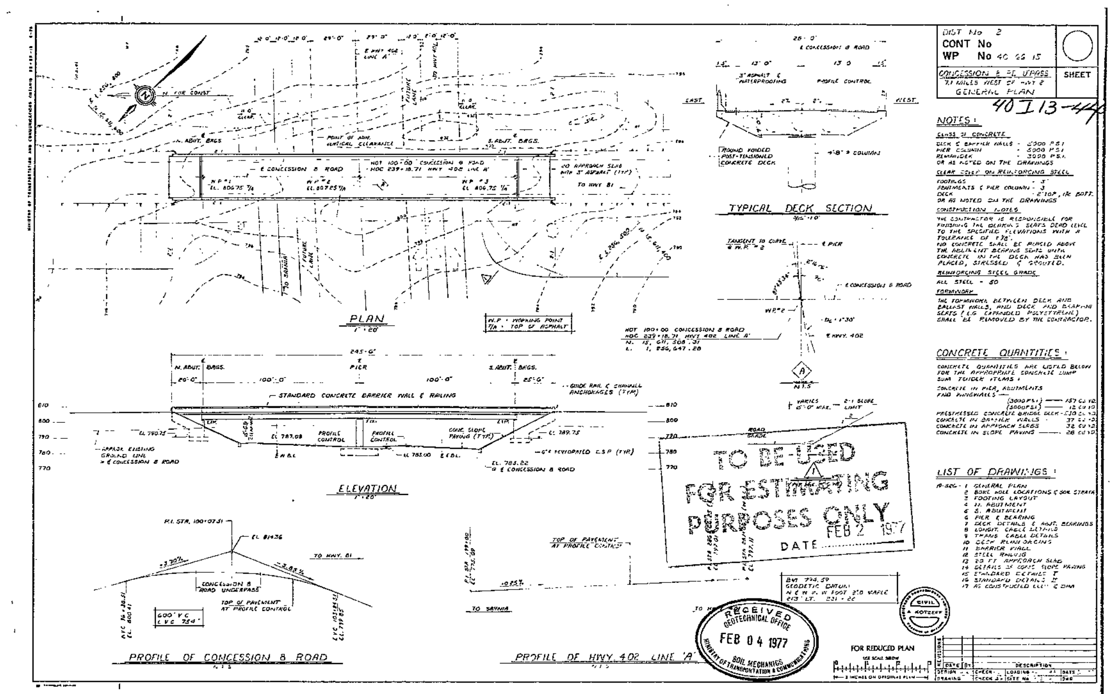
STR. SITE No. 19526

HWY. No. 402

LOCATION Concession 8 Rd. Underpass, 7.1 miles west of Hwy. 2

OVERSIZE DRAWINGS [illegible] 4

REMARKS

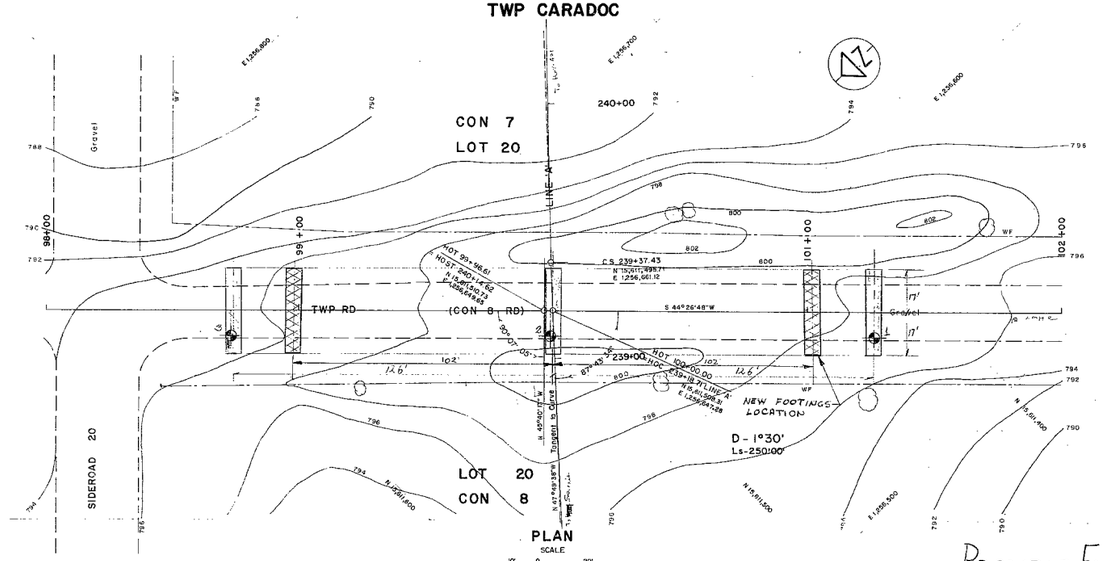


DIST No 2
CONT No
WP No 40 66 15
SHEET
CONCESSION 8 RD U'PASS
GENERAL PLAN
40 I 13-44
NOTES:
CLASS OF CONCRETE
REINFORCING STEEL GRADE
ALL STEEL - 60
FORMWORK
CONCRETE QUANTITIES:
LIST OF DRAWINGS:
1 GENERAL PLAN
3 FOOTING LAYOUT
6 PIER & BEARING
11 BARRIER WALL
12 STEEL RAILING
PLAN
ELEVATION
TYPICAL DECK SECTION
PROFILE OF CONCESSION 8 ROAD
PROFILE OF HWY 402 LINE 'A'
TO BE USED FOR ESTIMATING PURPOSES ONLY
DATE FEB 2 1977
RECEIVED
FEB 04 1977
SOIL MECHANICS
CIVIL
A. KOTZEFF
FOR REDUCED PLAN

E-5384-1

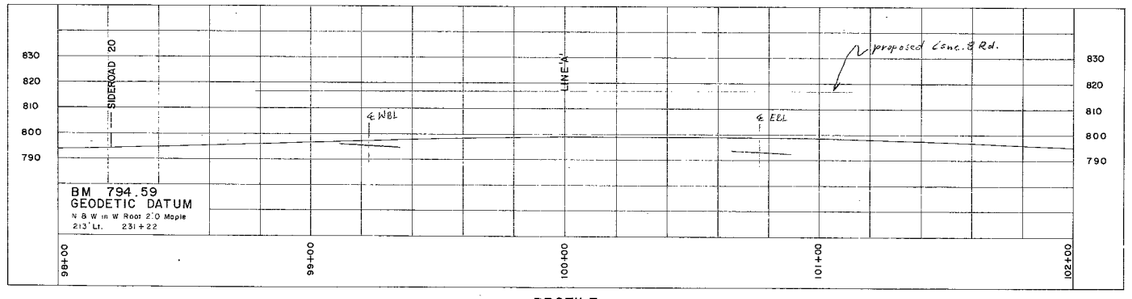
09-63-45

CO MIDDLESEX
TWP CARADOC

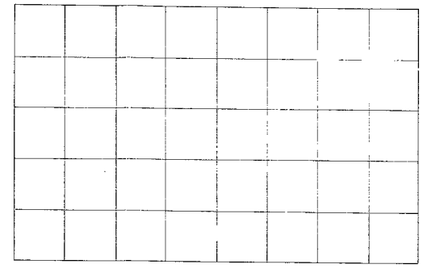


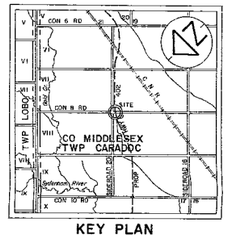
PLAN
SCALE
10' 0 20'

PROBABLE FOOTING LOCATIONS



PROFILE
SCALE
10' 0 20'
Horizontal & Vertical





KEY PLAN

STR WP 40-66-15

DATE	REVISIONS & ADDITIONS	BY	CH'KD

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS
ONTARIO
DESIGN DIVISION DESIGN SERVICES BRANCH
ENGINEERING SURVEYS OFFICE
SOUTHWESTERN REGION 40 I 13-44

BRIDGE SITE

PROPOSED CROSSING
AT
TWP RD (CON 8 RD)
AND
PROP. KING'S HWY 402 LINE 'A'

LOT 20 TWP CARADOC
CON: 7&8 CO MIDDLESEX

SCALE	DISTRICT	REGION
AS SHOWN	2 LONDON	SOUTHWESTERN

W. P.	Date of	SITE
40-66-21	Survey April 1975 Plan July 1975	19-526

SURVEY	BY	DRAWN	BY
Chief of Party	G WHITE	Draftsman	J BAXTER & M RYAN
Supervisor	R AGNEW	Supervisor	O SCHUR

CHECKED	BY
Draftsman	J PASCUZZO
Supervisor	O SCHUR

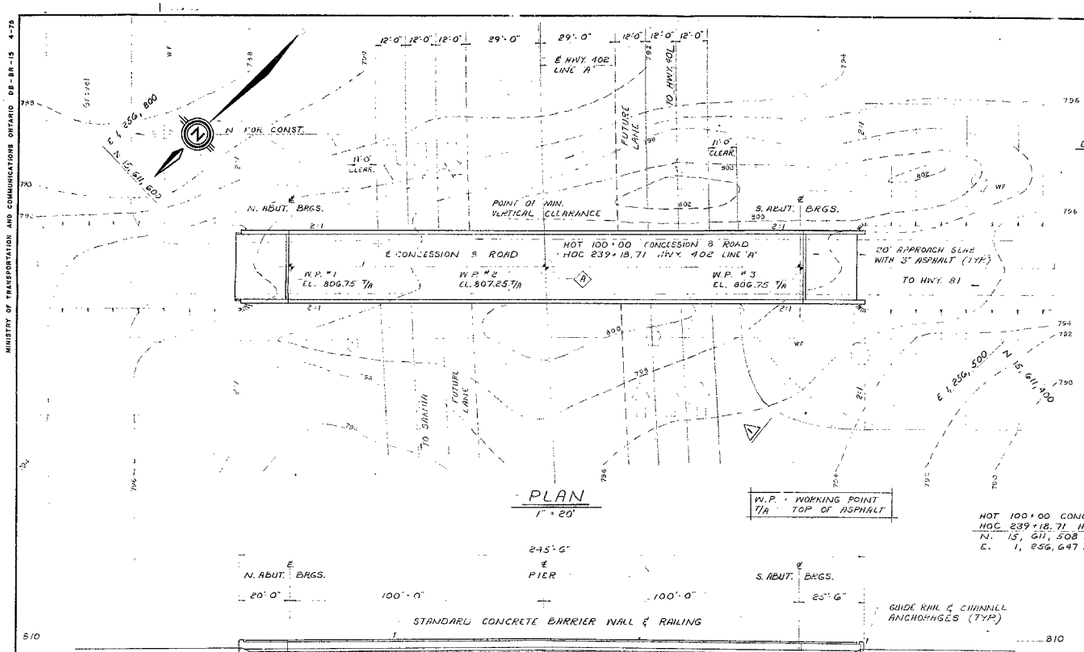
PLAN E-5384-1

E-5384-1

E-5384-1

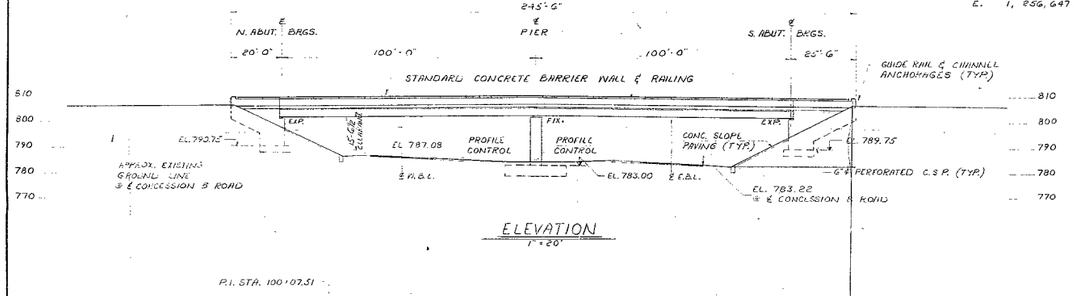
40713-44

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS ONTARIO 03-28-15 4-79

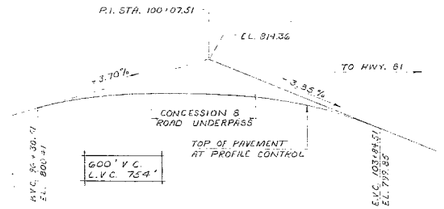


PLAN
1" = 20'

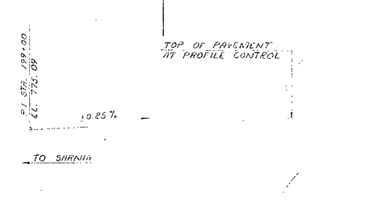
W.P. = WORKING POINT
T/A = TOP OF ASPHALT



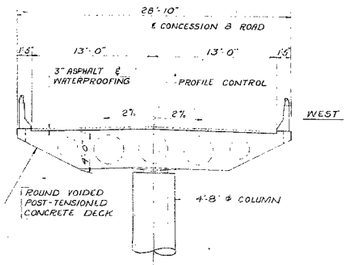
ELEVATION
1" = 20'



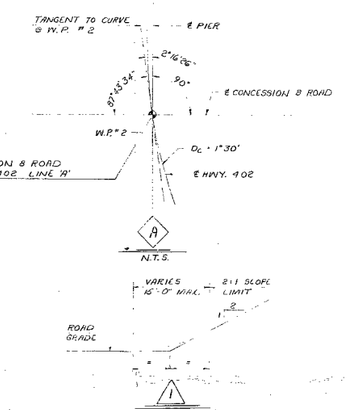
PROFILE OF CONCESSION 8 ROAD
N.T.S.



PROFILE OF HWY. 402 LINE 'A'
N.T.S.



TYPICAL DECK SECTION
3/16"=1'0"



HOT 100+00 CONCESSION 8 ROAD
HOC 239+18.71 HWY. 402 LINE 'A'
N. 15,611,408.37
E. 1,256,647.28

BM 794.69
GEODETIC DATUM
N & W IN W ROOT 2'0 MAPLE
213' LT. 231+22

DISTRICT No 2
CONT No
WP No 40-66-15

CONCESSION 8 RD. U'PASS.
7.1 MILES WEST OF HWY. 2
GENERAL PLAN

SHEET

NOTES :

CLASS OF CONCRETE

DECK & BARRIER WALLS - 5000 P.S.I.
PIER COLUMN - 5000 P.S.I.
REMAINDER - 3000 P.S.I.
OR AS NOTED ON THE DRAWINGS

CLEAR COVER ON REINFORCING STEEL

FOOTINGS - 3"
ABUTMENTS & PIER COLUMN - 3"
DECK - 2" TOP, 1½" BOTT.
OR AS NOTED ON THE DRAWINGS

CONSTRUCTION NOTES

THE CONTRACTOR IS RESPONSIBLE FOR FINISHING THE BEARING SEATS DEAD LEVEL TO THE SPECIFIED ELEVATIONS WITH A TOLERANCE OF ± ⅛". NO CONCRETE SHALL BE PLACED ABOVE THE ABUTMENT BEARING SEATS UNTIL CONCRETE IN THE DECK HAS BEEN PLACED, STRESSED & GROUTED.

REINFORCING STEEL GRADE

ALL STEEL - 50

FORMWORK

THE FORMWORK BETWEEN DECK AND BALLAST WALLS, AND DECK AND BEARING SEATS (E.G. EXPANDED POLYSTYRENE) SHALL BE REMOVED BY THE CONTRACTOR.

CONCRETE QUANTITIES :

CONCRETE QUANTITIES ARE LISTED BELOW FOR THE APPROPRIATE CONCRETE LUMP SUM TENDER ITEMS :

CONCRETE IN PIER, ABUTMENTS AND WINGWALLS (3000 P.S.I.)	157 CU.YD.
(5000 P.S.I.)	12 CU.YD.
PRESTRESSED CONCRETE BRIDGE DECK	530 CU.YD.
CONCRETE IN BARRIER WALLS	37 CU.YD.
CONCRETE IN APPROACH SLABS	38 CU.YD.
CONCRETE IN SLOPE PAVING	28 CU.YD.

LIST OF DRAWINGS :

19-526 -
1 GENERAL PLAN
2 BORE HOLE LOCATIONS & SOIL STRATA
3 FOOTING LAYOUT
4 N. ABUTMENT
5 S. ABUTMENT
6 PIER & BEARING
7 DECK DETAILS & ABUT. BEARINGS
8 LONGIT. CABLE DETAILS
9 TRANS. CABLE DETAILS
10 DECK REINFORCING
11 BARRIER WALL
12 STEEL RAILING
13 20 FT. APPROACH SLAB
14 DETAILS OF CONC. SLOPE PAVING
15 STANDARD DETAILS I
16 STANDARD DETAILS II
17 AS CONSTRUCTED ELEV. & DIM.

REGISTERED PROFESSIONAL ENGINEERS PROVINCE OF ONTARIO CIVIL A. KOTZEFF

RECEIVED GEOTECHNICAL OFFICE JAN 28 1977 SOIL MECHANICS, FOUNDATIONS & EARTH STRUCTURES SECTION

FOR REDUCED PLAN
USE SCALE BELOW
10 1 2 3
3 INCHES ON ORIGINAL PLAN

REVISIONS	DATE	BY	DESCRIPTION

DESIGN J.K.	CHECK J.Z.	LOADING HS20-44	DATE Jan.77
DRAWING J.M.	CHECK J.K.	SITE No 19-526	DWG 1

TRANSLAR 3 M-4-75

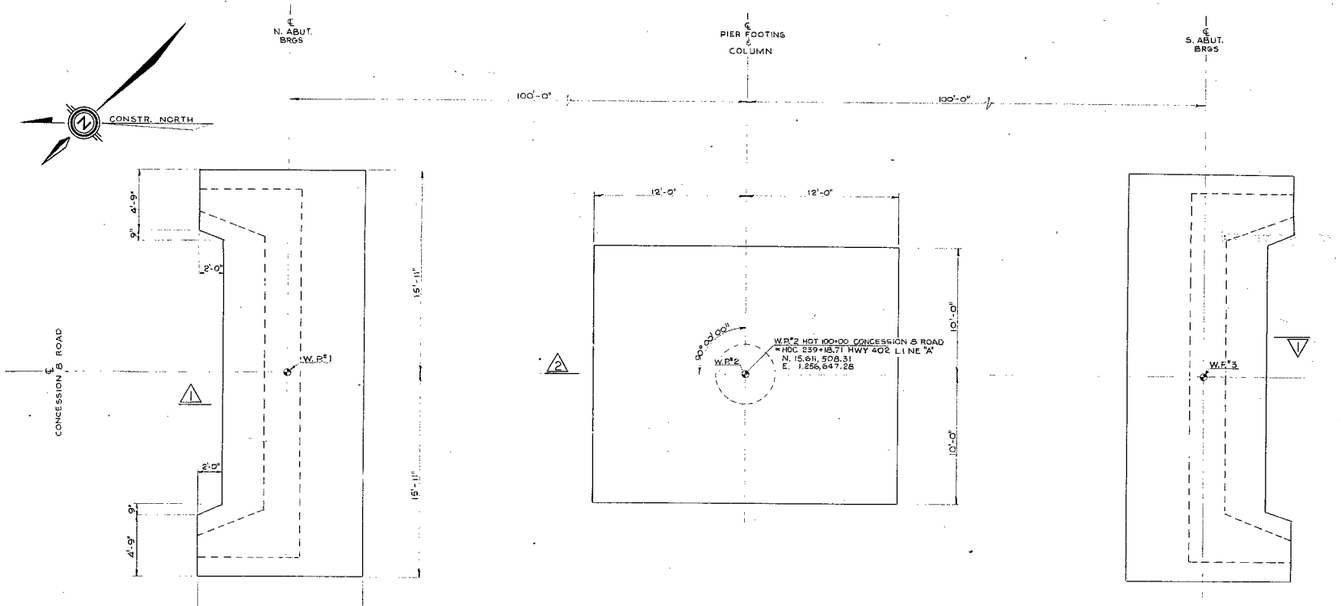
40 J-13-44

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS ONTARIO DB-BR-19 4-72

DIST Nº 2
CONT No
WP No 40-66-15

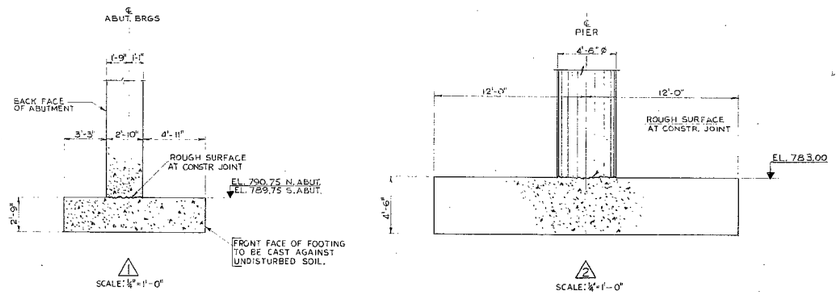
CONCESSION 8 RD U/PASS
FOOTING LAYOUT

SHEET



FOOTING LAYOUT

SCALE: ⅛"=1'-0"



NOTES

DIMENSIONS OF SOUTH ABUTMENT FOOTING SIMILAR TO NORTH ABUTMENT FOOTING.
FOR REINFORCING OF ABUTMENTS SEE DWG. 19-526-4 & 5.
THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING 4, 5 & 6.

ASSOCIATION OF PROFESSIONAL ENGINEERS OF ONTARIO
CIVIL
A. KOTZEFF

RECEIVED
JAN 28 1977
ROAD MECHANICS
MINISTRY OF TRANSPORTATION & COMMUNICATIONS

FOR REDUCED PLAN
USE SCALE BELOW
10 11 12 13
3 INCHES ON ORIGINAL PLAN

REVISIONS			
DATE	BY	DESCRIPTION	
DESIGN A.K.	CHECK	LOADING HS20-44	DATE JAN. 77
DRAWING Z.K.	CHECK A.K.	SITE No 19-526	DWG 3

82 TRANSLAR 194-636