

67 - F - 51

W.P. #81-59

Hwy. #401

DRAKE SIDE RD.

UNDERPASS

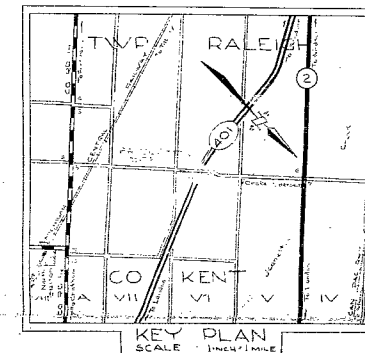
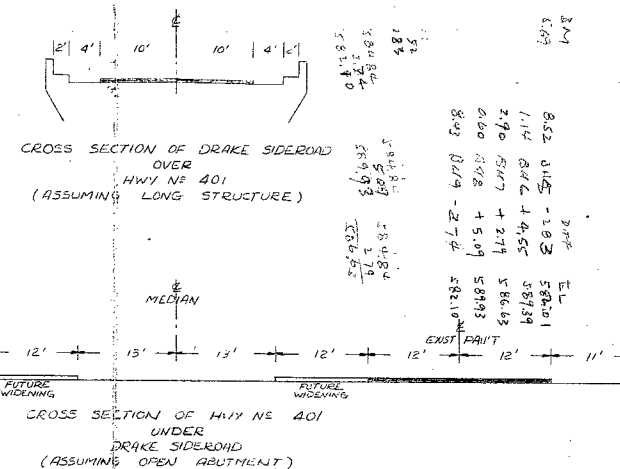
COUNTY of KENT
TOWNSHIP of RALEIGH
LOT 7 CON 6

PROBABLE FOOTING LOCATIONS

IN RED IS NEW ALIGNMENT
IN BLUE IS OLD ALIGNMENT

B.H.'s from Division Soil Report
Feb. 1960.

*Bartholomew Dominion Sil
Old + New.*



SEA B-PLAN B-193-12
C-PROFILE C-103-12

67-F-51
Marty Smith

W.P. 81-59

DATE	REVISIONS & ADDITIONS	BY	CHKD
Mar 67	Grade & Cross Section Added	ES	KS
DATE DUB June 19/67			

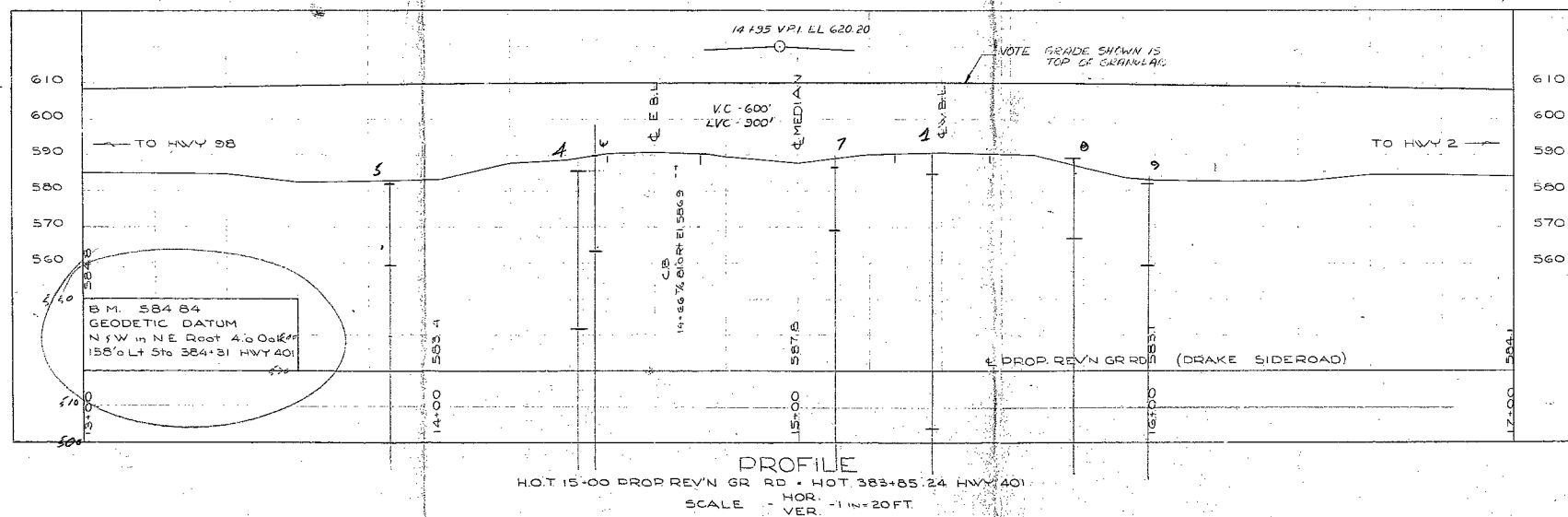
DEPARTMENT OF HIGHWAYS ONTARIO
DESIGN BRANCH
ENGINEERING SURVEY DIVISION

BRIDGE SITE

PROPOSED CROSSING
AT
PROP REVN GR RD (DRAKE SDRD)
AND
KING'S HIGHWAY 401

LOT 7 CON 6
TOWNSHIP OF RALEIGH - COUNTY OF KENT

SCALE	DISTRICT	REGION
AS SHOWN	Nº 1 CHATHAM	SOUTH WESTERN
VO 5582-66-97	Survey Date of Plan	Feb 1967 Feb 1967
SURVEY BY Chief of Party R. AGNEW Supervisor G. BAUN		DRAWN BY Draftsman J. LAMOTHERE Supervisor J. CAMILLERI
CHECKED BY Draftsman K. SMART Supervisor J. CAMILLERI		PLAN Nº E-4800-1



E-4800-1

E-4800-1

MEMORANDUM

TO: Mr. B. R. Davis,
Bridge Engineer,
Bridge Division,
Admin. Bldg.

FROM: Foundation Section,
Materials & Testing Div.,
Room 107, Lab. Bldg.

Attention: Mr. S. McCombie

DATE: June 20, 1967

OUR FILE REF.

IN REPLY TO

JUN 22 1967

SUBJECT:

-- Additional Borings --
Revised Drake Side Road Underpass,
6.4 Miles East of East Jct. Hwy. #2,
Hwy. #401, District No. 1 (Chatham).
W.J. 67-F-51 -- W.P. 81-59

A foundation investigation was carried out by Dominion Soil Investigation Ltd., Consulting Engineers, in 1960, for the old alignment of Hwy. #401 and Drake Side Road. The new alignment of the Drake Side Road will be some 50 feet southwest of the old alignment on Hwy. #401 (Line 'C'). Following a discussion with Mr. A. P. Watt of the Bridge Planning Section, it was decided that some additional borings should be carried out for the proposed four-span structure at the revised Drake Side Road and Hwy. #401. These borings have now been completed and the log sheets, together with stratigraphical profile (Dwg. 67-F-51A) are enclosed, and should be included with the original foundation investigation report prepared by the soil consultants.

Subsoil was found to consist of a deep deposit of hard to stiff clayey silt with sand and occasional gravel; generally the strength of the subsoil decreases with depth. In B.H.'s #6, 7, and 8, the clayey silt deposit is overlain by 7 to 8 ft. of fill material. As a result of our review of the information obtained from the additional borings (B.H.'s #5, 6, 7, 8, and 9) together with the

cont'd. /2 ...

Mr. B. R. Davis,
Bridge Engineer,
Bridge Division.

- 2 -

Attn: Mr. S. McCombie

June 20, 1967

information contained in the original foundation investigation report, our recommendations pertaining to the proposed bridge foundations, are as follows:

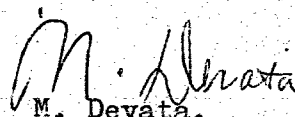
1) Piers may be supported on spread footings founded at or below elev. 579.0. A safe bearing pressure of 3.0 t.s.f. may be assumed for design purposes.

2) Abutments may be constructed within the approach fills in which event, they may be supported on 12-3/4" O.D. steel tube piles driven to (but not below) elev. 575.0. A safe capacity of 25 tons per pile may be assumed for design purposes. It is recommended that granular type of fill be placed up to the level of the underside of the footings at the abutment locations. The fill need only be placed over an area about twice the size of that covered by the footings and should be well compacted. Bouldery material and large size gravel should not be included in the fill material where piles have to be driven.

If you have any further queries regarding this project, please contact our Office.

MD/MdeF
Attach.

cc: Messrs. B. R. Davis (2)
H. A. Tregaskes
D. W. Farren
A. Gater
F. C. Brown
A. P. Watt
J. Roy
B. A. Singh
Foundations Files
Gen. Files


M. Devata,
SUPERVISING FOUNDATION ENGR.
For:
A. G. Stermac,
PRINCIPAL FOUNDATION ENGR.

FOUNDATION SECTION

MATERIALS & TESTING DIVISION

JOB 67-F-51

LOCATION Prop. Crossing Hwy. 401-Drake Sd. Rd., St. 383/24: 97: Lt.

ORIGINATED BY Dorn. Soil

W. P. 81-59

BORING DATE May 24, 1967

COMPILED BY _____

DATUM Geodetic

BOREHOLE TYPE Augering

CHECKED BY

[illegible]

DEPARTMENT OF HIGHWAYS - ONTARIO

MATERIALS & TESTING DIVISION

JOS 67-F-51

LOCATION Prop. Crossing Hwy. 401-Drake Sd. Rd., Sta. 383+83; 60' Lt.

FOUNDATION SECTION

ORIGINATED BY Dorn. Soil

W.P. _____ 81-59

BORING DATE May 24, 1967

COMPILED BY

DATUM Geodetic

BOREHOLE TYPE Augering

CHECKED BY

[illegible]

DEPARTMENT OF HIGHWAYS - ONTARIO

MATERIALS & TESTING DIVISION

JOB 67-F-51

LOCATION Prop Crossing Hwy. 401-Drake Ed. Rd.

ORIGINATED BY Dom. Soil

W.P. 81-59

BORING DATE May 24, 1967

COMPILED BY

DATUM Geodetic

BOREHOLE TYPE Augering

CHECKED BY

RECORD OF BOREHOLE NO. 7

FOUNDATION SECTION

SOIL PROFILE			SAMPLES			ELEV. SCALE	DYNAMIC PENETRATION RESISTANCE					LIQUID LIMIT ——— WL PLASTIC LIMIT ——— wp WATER CONTENT ——— w			BULK DENSITY Y P.C.F.	REMARKS
ELEV. DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	BLOWS / FOOT		BLOWS / FOOT 20 40 60 80 100					WATER CONTENT % 20 40 60				
							SHEAR STRENGTH P.S.F. + - Field Vane o - Unconfined									
586.6	GROUND LEVEL															
0.0	3" Topsoil															

DEPARTMENT OF HIGHWAYS - ONTARIO

MATERIALS & TESTING DIVISION

RECORD OF BOREHOLE NO. 3

FOUNDATION SECTION

JOB 67-F-51LOCATION Prop. Crossing Hwy. 401-Drake Rd.ORIGINATED BY Dom. SoilW.P. 81-59BORING DATE May 24, 1967

COMPILED BY

DATUM GeodeticBOREHOLE TYPE AugeringCHECKED BY SR.

SOIL PROFILE			SAMPLES			ELEV. SCALE	DYNAMIC PENETRATION RESISTANCE					LIQUID LIMIT — WL PLASTIC LIMIT — WP WATER CONTENT — W			BULK DENSITY P.C.F.	REMARKS	
ELEV. DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	BLOWS / FOOT		BLOWS / FOOT					SHEAR STRENGTH P.S.F.					WATER CONTENT %
							20	40	60	80	100	+ - Field Vane					
												o Unconfined					
							1000	2000	3000	4000	5000						
589.8	GROUND LEVEL																
0.0	24" Sand & Gravel Multicolored clayey silt. (Fill). Very Stiff		1	SS	23	580								129	573.4 May 25/6		
581.9			2	TW	PH												
8.0	V. Stiff Hard		3	SS	15												
			4	TW	PH												
	Clayey silt with some sand & traces of gravel. (Glacial Till)		5	SS	48												
			6	TW	PH												
567.4						570								134			
22.5	End of Borehole					560											

▼ 573.4
May 25/6

DEPARTMENT OF HIGHWAYS - ONTARIO

MATERIALS & TESTING DIVISION

JOB 67-F-51

LOCATION Prop. Crossing Hwy. 401-Drake Sd. Rd.

ORIGINATED BY Dom. Soil

W. P. 81-59

BORING DATE May 23, 1967

COMPILED BY

DATUM Geodetic

BOREHOLE TYPE Augering

CHECKED BY

[illegible]

Department of Highways Ontario

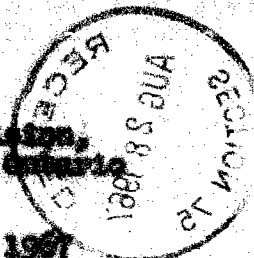
Copy for the information of

Mr. A. Stermac,
Principal Foundation Engineer

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

Bridge Division,
Downsview, Ontario

August 25, 1967



Drake Side Road Underpass
6.4 Miles East of East Jet.
 Hwy. No. 2 Interchange #9
W.P. 81-59, Site No. 13-252
Highway 401 (M.C.F.), District 1

Attached herewith are prints of the Preliminary Bridge Plan Drawing D-6128-P1 for the above-mentioned structure.

The estimated cost of the proposed structure is \$92,000. This cost includes tender, materials, engineering and sundry construction.

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

CSB:rd

C.S. Grebaki,
Bridge Design Engineer

Attach.

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

D. H. O.
TORONTO
RECEIVED
AUG 28 1967

BRIDGE
OFFICE

cc: Foundations Files (Rm. 110)

all

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

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

Attention: Mr. S. McCombie

August 31, 1967

Drake Side Road Underpass,
6.4 Miles East of East Jct.
Hwy. 2 Interchange No. 9,
Hwy. 401 (M.C.F.),
District No. 1 (Chatham)
W.P. 81-59.

*67-F-51
* Trow/67 & /60*

The Preliminary Bridge Plan Drawing D-6128-P1
for the above mentioned structure, has been reviewed.

We have no comments pertaining to the structure
foundations.

MD/HdeF

M. Devata
M. Devata,
SUPERVISING FOUNDATION ENGR.
For:
A. G. Stermac,
PRINCIPAL FOUNDATION ENGR.

cc: Messrs. S. McCombie
A. P. Watt

Foundations Files ✓
Gen. Files