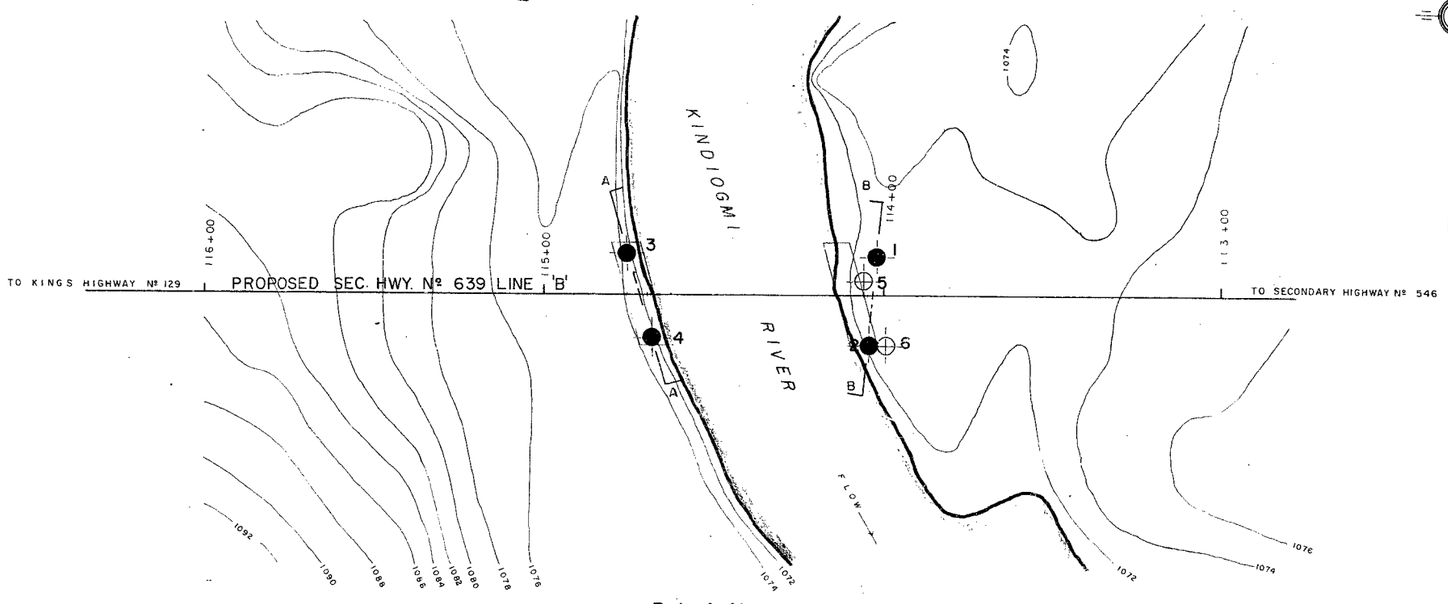
#65-F-257
W.P. # 16-65
W.P.# 221-64-1
HWY. # 639 &
KINDIOGAMI
RIVER

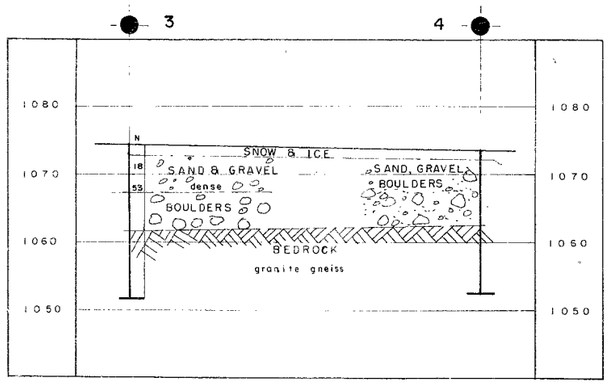
358700 E
5171250 N

17

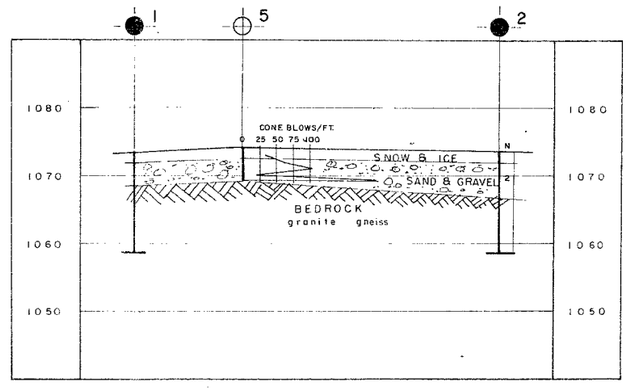
41J10



PLAN
SCALE
20 10 0 20 40

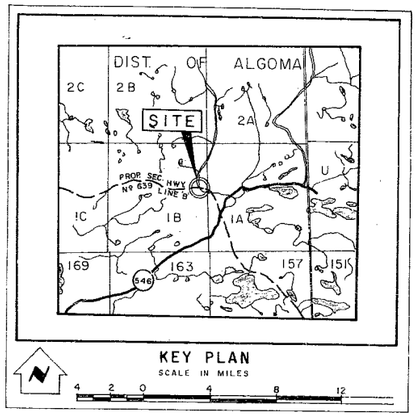


A — A



B — B

SECTIONS
10 5 0 10 20



KEY PLAN
SCALE IN MILES
4 2 0 4 8 12

LEGEND

- Bore Hole
- Cone Penetration Hole
- Bore & Cone Penetration Hole
- Water Levels established at time of field investigation.

NO.	ELEVATION	STATION	OFFSET
1	1073.6	114+02	11.5 RT.
2	1073.4	114+05	15' LT.
3	1074.5	114+76	12' RT
4	1073.6	114+69	12.5 LT
5	1074.1	114+06	4' RT.
6	1073.4	114+00	15' 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.

REVISIONS		
DATE	BY	DESCRIPTION

WILLIAM TROW ASSOCIATES LIMITED
DEPARTMENT OF HIGHWAYS - ONTARIO
MATERIALS & TESTING DIVISION - FOUNDATION SECTION

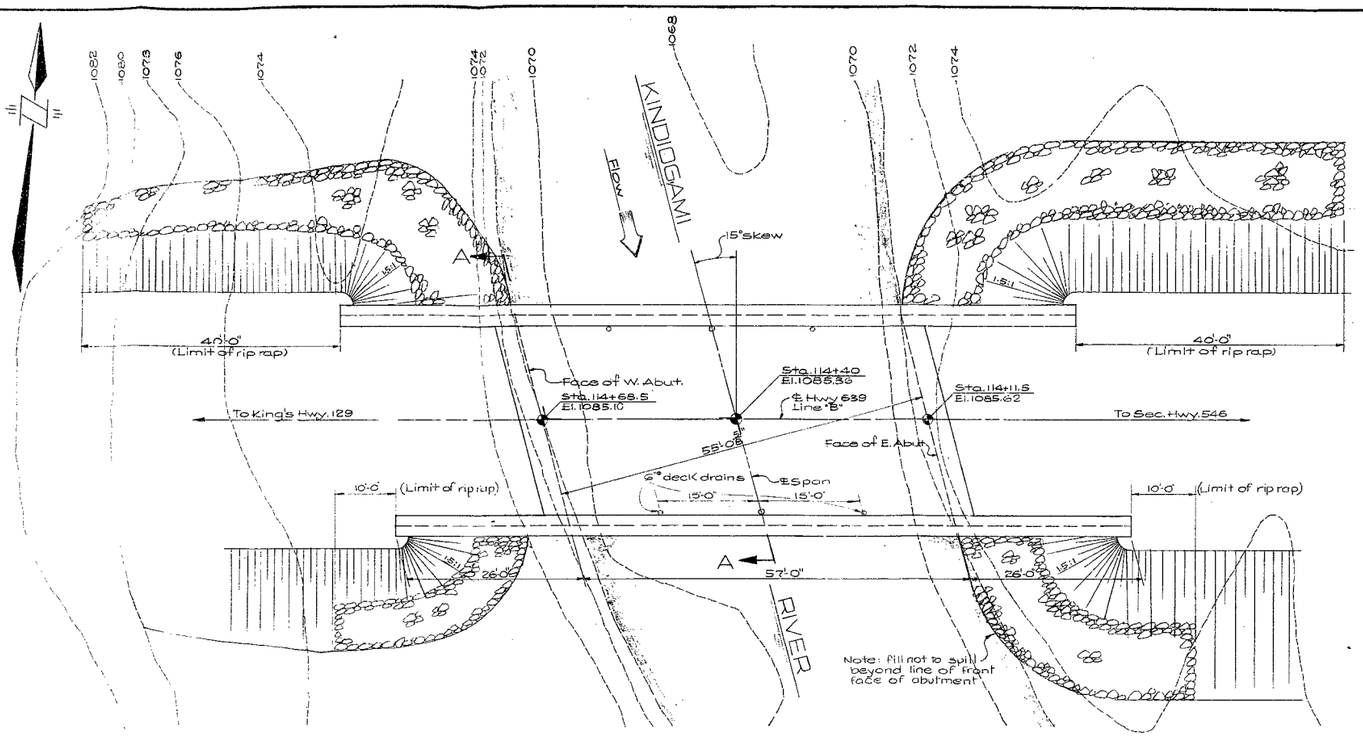
KINDIOGAMI RIVER

KING'S HIGHWAY NO. 639 LINE B DIST. NO. 1B
DIST. ALGOMA
TWP. Nº 1B LOT CON.

BORE HOLE LOCATIONS & SOIL STRATA

SUBM'D. H. K.	CHECKED	W.P. NO. 16-65	DRAWING NO. 1755
DRAWN E. F. K.	CHECKED	JOB NO.	
DATE APRIL 1965		SITE NO.	BRIDGE DRAWING NO.
APPROVED FOUNDATION ENGINEER		CONT. NO.	

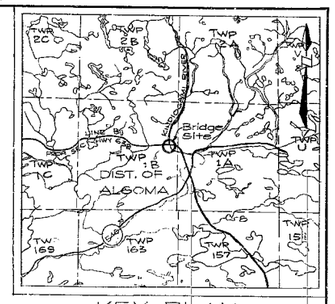
PRINT RECORD		
NO.	FOR	DATE



PLAN

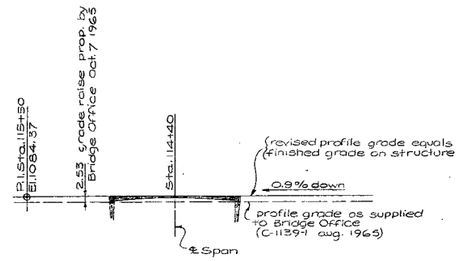
1" = 10'-0"

Functions of 15° Skew	
Sin.	0.25882
Cos.	0.96593
Tan.	0.26795
Sec.	1.03528



KEY PLAN

Scale: 1" = 4 Miles



Profile grade to be raised 2.53 for vertical clearance.

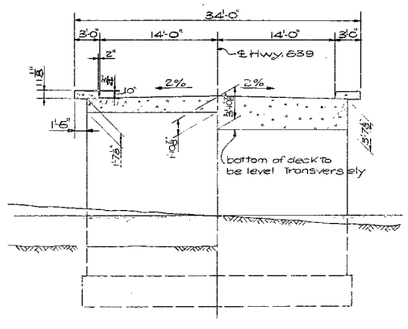
PROFILE AT CROWN OF HWY. 639

N.T.S.

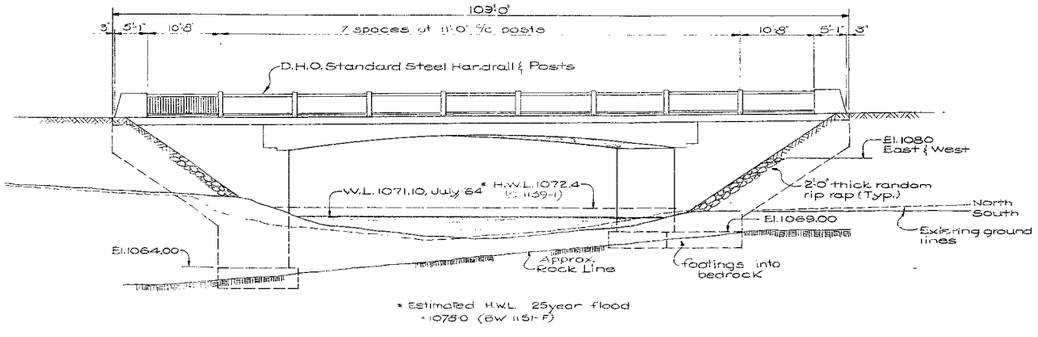
B.M. Ele. 1118.03
GEODETIC DATUM: N. of W. in top of 0.4 Poplar Stp. 48.0' Rt. of Sta. 109+55

Reference Drawings

Bridge Site Plan — B-4523-1
Location Plan — B-1139-1
Profile — C-1139-1
Soils — BA-2093



1/8" = 1'-0"



* Estimated H.W.L. 25 year flood = 1075.0 (BW 1151-F)

SOUTH ELEVATION

1" = 10'-0"

PRINT RECORD		
No.	FOR	DATE

REVISIONS		
DATE	BY	DESCRIPTION

DEPARTMENT OF HIGHWAYS ONTARIO
BRIDGE DIVISION

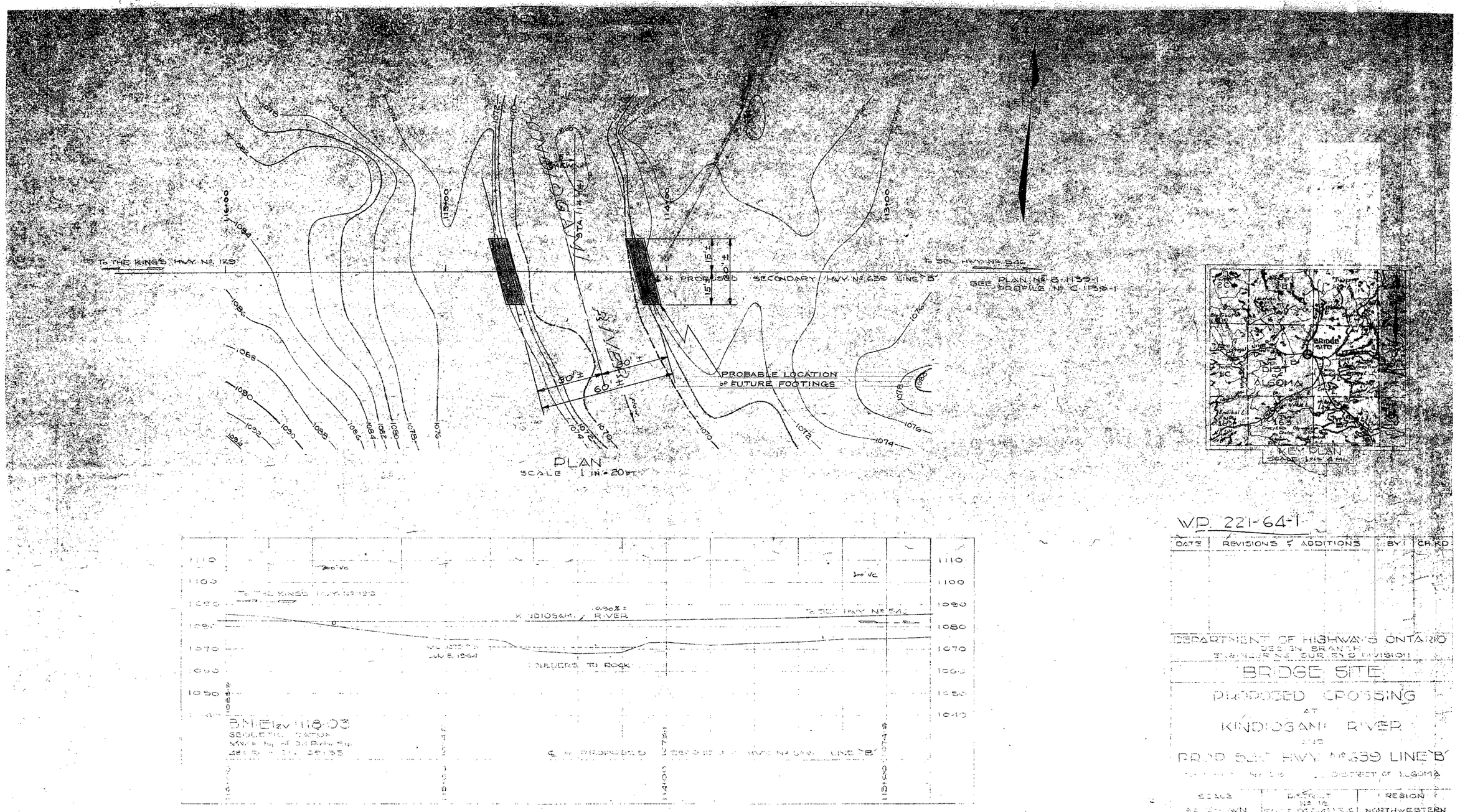
KINDIOGAMI RIVER BRIDGE
(NORTH CROSSING)
1.0 Mile W. of Sec. Hwy. 536

KING'S HIGHWAY No. 639 — DIST. No. 18
[redacted] Dist. of Algoma
TWP. — LOT — CON.

PRELIMINARY

APPROVED _____ BRIDGE ENGINEER

DESIGN	h. m.	CHECK		SITE No. 38S-275	W.P. No. 16-65
DRAWING	D.C.	CHECK		CONTRACT Nos.	
DATE	1965	LOADING	H20-S16	DRAWING No.	D-5754-P1



WP 221-64-1

DATE	REVISIONS & ADDITIONS	BY	CH'KD

DEPARTMENT OF HIGHWAYS ONTARIO
DESIGN BRANCH
STRUCTURE & SURVEYS DIVISION

BRIDGE SITE
PROPOSED CROSSING
AT
KINDIOSAMI RIVER
ON
PROP. SEC. HWY. No 639 LINE 'B'
TOWNSHIP OF No 14 DISTRICT OF ALGOMA

SCALE	DISTRICT No 18	REGION
AS SHOWN	DISTRICT ENGINEER	NORTHWESTERN

SITE No

SURVEYED BY — DRAWN BY

Chief of Party — K. Richards — Draftsman — Designer

CHECKED BY

PLAN No E-4523-1

SOME DEFECTS IN NEGATIVE DUE TO CONDITION OF ORIGINAL DOCUMENTS

MR. A. RUTKA, P.ENG.
CHIEF MATERIALS AND TESTING ENGINEER
DEPARTMENT OF HIGHWAYS OF ONTARIO
HWY. 401 AND KEELE STREET
DOWNSVIEW, ONTARIO

FOUNDATION INVESTIGATION
PROPOSED BRIDGE SITE
KINDIOGAMI RIVER
W.P. 16 - 65
(WEST CROSSING)

Project: J1755

June, 1965

William Trow Associates Limited

90 Milvan Drive
Weston, Ontario
749-1290

William Trow
Associates Ltd.

Soil Mechanics
Consultants
W. A. Trow
MSc. MEIC. P. Eng.
K. Peaker
PhD. MEIC. P. Eng.
D. H. Shields
PhD. MEIC. P. Eng.

Project: J1755

June 2, 1965

Mr. A. Rutka, P.Eng.,
Chief Materials and Testing Engineer,
Department of Highways of Ontario,
Hwy. 401 and Keele Street,
Downsview, Ontario.

Attention: Mr. K.Y. Lo, P.Eng.

Foundation Investigation
Proposed Bridge Site
Kindiogami River
W.P. 16 - 65

Dear Sirs:

In conformance with your authorization of December 17th, 1964, a foundation investigation has been completed at the above mentioned site. The field work was carried out during the period of March 17th, to the 25th, (inclusive), 1965. Our findings and recommendations on this subject are outlined briefly in the following paragraphs.

1) The subsoil at the proposed bridge site consists of sand, gravel and boulders to a depth of from 3 to 12 feet. Underlying this deposit, bedrock (granite gneiss) was found.

2) It is recommended that the bridge be founded on footings which bear on the bedrock. The footing elevations will be about 1066 feet for the east abutment and 1061 feet for the west abutment. Allowable bearing pressures on the sound rock may be taken as 25 tsf.

3) Settlement of the structure under the recommended loading will be negligible.

4) As the approach embankments will be low, and the underlying soil dense and granular no stability problems are anticipated.

5) As the sand and gravel overlying the bedrock is free-draining and well-graded, excavation to footing depth below the water table (west abutment) should not be difficult provided that the working area is drained as indicated in the body of the report.

The above recommendations and conclusions have resulted from the consideration of the following information.

PROJECT

The proposed bridge over the Kindiogami River in Northern Ontario is on the proposed section of Highway No. 639, Line 'B'. The subject of this report is the foundation investigation at the abutment locations which have been proposed by the Department of Highways for Ontario.

FIELD WORK AND SUBSOIL STRATIGRAPHY

The field work consisted of 4 sampled boreholes and 2 cone penetrometer tests. The boreholes were advanced at least 10 feet into bedrock. The locations of the boreholes and cone penetration tests are shown on the site plan. The

boreholes were advanced using a standard diamond drill and conventional sampling equipment. Samples of the subsoil were obtained with split spoon samplers which were driven into the soil with an energy conforming with the requirements of the standard penetration test. Bedrock and boulder samples were obtained with an AXT core.

The subsoil encountered at the site is shown in detail on the borehole logs (Dwgs. 1 to 4, inclusive). The subsoil stratigraphy, as interpreted from the logs, is shown on the site plan. Cone penetrometer tests are shown on borehole logs (Dwgs. 5 and 6).

All borehole elevations are referenced to a bench mark having geodetic origin. The bench mark is described on the Department of Highways Plan No. E-4523-1 as a nail in the top of a poplar stump located at Sta 109 + 55; 48'R, having an elevation of 1118.03 feet.

The subsoil at the proposed bridge site consists of a variable depth of sand, gravel and boulders which overlie a granite gneiss bedrock. The rock is sound, extremely hard and very resistant to both mechanical and chemical weathering.

FOUNDATIONS

The bridge foundations should be founded on the sound bedrock which was established at a depth of from 3 to 12 feet depending on the location. Allowable bearing pressures on the sound rock may be taken as 25 tsf. The footings should be dowelled into rock to prevent horizontal movement.

SETTLEMENT

The settlement of the structure will be negligible. As the approach embankments will be low and the underlying soil is granular and dense, no problems associated with embankment stability exist at this site. Any organic soil should be removed before the embankment is constructed. Typical grading curves are included in this report.

EXCAVATIONS

Excavation for the west abutment (Boreholes 3 and 4) will be about 10 feet below the water table. Before any attempt is made to dewater the area, the excavation should be made and the material which is removed should be placed on the river side of the excavation to form a dyke. In this manner the river can be diverted around the excavation. The excavation can then be pumped out gradually. Continuous pumping will be required to keep the water table depressed in the working area.

The foregoing proposal will require an excavation which is much larger than that which would normally be needed for a bridge footing. In addition, because the soil is quite permeable, a considerable inflow of water can be expected. The flow can be minimized by directing the river well clear of the work. The sand and gravel is expected to remain stable as the dewatering program progresses, provided that the perimeter walls of the excavation are sloped at approximately 2 horizontal to 1 vertical.

SCOUR PROTECTION

Positive measures against possible scour and erosion must be provided. Once footings are placed, the excavation should be backfilled with the natural sand and gravel and covered with coarser rock at creek bed level. In addition, rip rap should be placed on the soil in front of the abutment and wing walls and on the adjacent sections of the road fill, up to the highest anticipated flood level.

EARTH PRESSURES

If abutments and wing walls are used on this project, i.e. the approach fill does not spill through the abutments, they must be designed to withstand the lateral earth pressure exerted by the retained soils. The earth pressure that will act on the walls can be estimated using a value of earth pressure coefficient equal to 0.35. The earth pressure, p, on the walls at any depth, h, can be found from the expression:

$$p = K \left\{ \gamma (h - h_r) + \gamma_s h_r + q \right\}$$

where:

K = 0.35, the recommended earth pressure coefficient assuming the walls to be rigid

γ = 125 pcf, the estimated unit weight of the retained soil

γ_s = 60 pcf, the estimated submerged weight of the retained soil

h_r = height of water table above the point being considered

q = surcharge, if any, acting at the top of the wall.

Should any queries arise concerning the contents of this report we will be pleased to discuss them with you.

Yours very truly,

H.R. Krzywicki, M.Eng.

HRK/ss
Encls.

K. Peaker.

K. Peaker, P.Eng.

WILLIAM TROW ASSOCIATES LTD.

SITE INVESTIGATIONS SOIL MECHANICS CONSULTATION

DRAWING No 1a
PROJECT No J1755

BOREHOLE No 1
PROJECT Proposed Bridge Site,
LOCATION Kindlogami River - W.P. 16-65,
HOLE LOCATION 114 + 02; 11.5 R,
HOLE ELEVATION 1073.6 ft.
DATUM Geodetic

LEGEND

PENETRATION RESISTANCE
2" O.D. SPLIT TUBE
2" I.D. SHELBY TUBE
2" DIA. CONE
SHEAR STRENGTH
UNDRAINED TRIAXIAL AT OVERBURDEN PRESSURE
UNCONFINED COMPRESSION
VANE TEST AND SENSITIVITY (S)

NATURAL MOISTURE CONTENT AND LIQUIDITY INDEX X LI
ATTERBERG LIMITS
LIQUID LIMIT
PLASTIC LIMIT
SAMPLE TYPE
2" O.D. SPLIT TUBE
2" I.D. SHELBY TUBE
3" O.D. SHELBY TUBE

SYMBOL	SOIL DESCRIPTION	ELEV FEET	DEPTH FEET	PENETRATION RESISTANCE 350 FT. LB. BLOWS/FT 20 40 60 80 / SHEAR STRENGTH PSF	NATURAL MOISTURE CONTENT AND ATTERBERG LIMITS % DRY WEIGHT	SAMPLE TYPE AND No	NATURAL UNIT WEIGHT P.C.F.
		1073.6	0				
	SNOW AND ICE	1072.1					
	SAND AND GRAVEL						
		1066.6					
	BEDROCK- GRANITE GNEISS - 95% Recovery		10				
	End of Borehole	1058.6					
			20				
			30				
			40				

Notes: 1) Borehole advanced using conventional diamond drill - cased with Ax to 7 ft. - cored to 15 ft with AXT.

WILLIAM TROW ASSOCIATES LTD.

SITE INVESTIGATIONS · SOIL MECHANICS CONSULTATION

DRAWING NO 2

PROJECT NO J1755

BOREHOLE NO 2

PROJECT Proposed Bridge Site,

LOCATION Kindiogami River - W.P. 16-65,

HOLE LOCATION 114 + 05; 15 L

HOLE ELEVATION 1073.4 ft.

DATUM Geodetic

LEGEND

PENETRATION RESISTANCE
- 2" O.D. SPLIT TUBE
- 2" I.D. SHELBY TUBE
- 2" DIA CONE

SHEAR STRENGTH
- UNDRAINED TRIAXIAL AT OVERBURDEN PRESSURE
- UNCONFINED COMPRESSION
- VANE TEST AND SENSITIVITY (S)

NATURAL MOISTURE CONTENT AND LIQUIDITY INDEX X LI

ATTERBERG LIMITS
- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE TYPE
- 2" O.D. SPLIT TUBE
- 2" I.D. SHELBY TUBE
- 3" O.D. SHELBY TUBE

SYMBOL	SOIL DESCRIPTION	ELEV FEET	DEPTH FEET	PENETRATION RESISTANCE 350 FT LB BLOWS/FT 20 40 60 80 / SHEAR STRENGTH PSF	NATURAL MOISTURE CONTENT AND ATTERBERG LIMITS % DRY WEIGHT	SAMPLE TYPE AND NO	NATURAL UNIT WEIGHT P.C.F.
		1073.4	0				
	TOP SOIL	1071.9					
	SAND AND GRAVEL- loose	1068.7					
	BEDROCK- GRANITE GNEISS- 85% Recovery.		10				
	End of Borehole	1058.7					
			20				
			30				
			40				

Notes: 1) Borehole advanced using conventional diamond drill - cased with BX to 4.7 ft. - cored to 14.7 ft. with AXT.

WILLIAM TROW ASSOCIATES LTD.

SITE INVESTIGATIONS SOIL MECHANICS CONSULTATION

DRAWING NO 3.
PROJECT NO 21755

BOREHOLE NO 1
PROJECT Proposed Bridge Site,
LOCATION Kindiogami River - W.P. 16-65,
HOLE LOCATION 11L + 76; 12 R
HOLE ELEVATION 1074.5 ft.
DATUM Geodetic

LEGEND

PENETRATION RESISTANCE
2" O.D SPLIT TUBE
2" I.D SHELBY TUBE
2" DIA CONE

SHEAR STRENGTH
UNDRAINED TRIAXIAL AT OVERBURDEN PRESSURE
UNCONFINED COMPRESSION
VANE TEST AND SENSITIVITY (S)

NATURAL MOISTURE CONTENT AND LIQUIDITY INDEX
ATTERBERG LIMITS
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE TYPE
2" O.D. SPLIT TUBE
2" I.D. SHELBY TUBE
3" O.D. SHELBY TUBE

SYMBOL	SOIL DESCRIPTION	ELEV FEET	DEPTH FEET	PENETRATION RESISTANCE 350 FT LB BLOWS/FT (20 40 60 80) / SHEAR STRENGTH PSF	NATURAL MOISTURE CONTENT AND ATTERBERG LIMITS % DRY WEIGHT	SAMPLE TYPE AND NO	NATURAL UNIT WEIGHT P.C.F.
		1074.5	0				
	SNOW AND ICE	1073					
	SAND AND GRAVEL - dense						
		1067.5					
	BOULDERS		10				
		1061.7					
	BEDROCK - GRANITE GNEISS- 95% Recovery		20				
	End of Borehole	1051.7					
			30				
			40				

Notes: 1) Borehole advanced using conventional diamond drill - cased with BX to [illegible] ft. then AX to 12.8 ft. - cored to 22.8 ft. with AXT.

WILLIAM TROW ASSOCIATES LTD.

SITE INVESTIGATIONS SOIL MECHANICS CONSULTATION

DRAWING No [illegible]

PROJECT No [illegible]

BOREHOLE No [illegible]

PROJECT [illegible]

LOCATION [illegible]

HOLE LOCATION [illegible]

HOLE ELEVATION [illegible] Ft.

DATUM Geodetic

LEGEND

PENETRATION RESISTANCE

- 2" O.D. SPLIT TUBE
- 2" I.D. SHELBY TUBE
- 2" DIA. CONE

SHEAR STRENGTH

- UNDRAINED TRIAXIAL AT OVERBURDEN PRESSURE
- UNCONFINED COMPRESSION
- VANE TEST AND SENSITIVITY (S.)

NATURAL MOISTURE CONTENT AND LIQUIDITY INDEX

ATTERBERG LIMITS

- LIQUID LIMIT
- PLASTIC LIMIT

SAMPLE TYPE

- 2" O.D. SPLIT TUBE
- 2" I.D. SHELBY TUBE
- 3" O.D. SHELBY TUBE

SYMBOL	SOIL DESCRIPTION	ELEV FEET	DEPTH FEET	PENETRATION RESISTANCE 350 FT. LB BLOWS/FT 20 40 60 80 / SHEAR STRENGTH PSF	NATURAL MOISTURE CONTENT AND ATTERBERG LIMITS % DRY WEIGHT	SAMPLE TYPE AND No	NATURAL UNIT WEIGHT P.C.F
	SNOW AND ICE	[illegible]	0				
	SAND, GRAVEL, BOULDERS	[illegible]					
		[illegible]	10				
	BEDROCK - GRANITIC GNEISS - RQD Recovery						
	End of Borehole	[illegible]	20				
Notes:	1. Borehole advanced using conventional diamond drill - cased with AX to [illegible] ft. - cored to 21.1 ft. with AX.		30				
			40				

WILLIAM TROW ASSOCIATES LTD.

SITE INVESTIGATIONS SOIL MECHANICS CONSULTATION

DRAWING No 5.
PROJECT No J1755

BOREHOLE No 2 (Cone Penetrometer)
PROJECT Proposed Bridge Site,
LOCATION "Indigami River - W.P. 16-65,
HOLE LOCATION 11+ + 06; 4R
HOLE ELEVATION 1074.1 ft.
DATUM Geodetic

LEGEND

PENETRATION RESISTANCE
2" O.D. SPLIT TUBE
2" I.D. SHELBY TUBE
2" DIA. CONE

SHEAR STRENGTH
UNDRAINED TRIAXIAL AT OVERBURDEN PRESSURE
UNCONFINED COMPRESSION
VANE TEST AND SENSITIVITY (S)

NATURAL MOISTURE CONTENT AND LIQUIDITY INDEX X^LI

ATTERBERG LIMITS
LIQUID LIMIT
PLASTIC LIMIT

SAMPLE TYPE
2" O.D. SPLIT TUBE
2" I.D. SHELBY TUBE
3" O.D. SHELBY TUBE

SYMBOL	SOIL DESCRIPTION	ELEV FEET	DEPTH FEET	PENETRATION RESISTANCE 350 FT. LB BLOWS/FT 20 40 60 80 / SHEAR STRENGTH PSF	NATURAL MOISTURE CONTENT AND ATTERBERG LIMITS % DRY WEIGHT	SAMPLE TYPE AND NO	NATURAL UNIT WEIGHT P.C.F.
		1074.1	0				
	CONE PENETROMETER TEST ONLY		10				
			20				
			30				
			40				

Notes: 1) Ice cover to 1.7 ft. depth.
2) Rods bouncing at 4.3 ft. (El 1069.8 ft.)

WILLIAM TROW ASSOCIATES LTD.

SITE INVESTIGATIONS · SOIL MECHANICS CONSULTATION

DRAWING NO 6.
PROJECT NO J1755

BOREHOLE NO 6 (CONE PENETROMETER)
PROJECT Proposed Bridge Site,
LOCATION Kindiogami River - W.P. 16-65,
HOLE LOCATION 114 + 00; 15L
HOLE ELEVATION 1073.4 ft.
DATUM Geodetic

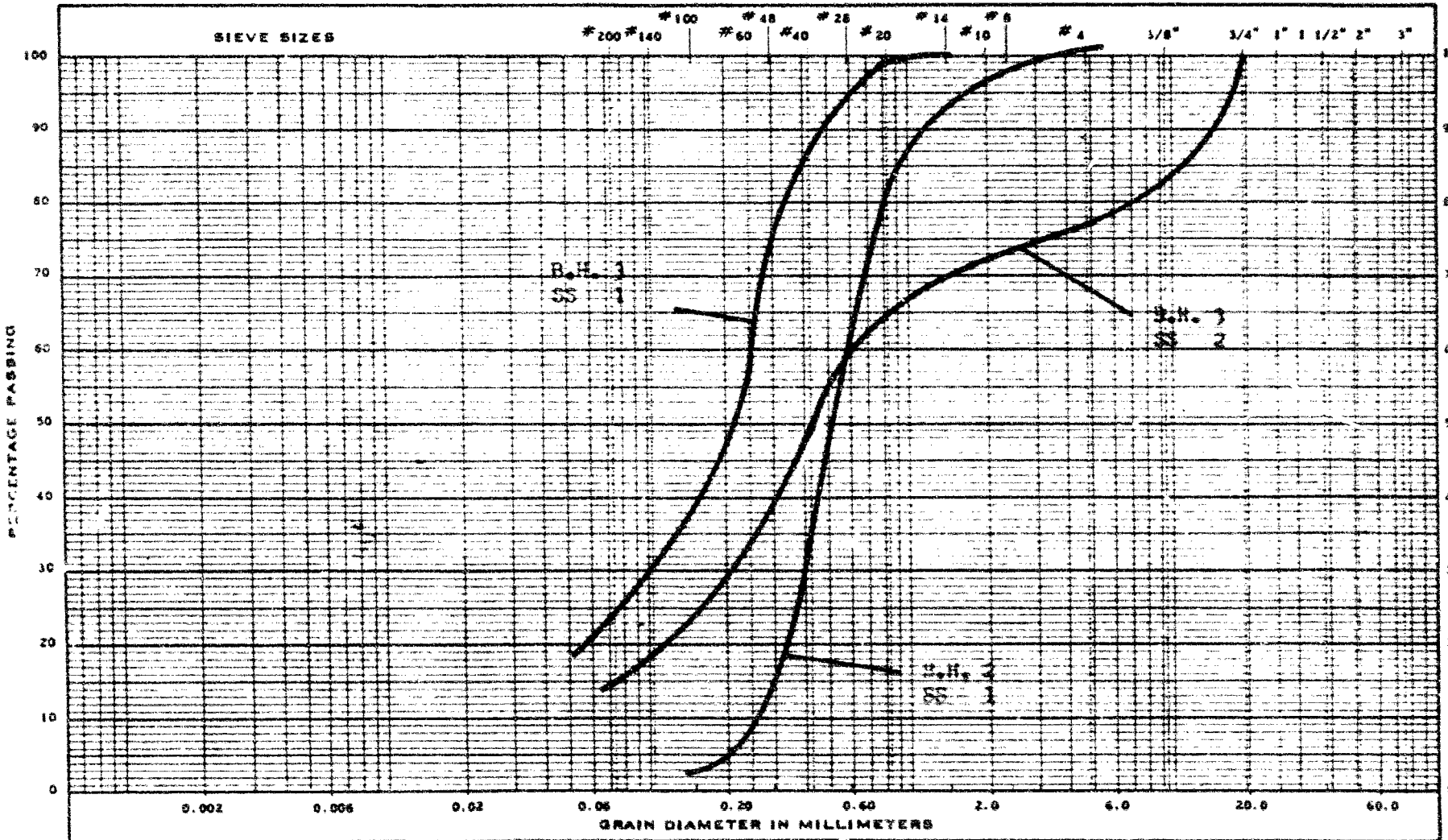
LEGEND

PENETRATION RESISTANCE
2" O.D SPLIT TUBE
2" I.D SHELBY TUBE
2" DIA CONE
SHEAR STRENGTH
UNDRAINED TRIAXIAL AT OVERBURDEN PRESSURE
UNCONFINED COMPRESSION
VANE TEST AND SENSITIVITY (S)

NATURAL MOISTURE CONTENT AND LIQUIDITY INDEX
ATTERBERG LIMITS
LIQUID LIMIT
PLASTIC LIMIT
SAMPLE TYPE
2" O.D. SPLIT TUBE
2" I.D. SHELBY TUBE
3" O.D SHELBY TUBE

SYMBOL	SOIL DESCRIPTION	ELEV FEET	DEPTH FEET	PENETRATION RESISTANCE 350 FT. LB BLOWS/FT 20 40 60 80 / SHEAR STRENGTH P.S.F.	NATURAL MOISTURE CONTENT AND ATTERBERG LIMITS % DRY WEIGHT	SAMPLE TYPE AND NO	NATURAL UNIT WEIGHT P.C.F.
		1073.4	0				
	CONE PENETROMETER TEST ONLY						
			10				
Notes:	1) Rods bouncing at 4.5 ft.(El 1068.9 ft.)						
			20				
			30				
			40				

MECHANICAL ANALYSIS



← CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE
	SILT			SAND			GRAVEL		

MODIFIED M.I.T. CLASSIFICATION

GRAIN SIZE ANALYSIS OF SAND AT UPPER LEVELS

WILLIAM A. TROW AND ASSOCIATES LTD.

Project: J1755

Dwg. 7

DEPARTMENT OF HIGHWAYS ONTARIO

MEMORANDUM

To: Mr. A. G. Stermac,
Principal Foundation Engineer,
Room 107, Lab. Bldg.

From: Bridge Division,
Downsview, Ontario.

Date: December 11, 1964.

Our File Ref.

In reply to

Subject: Foundation Investigation
District 14

Please make the necessary arrangements to have foundation investigations carried out at the following sites:

1) W.P. Mindico and River (East Crossing)

✓2) W.P. 16-65 Mindico and River (West Crossing)

3) W.P. 17-65 Dead Ck.

4) W.P. 1[illegible]-65 West Little White River

5) W.P. [illegible]-65 Rapid River

6) W.P. Sharpsand River

Plans for the river crossings will be available [illegible] end of this month.

T. E. McCinlay

[illegible]
[illegible]

[illegible],
[illegible] Planning Engineer.

cc: Foundations Office (Rm. 110)

Hwy. 401 & Keele St.,
Downsview, Ontario.

Materials and Testing Division

December 17, 1964

William A. Trow & Associates, Ltd.,
1850 Jane Street,
Weston, Ontario.

Attention: Mr. Wm. A. Trow

Re: W.P. - , Hwy. 639, Kindiogami River (East Crossing).
W.P. 16-65, Hwy. 639, Kindiogami River (West Crossing).
W.P. 17-65, Hwy. 639, Duval Creek.
W.P. 18-65, Hwy. 639, West Little White River.
W.P. 19-65, Hwy. 639, Rapid River.
W.P. - , Hwy. 639, ~~Sharpsand River~~. Little White River
--- District 18, Sault Ste. Marie ---

Dear Sir:

Please consider this your authority to carry out foundation investigations at the above sites. Plans and profiles were provided to your representative on December 11, 1964.

It is understood that a qualified Soils Engineer will be in charge of the field work at all times.

Ten copies of each completed foundation report, with one additional copy of each subsoil profile, should be submitted to the Foundation Section prior to March 19, 1965. Previous requirements as to preliminary borehole information and laboratory testing program, should be followed.

Because the drawings accompanying the foundation reports, showing the location of borings, the inferred subsoil conditions, etc., are to become contract drawings, you are requested to prepare them in accordance with the D.H.O. standards. To enable you to do this, we are supplying you with sample drawings with all the necessary explanations, together with linen sheets for your drawings. You are also requested to provide the D.H.O. with Cronaflex copies of the drawings.

cont'd. /2 ...

Charges for the work performed will be in accordance with your Schedule of Rates, dated November 19, 1962, and invoices to be addressed to the attention of the undersigned.

Yours very truly,

A. Rutka,
MATERIALS & TESTING ENGINEER

NDS/MdeF

cc: Messrs. S. McCombie
H. McArthur
A. A. Ward
S. R. Saint
Mrs. T. Tate
N. D. Smith (2)
Foundations Office
Gen. Files (2)

cc: Foundations Office (Rm. 110)

Mr. A. M. Toye,
Bridge Engineer,
Bridge Division.

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

Attention: Mr. A. McLeahie

June 4, 1965

FOUNDATION INVESTIGATION REPORT BY:
William A. Trow and Associates, Ltd.
Proposed Bridge Site, Kindiogami River,
Hwy. 639, District #18 (Sault Ste. Marie).
W.F. 16-65

Attached, please find the above-mentioned report submitted by the Consultant, William A. Trow & Associates, Ltd. We have reviewed the report and found the factual information both adequate and well presented. We are in agreement with the recommendations contained therein, and since we find these self-explanatory, no comment is required.

Should there be any queries in connection with this project, please do not hesitate to contact our office.

K. T. Lo,
SUPERVISING FOUNDATION ENGINEER

KTL/MeF
Attach.
cc: Messrs. A. M. Toye (2)
E. A. Tregaskes
H. T. McMillan
H. W. Hurrell
A. S. Ward
R. F. Saint
F. De Visser
A. Watt

Foundations Office
Con. Files

DEPARTMENT OF HIGHWAYS ONTARIO

MEMORANDUM

M. A. Stow

To: Mr. A. Stermac,
Principal Foundation Engineer,
Laboratory Bldg.,
DOWNSVIEW, Ontario.

From: Bridge Division,
208 Simpson Street,
Fort William, Ontario.

Date: October 27, 1965.

Our File Ref.

In reply to

Subject: Site 38S-275, W. P. 16-65
Kindiogami River Bridge (North Crossing)
1.0 Mile W. of Sec. Hwy. 536,
Hwy. 639, District 18.

Enclosed please find two prints of Preliminary Plan D-5754-P1 for the subject structure.

If you have any comments, please let me know.

F. DeVisser

FDV/mcr
Enc. (2)

F. DeVISSER,
Regional Bridge Location Engineer.

No Comment

cc: Foundations Office (Rm. 11[illegible])

Mr. C. Grebski,
Bridge Design Engineer,
Bridge Division.

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

November 10, 1965

W.P. 17-65 - Duval Creek Bridge - Plan #D-5717-P1
W.P. 18-65 - West Little White River Bridge - Plan #D-5679-P1
W.P. 16-65 - Kindiogami River Bridge - Plan #D-5754-P1
- District No. 18 - (Sault Ste. Marie)

We have reviewed the Preliminary Plans for the above-mentioned proposed structures with regard to the subsoil conditions, as outlined in the Foundation Reports by Wm. A. Trow & Associates. We have no further comments.

K. G. Selby

KGS/MdeF

K. G. Selby,
SENIOR FOUNDATION ENGINEER
For:
A. G. Sterrae,
PRINCIPAL FOUNDATION ENGINEER

cc: Foundations Office
Gen. Files

DEPARTMENT OF HIGHWAYS ONTARIO

MEMORANDUM

To: Mr. A. Stermec,
Principal Foundation Engineer,
Laboratory Bldg.,
DOWNSVIEW, Ontario.

From: Bridge Division,
208 Simpson Street,
FORT WILLIAM, Ontario.

Date: October 27, 1965.

Our File Ref.

In reply to

Subject: Preliminary Plans

When preliminary plans are sent to you for your comments, it would probably be more satisfactory for you to make your comments directly to Mr. C. Grebski, Bridge Design Engineer. However, to keep me informed of any changes or additions would it be possible for you to send me a note if any changes or additions are recommended to the Bridge Design Office.

P. DeVisser

PDV/mcr

P. DeVISSER,
Regional Bridge Location Engineer.