

#59-F-210C

WP#151-59

Hwy#6

IRVING CREEK

N. OF FERGUS

Mr. A. M. Toye,

January 4, 1960.

Bridge Engineer.

REPORT BY RACEY, MAC CALLUM
AND ASSOCIATES, LTD.

Materials & Research Section.

Attention: Mr. S. McCombie.

Re: Additional Borings, Irvine Creek Bridge,
Highway #6, North of Pergus, Ontario
District #3.

Attached herewith, is a copy of Racey MacCallum
and Associates, Ltd., report containing the results of ad-
ditional borings carried out at the above site.

The information presented in these additional
logs, supports the original conclusions arrived at in the
initial investigation.

XP/WdeP

Attach.

cc: Messrs. H. A. Tregaskes

D. C. Ramsay

A. Gater

L. D. Barrett

J. Roy

Foundation Office

Gen. Files

L. G. Soderman,

PRINCIPAL SOILS & FOUNDATIONS ENGR.

per:



(K. Peaker,

FOUNDATION FIELD SUPERVISING ENGR.)

Arvine River

63-195

TL 173

PRELIMINARY STRUCTURE SITE REPORT

3.

HWY. #6 W.P. 151-59 STATION _____ DISTRICT _____

PLAN NO. _____ PROFILE NO. _____ SITE PLAN NO. _____

Purpose of Structure:

River Crossing ☒

R.R.X ☐

Grade Separation ☐

Other _____

Is Structure located on D.H.O. right-of-way? YES If not, who owns property and was permission obtained to carry out necessary exploration work _____

Arvine River Bridge 2 miles N. of Fergus.

Describe Soil Conditions at Site. This is to be determined chiefly from a visual observation and possibly a limited amount of hand exploration and should include the general geological formation, anticipated soil conditions, bedrock if visible, etc.

River is slow flowing - shallow 2-3 feet deep. approx 60 feet wide; Slow angle ~ 20° Present - river arch - narrow single span poor shape. Erosion visible on downstream (west) side H.W.L. + 5' no signs of grade problem.

Is Structure Site readily accessible with Core Drill or Power Auger?

Spread footings probable on gravel a little. easy access for core drill grade can be possible telephone wires

Would preliminary borings by Power Auger be advantageous?

no.

Is water available at the site? YES If not, where is closest source?

Should Approach Fills be investigated for stability?

probably not.

REMARKS:

possible redesign ment to utilize old structure when new one being built span of present guess @ 100 feet. replace with single span probable.

DATE

July 23/59

ENGINEER

KP.

23-63-195

RACEY, MACCALLUM AND ASSOCIATES LIMITED

A COMPANY OWNED, DIRECTED AND OPERATED BY

Consulting Engineers
AND ASSOCIATED STAFF

MONTREAL



VANCOUVER

DONALD C. MACCALLUM, B.ENG., M.E.I.C., P.ENG.

H. JOHN RACEY, B.SC., M.E.I.C., P.ENG.

GEORGE L. HOUGHTON, A.M.I.MECH.E., M.E.I.C., P.ENG.

TORONTO

TORONTO DIVISION
27 CARLTON STREET

Reference: S-500/T-2041
- Report -

18th December, 1959
59-F-210C

Department of Highways for Ontario,
Materials and Research Section,
C/o Parliament Buildings,
TORONTO - Ontario.

Attention: Mr. L. G. Soderman

RE: ADDITIONAL BORINGS, IRVINE CREEK BRIDGE,
HIGHWAY #6, NORTH OF FERGUS, ONTARIO.

Dear Sir,

As requested by you in your letter dated 7th December, 1959, we performed two additional borings at the above site, in order to provide more comprehensive subsoil data for design and alignment purposes.

FIELD WORK :

Borings were commenced on 8th December, 1959, and completed on 10th December, 1959. The actual locations of these boreholes (No 5 and 6) are shown on a site sketch plan, included as Enclosure No 1. A standard diamond drill rig was employed throughout operations and soil samples obtained in a 2 inch outside diameter split spoon sampler in the usual standard manner. All details of the investigation, including compilation of data sheets, were performed by Mr. V. Handa, P.Eng.,

SUBSOIL CONDITIONS :

All penetration records, boring profiles and pertinent details are plotted on Engineering Data Sheets for each borehole and included as Enclosures No 2 and 3.

As can be seen, these profiles agree well with those contained in our original Report S-500/T-1860. An initial 5 foot

Reference: S-500/T-2041
- Report - Continued.

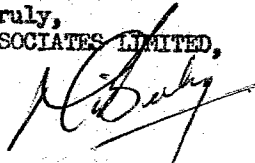
18th December, 1959

thick layer of brown silty fine sandy loam overlays an extensive stratum of very dense sandy glacial till. At the base of this deposit, i.e. in the region of Elevation 1335 - 1337 feet, contact was made with a bouldery glacial till deposit in which material the borings were terminated.

The conclusions regarding foundations etc., arrived at in our original report are also applicable to the subsoil area covered in this investigation. Strict comparison of the two sets of results cannot be undertaken without some knowledge of the ground elevations at Boreholes No 1 - 4.

If you should have any queries concerning the enclosed data, please do not hesitate to contact us.

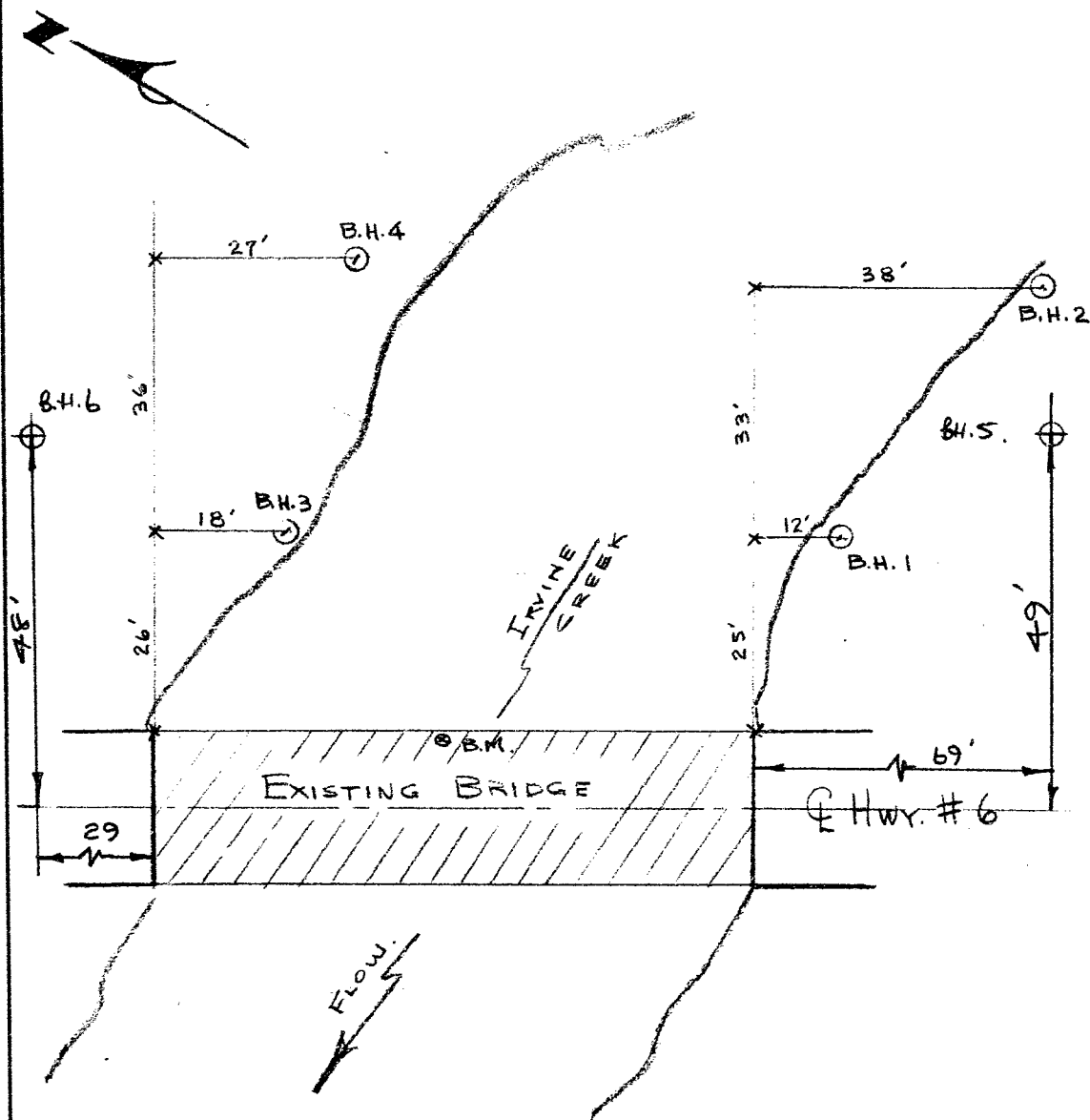
Yours very truly,
RACEY, MacCALLUM AND ASSOCIATES LIMITED,



M. I. Beeby, P.Eng.,
Project Engineer.

MIB/YDP

Prep. By L.P.W.



BOREHOLE LOCATIONS FOR PROPOSED IRVING CREEK BRIDGE.

- SCALE 1" = 20'
- B.M. ELEV. 100.0 CUT CROSS ON BASE OF EAST CONC. RAILING (MARKED: + R.M.A)
- ELEV 100.0 EQUALS 1356.8 (DHO)

RACEY MacCALLUM AND ASSOCIATES LTD.

Foundation Engineering Division

Engineering Data Sheet for Borehole: No 5

Project: ADDITIONAL BORINGS, IRVINE CREEK BRIDGE
 Location: 2 miles North of Fergus on Hwy.# 6, Ontario.
 Hole Location: See Enclosure No 1.
 Hole Elevation and Datum: 1358.0 feet
 Field Supervisor: V.K.H. Prep.: V.K.H.
 Driller: O.R. Checked: Date:

LEGEND

Shear Strength (C)

Unconfined compression

Vane test and sensitivity (S)

Penetration Resistance (P)

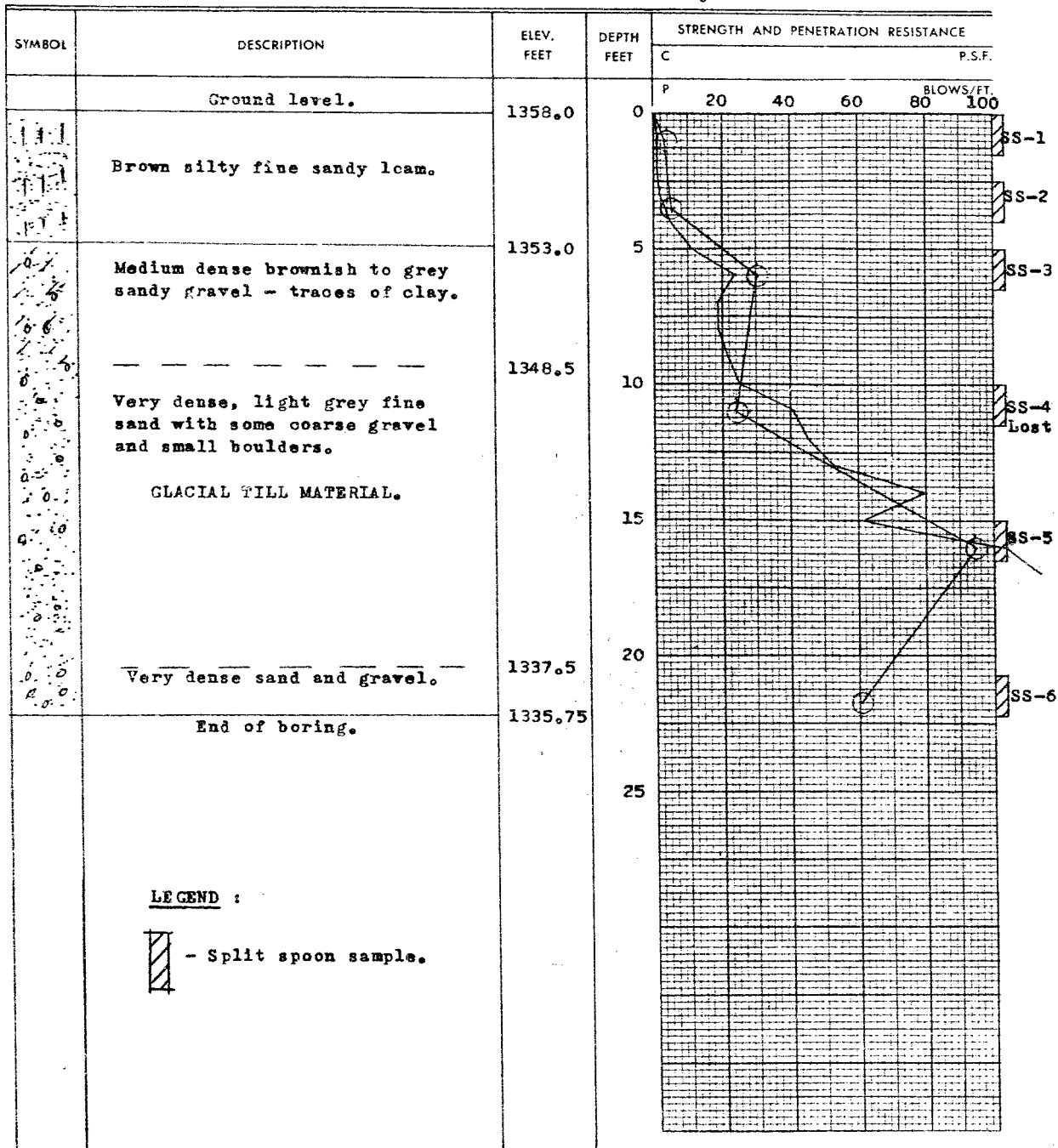
2" Split tube

2" Dia. Cone

Casing

⊕
+3

⊕ ⊕ ⊕



RACEY MacCALLUM AND ASSOCIATES LTD.

Foundation Engineering Division

Engineering Data Sheet for Borehole: **No 6**

Project: **ADDITIONAL BORINGS, IRVINE CREEK BRIDGE**
 Location: **2 miles North of Fergus, on Hwy. # 6, Ontario.**
 Hole Location: **See Enclosure No 1.**
 Hole Elevation and Datum: **1356.0 feet.**
 Field Supervisor: **V.K.H.** Prep.: **V.K.H.**
 Driller: **O.R.** Checked: _____ Date: _____

LEGEND

Shear Strength (C)

 Unconfined compression
 Vane test and sensitivity (S)

Penetration Resistance (P)

2" Split tube

2" Dia. Cone

Casing

⊕
+^s
