

DOCUMENT MICROFILMING IDENTIFICATION

GEOCRES No. 31 G - 172

W.P. No. _____

CONT. No. _____

W. O. No. _____

STR. SITE No. _____

HWY. No. _____

LOCATION NEW CULVERT,
N. GOWER - RICHMOND RD.,
1 MI. S. of RICHMOND

OVERSIZE DRAWINGS TO BE INCLUDED WITH THIS REPORT. NONE

REMARKS: _____

31G-172

GEOCRE No.

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31G-172

GEOCRE No.

REPORT OF SOIL INVESTIGATION

SITE OF PROPOSED NEW CULVERT

NORTH GOWER - RICHMOND ROAD

1 MILE SOUTH OF RICHMOND

FOR

OTTAWA SUBURBAN ROADS COMMISSION

REPORT NO. S. 231 - 61

OTTAWA, NOVEMBER 28, 1961

*Co. Sub. Rd. #9
Ln 23. Sm. II
Imp. Soilbom.*

Introduction:

At the request of Mr. J. L. Shearer, Chief Engineer, Ottawa Suburban Roads Commission, a soil investigation was conducted at the site of a proposed culvert on the Richmond-North Gower Road, one mile southeast of Richmond.

The creek (a branch of the Jock River) is at present traversed by a bridge. It is proposed to replace the bridge by a culvert and widen the road.

Fieldwork Procedure:

Two test holes were put down at the locations shown on the Test Boring Plan. At each location a cone probe was driven to refusal, casing driven, the soils sampled and bedrock located. The cone probes were driven to check the uniformity of the holes.

The firm of F. E. Johnston Drilling Company, Ltd. was employed for all drilling operations. Their work was supervised at all times by an engineer member of our staff.

A standard drilling rig fully equipped for soil testing and mounted on a trailer was used for this work.

Sampling and Testing:

At Hole 1 a Shelby tube sample was taken in the peat layer. The remainder of the soils samples were taken by means of the split spoon sampler. A core sample of the bedrock was recovered from each hole by diamond drilling.

The Shelby tube sample was extruded at the site and classified. The split spoon samples were retained in plastic bags. At the time the split spoon samples were taken the standard penetration test was conducted. Core samples of bedrock were examined, classified and retained in core boxes.

Observations:

In Hole No. 1 the following soil profile occurs:

- 0 - 3.5' - Peaty, silty clay.
- 3.5 - 5.8' - Medium dense, grey, sandy glacial till.
- 5.8 - 10.2'+ - Bedrock - good quality limestone.

In Hole No. 2 the following soil profile occurs:

- 0 - 5.0 - Medium dense, weathered, clayey silt.
- 5.0 - 6.5 - Soft silty to sandy clay.
- 6.5 - 7.5 - Dense, grey glacial till.
- 7.5 - 12.9'+ - Bedrock, good quality limestone.

Details of borings and test holes are shown on the Soil Profile and Laboratory Test Sheets which accompany this report.

The groundwater level is the same as stream level (El. 90.2).

No laboratory tests were conducted on the samples recovered.

Conclusions and Recommendations:

Conclusions and Recommendations:

The glacial till underlying the peaty clay and silt is suitable to support a culvert and fill material overlying it. It is understood that a circular, corrugated iron pipe will be used.

If, after removing the soil overlying the till it is found that the culvert invert is too low, well compacted sand or gravel should be used as a pad to bring it to the desired elevation. Backfilling around the culvert pipe itself should also be granular material.

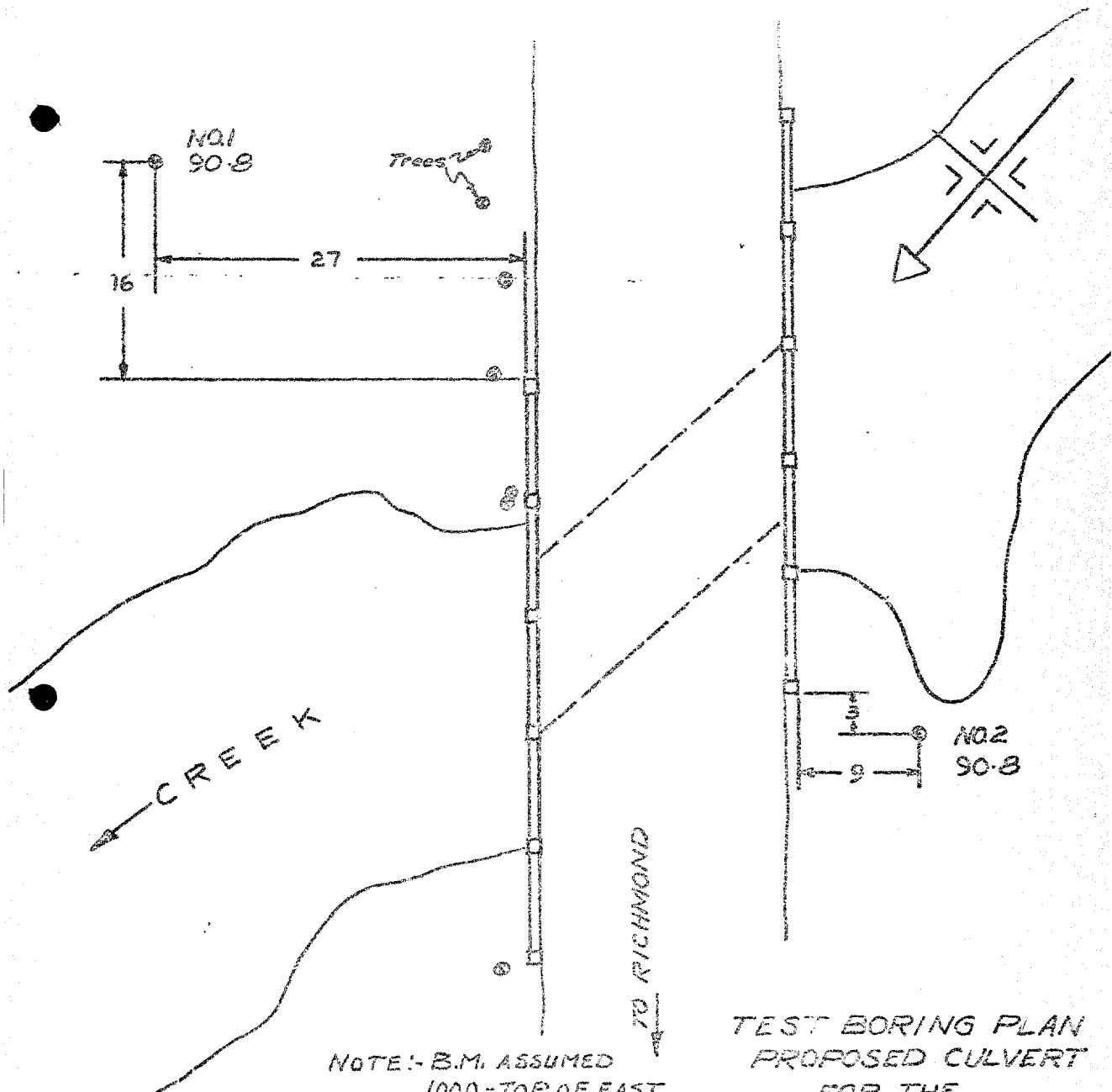

J. D. Paterson, P. Eng.

Report No. S - 231 - 61.

Ottawa, November 28th, 1961.

JDP/MMC.





NOTE:- B.M. ASSUMED
1000'-TOP OF EAST
RAIL C.N.R.

TEST BORING PLAN
PROPOSED CULVERT
FOR THE
OTTAWA SUBURBAN
ROADS COMMISSION
ON THE
RICHMOND-NORTH GOWER
ROAD

SCALE 1"=10'

NOV. 1961

A. E. JOHNSON
CONSULTING ENGINEERS
OTTAWA CANADA

SOIL PROFILE
&
LABORATORY TESTS

Location: Richmond, Ontario.

ELEVATION (Levee Depth): 90.8.
Remarks: Cone Probe and Test Boring.

Sheet No:
1 of 1

Holes Nos:
1 and 2.

Borings by: F. E. Johnston Drilling Company, Ltd. Date: Nov. 23 & 24, 1961.

BLOWS PER FOOT	SOIL DESCRIPTION <u>HOLE NO. 1</u>	Samples	Unconsol. Strength Rons/Sq.Ft.	Depth in Feet	ELEV.	MOISTURE - CONTENT - PER CENT.				
						30	40	50	60	70
	Ground Surface			0	90.8					
1	Peaty Silty Clay									
3				2	88.8					
3	3.5	TW	1	Not tested						
19	Medium dense, sandy, grey glacial till.			4	86.8					
24		SS	2	N = 30						
18	5.8	SS	3	N = 10 for 8"	6	84.8				
for 8"	Bedrock - good quality limestone.			8	82.8					
		Core								
	10.2			10	80.8					
	<u>HOLE NO. 2</u>									
	Ground Surface			0	90.8					
2	Medium stiff, weathered, clayey silt.									
18		SS	4	N = 16	2	88.8				
20		SS	5	N = 36	4	86.8				
12										
8	5									
11	Soft, silty to sandy clay.	SS	6	N = 7	6	84.8				
32										
33	Dense glacial till.	SS	7	N = 25	8	82.8				
for 6"	Bedrock - good quality limestone.			10	80.8					
		Core								
				12	78.8					
	12.9			14	76.8					

Stream Level
90.2 Nov. 23/61.

Stream Level
90.2 Nov. 23/61.