

REPORT  
ON THE  
FOUNDATION INVESTIGATION  
FOR THE PROPOSED STRUCTURE FW # 7  
ON THE HIGH SPEED INTERCHANGE  
AT BRANT STREET, NEAR BURLINGTON  
STATION 85/65 ON THE HAMILTON TO  
TORONTO LEG

PROJECT: 7-55-44

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Plan DM 4405  
scheme 3.

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## INTRODUCTION

Recently an investigation was completed to ascertain the soil profile beneath the footings of the proposed structure at the intersection of Toronto to Hamilton lane and the Toronto to Niagara Falls lane at Station 85/65 in the Township of Nelson.

The proposed structure is listed on the 1956 preparation list as WP 45C-56.

## PROCEDURE

Core drilling operations at this site were preceded by power auger borings to approximate depths of 20'0" to determine the soil profile.

The operations of the <sup>power auger</sup> ~~core drill~~ were followed immediately by core drill in an attempt to ascertain the strength properties of the soil.

Difficulty was experienced in all sections of soil sampling. Refusal after short penetration of the sampler is common in this soil material except in the upper 4'0"-6'0" of the soil mass, and it was found that the core-barrel was the only sampling equipment which dealt successfully with this soil.

## SOIL TESTING

The nature of the major soil type in this locality is such that it proves almost impossible to deliver to the laboratory samples in a suitable condition for testing. As a result there are no unconfined strength results available.

### SOIL CONDITIONS

The major soil type found beneath the proposed foundations of this structure is the laminated clay shale. This is overlain by alternate layers of clay and sand the thickness of which rarely exceeds 24".

The core recovery below the elevation of 3340 was extremely badly shattered and difficult to access. However observations when drilling indicate that the individual layer thickness is very small in the clay - shale formation.

### WATER CONDITIONS

There was no evidence of a static water table though small insignificant seepage takes place in the clay - shale formation.

### RECOMMENDATIONS

The laminated soil strata is suitable to found a rigid framed structure upon provided a bearing pressure of 5000 lbs/sq.ft. is not exceeded.

The allowable bearing stress may be increased if a simply supported design is used.


In any case the footings should be founded below frost penetration and upon sound material.

It would appear that normal fill construction can be undertaken upon this material, without any apparent danger of failure.

G. H. Parantatos  
Foundation Engineer.

54-90 MATERIALS LABORATORY DEPARTMENT OF HIGHWAYS - ONT.  
OFFICE REPORT ON SOIL EXPLORATION

DRILL RIG: 347  
CABING: SK (STANDARD) SAMPLERS TO: 10' (UNLESS NOTED)  
SAMPLER: HAMMER DROP: 22 INCHES  
JOB: 55-114  
DATE: 08/11/81  
COMPILED BY: AT  
CHECKED BY: BOBING NP  
DATE: 08/11/81  
REPORT: 000114-1-1-1

SAMPLE CONDITION		SAMPLE TYPES		ABBREVIATIONS	
	DISTURBED	C.C. CHUNK		W. NORTH WALL	W. UNIT WEIGHT
	GOOD	D.C. DRIVE OPEN		M. MECHANICAL ANALYSIS	K. PERMEABILITY
	LOST	P.C. DRIVE FOOT VALVE		U. UNCONFINED COMPRESSION	C. CONSOLIDATION
		TO 2" THIN WALLED OPEN	W. WASHED SAMPLE	T. TRIAXIAL CONSOLIDATED QUICK	C. CASING
		R.C. ROCK CORE		T. TRIAXIAL SLOW	W. WATER LEVEL IN CASING
				S. STRAIN GAGE	

[illegible]

SOME DEFECTS IN NEGATIVE DUE

TO CONDITION OF ORIGINAL DOCUMENTS



