

## DEPARTMENT OF HIGHWAYS ONTARIO

## MEMORANDUM

To: Mr. C. S. Moase,  
Manager,  
Special Services Section.

From: Mr. A. G. Stermac,  
Principal Foundation Engr.,  
Foundation Section,  
Materials & Research Division.

Date: September 20, 1963

Our File Ref.

In Reply To

## SUBJECT:

## FOUNDATION INVESTIGATION REPORT

For

CERVILLE PATROL YARD

Lot 22, Con. IV, Twp. of Christie,  
Hwy. 518, District 11

W.J. 63-F-104 -- W.P. (Nil).

It is proposed to construct a D.H.O. Patrol Yard at the above-mentioned site. In a memo, dated August 8, 1963, from the Inspector of Special Services, a foundation investigation was requested.

The field investigation consisted of 5 sampled boreholes and 6 dynamic cone penetration tests. The locations and elevations of these boreholes are shown on the attached Dwg. No. 63-F-104A.

The subsoil at the site was found to be uniform, consisting of silty sand with occasional gravel. The material is in a compact to dense state and, therefore, favourable for spread footing type foundations. For garage and other buildings, a safe bearing pressure of 2.5 t.s.f. may be achieved at a depth of about 6 ft. below ground level. No stability problems are anticipated for the proposed sand pile.

Recommendations pertaining to grading and surfacing were given to us by Mr. P. Arkema, Project Soils Engineer, and are as follows:

cont'd. /2 ...

September 20, 1963

For all service roads, parking and other areas to be paved or gravelled, the topsoil should be stripped according to D.H.O. specifications and fill material should consist of a minimum of 21" of granular material of which the top 6" should be Class 'A' material, and the remainder Sand Cushion. For paved areas, a 3½" thickness of HL-4 is recommended. This should consist of 1½" of surface course and 2" binder course.

Attention is drawn to the water drainage situation at this site. The topography of the site is somewhat elevated with the terrain sloping down towards the east and south. There are three water surface wells located in the vicinity of the site. One is about 750 ft. to the east, the second about 800 ft. to the south, and the third one about 350 ft. to the west. The water level in these wells is steady throughout the year and about 3-4 ft. below the ground surface. They are at present, the source of water supply for the nearby houses. The house at the south side has a deep well also, and the water in this well is about 70 ft. below the ground.

It is pointed out that the presence of the surface wells in the vicinity, the granular nature of the subsoil and the sloping topography of the terrain, are factors to be given due consideration in order to prevent salt contamination in this area.

cont'd. /3 ...

September 20, 1963

The field work was carried out during September 4 - 6, 1963, under the supervision of Mr. V. Korlu, Project Foundation Engineer, who also wrote this report. The report was reviewed by Mr. K. G. Selby, Senior Foundation Engineer.

We believe the recommendations contained in this report will suffice for your future design work. Should further information be required, please do not hesitate to call on our Office.

VK/MGeF  
Attach.

cc: Messrs. C. S. Moase (4)  
E. J. Orr  
H. D. McMillan  
E. H. Jones  
T. J. Kovich  
A. Watt

Foundations Office  
Gen. Files ✓

*sig Lo*  
K. Y. Lo,  
SUPERVISING FOUNDATION ENGR.  
For:  
A. G. Stermac,  
PRINCIPAL FOUNDATION ENGR.

APPENDIX I.

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Materials and Research Division

September 23, 1963

Mr. A. K. Watt,  
Ontario Water Resources Commission,  
67 College Street,  
Toronto, Ontario.

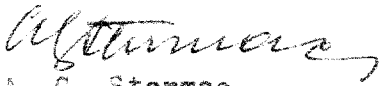
Re: Orrville Patrol Yard -  
Dist. 11, W.J. 63-F-104

Dear Mr. Watt:

Attached, we are forwarding to you, a copy of  
the above-mentioned report for your use.

In accordance with the conclusions reached at  
the meeting on March 5, 1963, we would appreciate it if you  
would let us know of your opinion concerning the possible  
danger of well contamination by salt from the respective yard.

Yours very truly,

  
A. G. Stermac,  
PRINCIPAL FOUNDATION ENGR.  
For:  
A. Rutka,  
MATERIALS & RESEARCH ENGR.

AGS/MdeF  
Attach. (1)

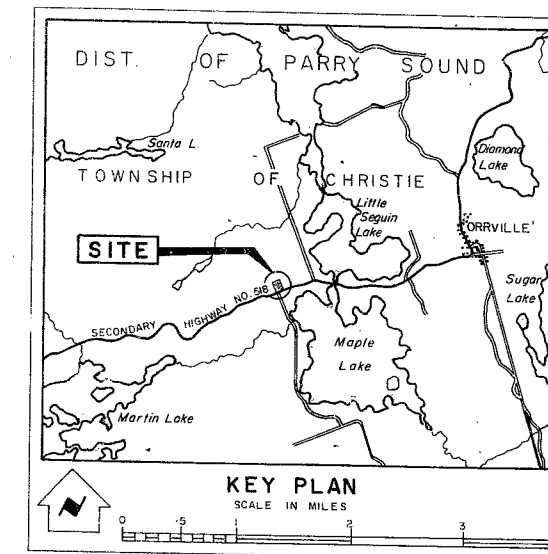
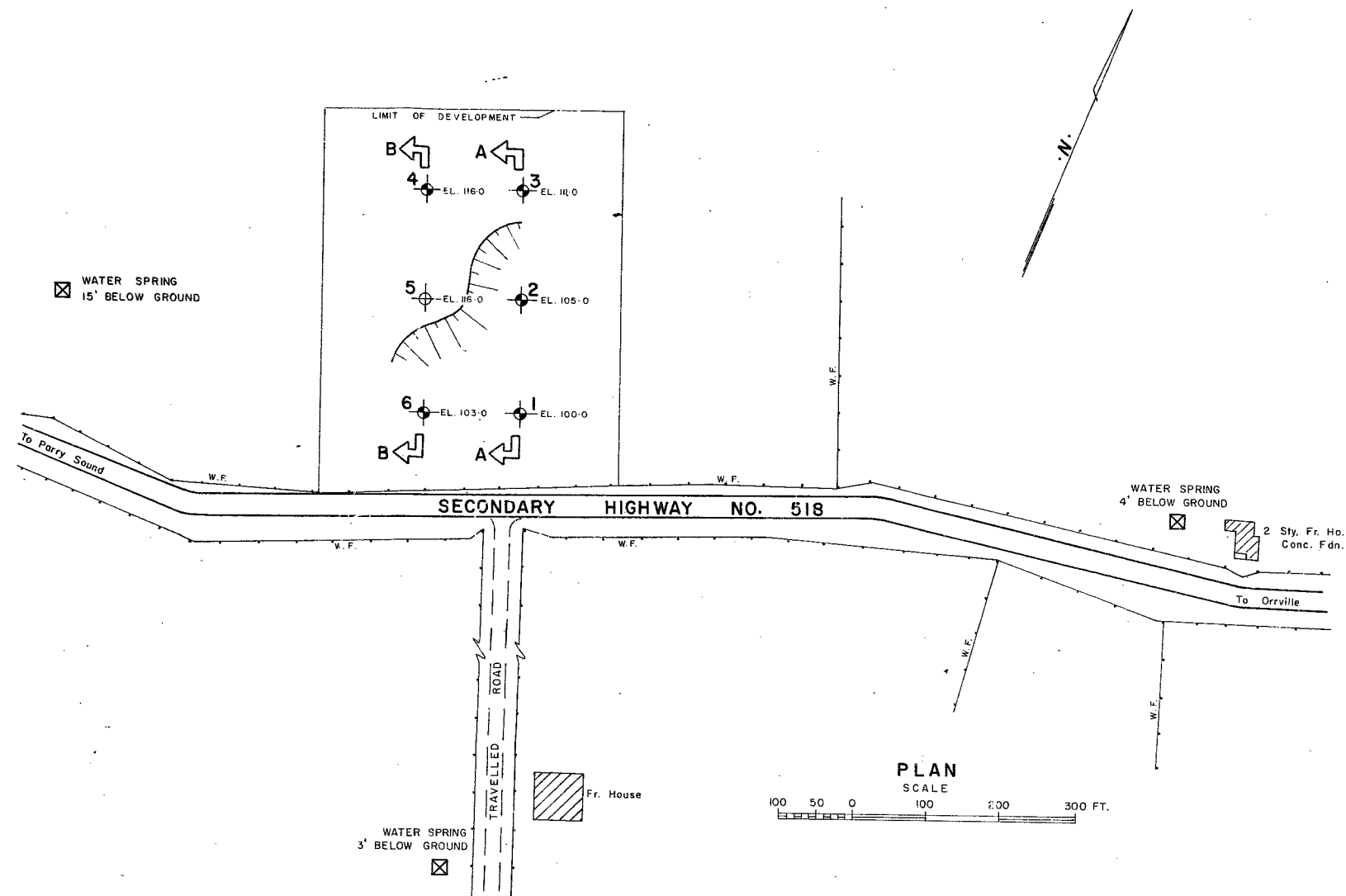
cc: Foundations Office  
Gen. Files ✓

#63-F-104

HWY #518

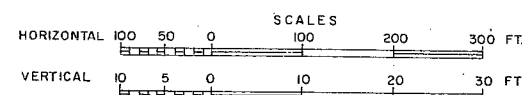
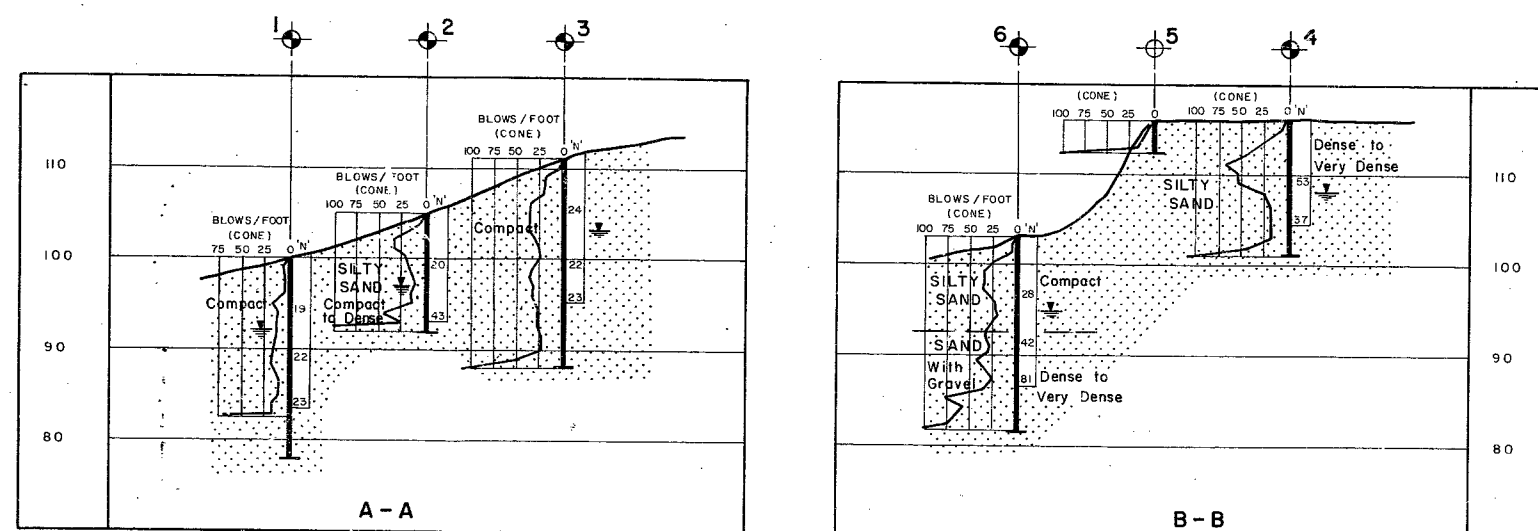
ORRVILLE

PATROL YARD



LEGEND	
	Bore Hole
	Cone Penetration Hole
	Bore & Cone Penetration Hole
	Water Levels established at time of field investigation, Sept. 5, 1963.
	Water Spring

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.



DEPARTMENT OF HIGHWAYS - ONTARIO			
MATERIALS & RESEARCH SECTION			
ORRVILLE PATROL YARD			
ORIGINATED V. KORLU	DISTRICT NO. 11	DATE	Sept. 16, 1963
DRAWN F. CLARK	W.P. NO. —	JOB NO.	63-F-104
CHECKED <i>[Signature]</i>	SCALE	DRAWING NO.	
APPROVED <i>[Signature]</i>	AS SHOWN		63-F-104A